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Vol. 27, No. 3, 2003
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1-800-834-9665
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Form On Page 44)



“Tag-Along” Loader Boom
(Page 18)



3-Pt. High-Lift Bale Spear
(Page 19)



Bucket-Mounted Post Gripper
(Page 43)



Swather Fitted With Forklift
(Page 18)



Skid Steer Controlled From Outside Cab
(Page 43)



Bucket For ATV's, Garden Tractors
(Page 44)



Turn Your Pickup Into A “Dually”
(Page 25)



Reworked Machine Makes
Mini Bales
(Page 19)

Big Bale Burner
Turns Waste Into Fuel
(Page 20)



Low-Cost
Culvert Feed
Bunks
(Page 2)

**IN
THIS
ISSUE: Ag World[®]**

26 Years Of
Great Ideas!
(See page 15)



- | | |
|--|--|
| 2 Dome Building Ready For Market | 10 New Ways To Fill Center Pivot Tracks |
| 3 State-Of-The-Art Self-Propelled Sprayer | 11 Latest New Accessories For ATV's |
| 4 Bin Windows Help Check Grain Level | 35 Make Your Own Electricity For Free |
| 8 Aqua Farm Ties Fish To Greenhouse | 37 “Vet” Needles Used On Grease Gun |
| 33 How To Buy A Great Used Combine | |



New domes come with multi-color tarps and are available in diameters of 30, 38, 42, and 50 ft.



Silver Stream owners Daryl Enns and Dave Arnold recently demonstrated the strength of the new building by hanging a full-sized pickup from the center hub.

Domed “Hoop” Building Ready For Market

That first-ever hoop-type domed building that we told you about last summer (Vol. 26, No. 4) is now ready for market.

Silver Stream Shelters is well known to FARM SHOW readers for its innovative wood-hoop structures and metal truss designs (Vol. 25, No. 2). Company owners Darryl Enns and Dave Arnold say their latest new creation is totally unique to the industry.

“We invented a new hub which mounts at the peak of the building, joining conventional trusses to create a circular structure that’s unlike anything on the market,” says Enns.

The building comes in 30, 38, 42, and 50-ft. dia. sizes.

“We feel this building design will be ideal for cattle handling, grain storage, salt and sand storage, and even machinery storage. It might also work great as an indoor training facility for horses, as well as for many other uses that we haven’t even thought of yet,” says Enns. “It’s a relatively inexpensive way to add extra storage to your farm and it also makes a great conversation piece.”

The new domed building can be covered with multi-colored tarps. Doors up to 12 ft. wide are set up between the arches.

A 30-ft. dia. dome building sells for just over \$5,000. Silver Stream wants to get a few of the buildings out and work with the owners on optional design features so they’ll sell the first buildings at \$3,150 for a 30-ft. and \$4,170 for a 38-ft.

Enns notes that in addition to the new domes, the company has a limited supply of wood frame and metal truss hoop buildings at a special price for FARM SHOW readers. For \$2,995 you can get a 30 by 72-ft. building, including a 12.5-oz. tarp with a 15-



Secret to design of new domed building is the new center hub which joins conventional hoop-type trusses together.

year warranty.

Contact: FARM SHOW Followup, Silver Stream Shelters, Box 1448, Altona, Manitoba

R0B 0B0 Canada (ph toll-free 877 547-4738 or 204 324-4592; website: www.silverstreamshelters.com).

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May-June, 2003

Low-Cost “Culvert Feed Bunks”

“They didn’t cost much and should last a lifetime,” says Rusty Faubion, Blockton, Iowa, who turned 36-in. dia. concrete culverts into fenceline feed bunks.

The culverts were given to him after a highway was rebuilt in front of his house. They’re 6 ft. long and are designed to interlock tightly together. Faubion used a big cement saw to cut each culvert in half lengthwise. The culverts were then placed end to end alongside a home-built cable fence.

“It was a lot of work but the effort was worth it,” says Faubion. “All together I made about 176 ft. of bunks. I borrowed the cement saw from a construction company and paid \$119 for a new blade. The culverts are 4 in. thick and have rebar spaced 2 in. apart at the top and bottom. It took about 20 minutes to make each cut.

“The bunks are free-standing and won’t tilt. They hold a lot of feed.”

Faubion says a lot of counties across the country are switching from cement road culverts to plastic and steel. “You can often get concrete culverts cheap,” he says.

To make it easy to clean old feed out of the bunks, Faubion welded a round steel disc to a 6 1/2-ft. long piece of steel pipe. A length of chain bolts to the end of the pipe. To clean out the bunk, he hooks the chain onto the bucket on his front-end loader and then drives alongside the bunks.



Rusty Faubion made these fenceline feed bunks out of old 36-in. dia. concrete culverts.



To make it easy to clean old feed out of bunks, he welded a steel disc to a 6 1/2-ft. long piece of steel pipe (above). A big cement saw was used to cut each culvert in half lengthwise. The culverts were then placed end-to-end alongside a cable fence.

Contact: FARM SHOW Followup, Russell Faubion Jr., Rt. 2, Box 69, Blockton, Iowa 50836 (ph 641 788-3761 or 712 542-7006).



Portable Wood Chipper

After he got tired of paying a commercial garbage service to haul brush away from his place, Tad Schreiner, Prior Lake, Minn., finally decided to do something about it. He built his own portable wood chipper.

The 3-wheeled rig mounts on a frame made from 2-in. channel iron and has two chutes - one on top for leaves and brush and another on front that handles branches up to 3 in. in diameter. Power is provided by an 8 hp Kohler gas engine which belt-drives a home-built chipping hammer.

"I use my garden tractor to pull it around our yard. It really works slick," says Schreiner.

He started with a heavy duty squirrel cage fan housing. He built a steel cylinder fitted with four steel rods. Sixteen hammers that measure 1 1/4 by 3 in. bolt to the rods. The hammers are staggered to provide chopping action across the entire width of the cylinder. The hammer rods mount between two discs made from 1/4-in. thick steel plate. He cut two slots on one of the discs 180 degrees apart, then inserted 2 by 3-in. chunks cut out of an old car leaf spring and put a 30 degree bevel on them.

"It works fast. As soon as I put a 1-in. branch into the top chute it's instantly gone," says Schreiner.

"I use it every year when I trim trees in our

yard and place the chips around our shrubs. I also use it to grind up all the plant material in our garden at the end of the growing season. The chopped-up material goes back into the garden. I made two interchangeable screens for the exit chutes. One has larger holes than the other. The smaller the holes, the longer the material stays inside the hammermill and the smaller the material gets shredded. If I'm chipping wet, green stuff from the garden, I use the screen that has bigger holes to keep the chute from plugging up."

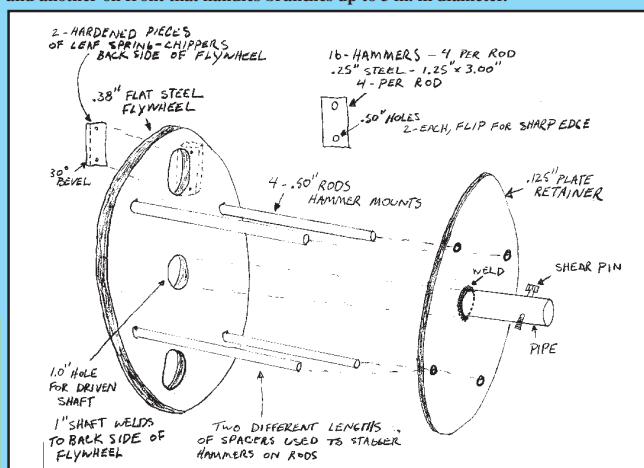
The engine has a 4-in. dia. pulley on it and there's also a 4-in. pulley on the chopping cylinder which creates a 1:1 drive ratio. The cylinder and engine both rotate at 3,600 rpm's which is more than adequate, says Schreiner. An idler pulley is used to disengage the belt, allowing him to stop the chipper with the engine running.

"One big difference between my wood chipper and some commercial ones is that the drive belts on mine are outside the fan housing. When the belts are inside the fan housing, all the chips flying around can cause the belts to get warm and stretch out or break.

Contact: FARM SHOW Followup, Tad Schreiner, 16250 Suel Lane, Prior Lake, Minn. 55372 (ph 952 447-5421).



Tad Schreiner's portable wood chipper has two chutes - one on top for leaves and brush and another on front that handles branches up to 3 in. in diameter.



State-Of-The-Art Self-Propelled Sprayer

Several years ago, Brian and Tim Levenson, who farm with their father, Tom, converted an old truck into a self-propelled sprayer. They liked the way it worked but figured they could make something even better.

"Our first sprayer had a gasoline engine and no air conditioning. This time, we wanted a good air conditioner and a diesel engine with more power," says Brian.

After looking around, the Levensons bought a 1987 school bus for about \$4,500. The bus had an IH 466 in-line 6-cylinder diesel engine and an Allison automatic transmission.

"We stripped off everything except the engine and radiator, the transmission and rear end," Brian says.

They shortened the driveline and moved the rear axle forward about 8 ft. and then cut about 12 ft. off the back of the bus frame.

"All my other equipment is John Deere, so I looked for a Deere combine cab to put on it," Levenson says. "Cabs from newer combines were too expensive and if I went with one off an older machine, it meant we'd have to redo the side where it fit over the combine engine."

Instead they found a junked New Holland TR96 combine with a good cab. "It had been sitting idle for several years, but was in good condition and had an air conditioner," he says.

"While we were taking off the cab, we took the combine's hydraulic reservoir and steering for our sprayer, too," he continues.

"All we had to do was hook the power steering lines from the steering wheel to the pump on the old bus engine," he says.

Up front, the Levensons used the wheels and spindles from the steering axle on a 9600 Deere combine. "We made an axle beam from steel tubing and mounted the spindles on that," he says. They also used the 14.9 x 26 tires from the 9600 combine.

They mounted 18.4 by 34 lugged tires on the bus' rear axle. "We had to put together wheels for it. The bus had dual wheels on the rear and we left those in place. Over them, we welded tractor rims that fit the tires and braced the rim with strips of flat steel to keep them from flexing," he explains.

With the larger tires on the rear end, they were concerned about having too much speed so they added an auxiliary 4-speed manual transmission between the automatic transmission and the driveline. "It's a manual transmission, but we never shift it. With the manual transmission in low gear, we can run about 50 mph on the road, so we don't need any more speed," he says. "Still, it has plenty of power when we're in the field."

The bus engine had extra pulleys, so adding a hydraulic pump to power the sprayer pump and lift the boom was no problem. "We did have to add a flow control valve in the hydraulic line, so we'd be able to use the hydraulic cylinders to raise the boom without losing pressure to the orbit motor that powers the sprayer pump," he says.

They selected a 20-gal. per minute hydraulic pump and then added an oil cooler in the line ahead of the reservoir to keep the oil from overheating.

"We made the steps and railings in our shop. We designed the hood and fenders, but had those bent for us on a brake by a metal fabricator from 14-gauge sheet metal," he says.

It has a 500-gal. tank and 80-ft. hydraulic-folded boom. "It's a commercial sprayer, built by a North Dakota company. We bought it without the trailer and fastened it onto the machine with four U-bolts."

They added a fuel tank next to the cab on the right side. On the left side near the access steps is a toolbox where they keep extra tips, spare parts and any tools that might be needed.

The sprayer is equipped with foam markers, but Levenson says they seldom use them. "We seed with a 40-ft. air drill. Since the boom is 80 ft., we're spraying two drill widths with each pass, and you can line it up by watching the gaps between the drill passes," he says.

They added an electric clutch on the hydraulic pump so it doesn't run all the time. This way, when they're ready to spray, they can just flip a switch in the cab to turn on the pump.

While the new unit has capacity to handle



Brian and Tim Levenson converted an old school bus into this state-of-the-art self-propelled sprayer. The cab is off a junked New Holland combine.

a larger spray tank, the Levensons chose to stay with the original 500-gal. tank. "We prefer not to have all that weight compacting the soil. As long as there's someone to haul water to the field, it doesn't slow us down too much to stop more often to fill up," he says.

Levenson figures the new power unit cost about \$10,000 to build, if they don't put a value on time in the shop.

Contact: FARM SHOW Followup, Brian Levenson, 10997 460th Ave., Sisseton, S. Dak. 57262 (ph 605 637 5596; email: levenson@tnics.com).

Catch Up On What You've Missed!

Many subscribers ask if we have copies of previous issues available. The answer is YES! Since FARM SHOW started publication in January, 1977, 158 issues have been published. We have approximately 120 "back issues" still available. But hurry. Once these issues are gone, they will not be reprinted.

Back Issues sell for \$3.50 apiece (\$5.00 Canadian). Tell us how many you want and we'll start with the most recent back issue and "work backwards" to get as many as you order. Or, tell us at what point you want us to start - for example, maybe you first subscribed in January, 2001, and only want issues published before that point. Six issues are published in each year.

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All prices include shipping. Contact: FARM SHOW Back Issues, P.O. Box 1029, Lakeville, Minn. 55044 (ph toll-free 800-834-9665 or 952 469-5572, 7:30 to 4:30 M-F CST). Visa & MC accepted.

Simple Drag Improves Seedbed

Drilling wheat or annual ryegrass into cloddy fields is no longer a problem for Earl Cox and some of his neighbors.

Cox, a Temple, Oklahoma, cattleman and farmer, devised a simple drag that mounts on his grain drill frame in front of the openers to crumble clods and leave a fine, firm seedbed.

"It's really pretty simple," he says. "I use a length of 5-in. steel I-beam that matches the width of the grain drill. I hang it from the frame with 3/8-in. chain, so when the drill is in the ground, the beam is positioned about 3 in. in front of the openers."

Cox says he's made several similar drags, usually finding the I-beam in a salvage yard. Since his drill has three 12-ft. sections,

Cox's current drag is in three 12-ft. sections. "I've found you need to adjust the length of the chain according to field conditions," Cox says. "If the field is soft, the chain may need to be shortened to keep the drag ahead of the openers."

As the I-beam is pulled over the soil, it first pushes soil ahead and then the top channel fills with soil. Cox says the extra weight makes it work better.

He says the only problem he's had with his drag was the ridges that built up as soil spilled around the ends of the I-beams.

This problem was solved by Butch Reece, also of Temple, who had adopted Cox's I-beam drag idea. "He cut off the bottom lips of his beams, starting about 8 in. from the ends



Drag consists simply of three 12-ft. sections of I-beam hanging from front of drill (left). Cox also uses drag on back of chisel plow (right).



and angling straight up to center at the ends. It lets the soil spread more as it passes around the end of the drag, so you don't get a sharp ridge," Cox says.

He says the drag has given him better stands and, since it packs the soil, too, it helps conserve soil moisture, which is usually criti-

cal for establishing a stand in his area.

Cox's drags are easy and inexpensive to make. "And they'll last a long time," he says.

Contact: FARM SHOW Followup, Earl Cox, RR #1, Box 232A, Temple, Okla. 73568 (ph 580 342-6632).

2-Wheeled, Electric-Operated Forklift Built For ATV

"It can raise loads up to 7 ft. high and works better than anything on the market," says Mike Nordby, Grygla, Minn., who made a 2-wheeled, electric-operated forklift that he uses either in front of or behind his Polaris 4-wheeler.

The forklift has a 7-ft. long hitch, with the lift mechanism located directly above the wheels and axle. A 1,500-lb. electric winch, which operates off the ATV's battery, mounts at the base of the forklift.

"It's built strong and comes in handy for a

number of different jobs around my farm. I've even used it to load lawn mowers into the back of my pickup," says Nordby. "The long hitch provides the leverage to carry heavy loads. I've used it to lift up to 10 sheets of plywood at a time, and one time I even used it to lift a big tractor wheel. By building a box to stand in I could even use my forklift as a deer stand. Another advantage is it's very easy to maneuver. I've seen forklifts that mount directly on the ATV, but they make it so hard to steer you almost need power steering.

"Whenever I use the forklift on front of the ATV and lift a heavy load, it makes the ATV lighter in front. To solve the problem I just add weight to the ATV's front rack.

"I came up with the idea because I do maintenance work inside a big Quonset shed that doesn't have a ceiling hoist. I used mostly scrap materials to build it. My total cost was only about \$60."

Contact: FARM SHOW Followup, Mike Nordby, Box 202, Grygla, Minn. 56727 (ph 218 294-6659).



"It can raise loads up to 7 ft. high," says Mike Nordby about the 2-wheeled, electric-operated forklift he uses with his ATV.

Tag-Along Bale Scale

"It lets you know if bales are too heavy or light so you can adjust your baler accordingly. It's accurate to within half a pound," says California farmer-inventor Andrew Bloom about his new tag-along weigh scale for small square bales that lets you weigh bales on-the-go.

The scale rides on two small wheels directly behind the bale chamber. It attaches to the baler with two pins that form a hinge, allowing the unit to roll smoothly over uneven ground. A load cell that attaches to the platform weighs the bale and sends the weight of each bale to a monitor on the tractor. The monitor keeps a running total and will also keep separate totals on different fields so field

performance can be rated. At the end of a baling session, the operator can easily get the total weight, number of bales, average weight, high weight, and low weight for a field.

To attach the weigher you first weld two steel plates under the bale chute. The unit can be adapted to fit most brands of small square balers.

Sells for \$2,400.

Contact: FARM SHOW Followup, HayWeigh Systems, 7714 S. Hwy. 33, Gustine, Calif. 95322 (ph 209 854-1533 or 209 324-0754; email: HayWeigh@aol.com).



Tag-along bale scale rides on two small wheels directly behind bale chamber. In-cab monitor, above, tracks individual and cumulative weight.

Bin Windows Help Check Grain Level

Chuck Barth, B&B Farms, Enon Valley, Pennsylvania, decided he was getting a little old to be running up and down the ladder to check the grain level in his on-farm storage bins, especially at night.

So with help from his sons and farming partners, Scott and Dan, he added windows to every ring in each of his 10 bins.

"Now we can see how full the bins are from the ground," Scott says. "It saves us all a lot of time and effort when we're filling and when we're unloading the bins."

The Barths made the grain bin windows from 3-in. schedule 40 pvc pipe, covered on the inside with a piece of 1/8-in. plexiglas.

"We installed them next to the ladder, with one in the top of each ring," Scott says.

They cut the plexiglas into 4-in. circles, so they lapped over the edges of the 3-in. pipe by about 1/2 in. all the way around. Scott says they used a utility knife to score and cut the plexiglas, but still had to smooth the edges with a grinder.

They cut the pvc pipe into 1 1/8-in. lengths using a chop saw. "The pvc pipe needs to be just long enough that it extends past the ribs in the bin sides," he says.

Then they used pvc pipe glue to fasten the plexiglas windows to the pvc pipe sections.

Standing on the bin ladder and using a cutting torch and a template they made to fit the

pvc pipe, they cut circles in each ring, cleaned off all the dirt and debris on the inside and outside of each cut, and inserted their pre-assembled bin windows, with the plexiglas on the inside of the bin. "That way, the grain won't push against the plexiglas and break it off," Scott explains.

And because the plexiglas laps over the pvc pipe, even if the pipe is pushed loose, the grain on the inside can't force it completely out of the hole.

Once the windows were in place, they caulked them inside and out with the best silicone caulk they could find in order to keep air and moisture from leaking into the bin. Besides sealing around the pipe, the caulk also helped glue the windows in place.

Finally, they used aluminum paint to cover the caulk and any scorched places on the bin caused by the cutting torch.

"It really makes it easy to check the bin level," Scott says. "At night, all we have to do is turn on the light in the bin and look at the windows to see how full it is."

With the windows located at the top of every ring directly beside the ladder, they can clean them easily.

Scott says the out-of-pocket cost was less than \$25 per bin, with the plexiglas being the biggest expense. He says pre-assembling the windows was quick and fairly easy. Install-



Bin windows are made from 3-in. pvc pipe, with one side covered by a piece of 1/8-in. clear plexiglas.



Barth put a window in every ring in each of his 10 bins. They're next to the ladders so they're easy to clean.

Editor's Notebook



Mark Newhall
Editor &
Publisher

B&B Worm Farms Bankrupt

After being sued by several state attorney generals for allegedly misleading worm farmers about how much money they can make, B&B Worm Farms of Meeker, Oklahoma, filed Chapter 7 bankruptcy at the end of April.

B&B reportedly owes money to about 1,750 growers in 20 states and has more than \$23 million in outstanding debts. Revenue in 2002 was \$18 million, however.

Some farmers reportedly invested as much as \$60,000 to obtain contracts with the company. Recently, however, the company stopped accepting shipments of worms and worm castings, according to published reports.

The company says it hopes to get out of bankruptcy and fulfill all standing contracts. They have hired a firm that specializes in reviving companies in financial trouble. (AP)

Liberty Quotes

It is certain that the two World Wars in which I have participated would not have occurred had we been prepared. It is my belief that adequate preparation on our part would have prevented or materially shortened all our other wars beginning with that of 1812. Yet, after each of our wars, there has always been a great hue and cry to the effect that there will be no more wars, that disarmament is the true road to health, happiness, and peace; and that by removing the fire department, we will remove fires. These ideas spring from wishful thinking and from the erroneous belief that wars result from logical processes. There is no logic in wars. They are produced by madmen. No man can say when future madmen will reappear. I do not say that there will be no more wars. I devoutly hope that there will not, but I do say that the chances of avoiding future wars will be greatly enhanced if we are ready. *General George S. Patton, Jr.*

Men sleep peacefully in their beds at night because rough men stand ready to do violence on their behalf. *George Orwell*

When the people find they can vote themselves money, that will herald the end of the republic. *Benjamin Franklin*

Nearly all men can withstand adversity. If you want to test a man's character, give him power. *Abraham Lincoln*

The word "politics" is derived from the word "poly", meaning "many", and the word "ticks", meaning "blood sucking parasites". *Larry Hardiman*

Letter To Dad

Dear Dad, School is really great. I am making lots of friends and studying very hard. With all my stuff, I simply can't think of anything I need. So if you would like, you can just send me a card, as I would love to hear from you. Love, Your Son.

Dear Son, I know that astronomy, economics, and oceanography are enough to keep even a home-or student busy. Do not forget that the pursuit of knowledge is a noble task, and you can never study enough. Love, Dad.

On-Line Parts

If you don't need it today, buying parts on-line can be a big time saver. You don't have to make a trip to town. You just have to sit down at your computer for a few minutes. And if you need it fast, you can usually get a shipment the next day.

There are a lot of on-line parts shops. Here's one we recently came across that's run by Curtis Wager, a farm equipment dealer in Florida (when you're dealing with cyberspace, it doesn't really matter where a company is located.)

Wager's site - www.etractorparts.com - features more than 5,000 filters of all kinds, 600,000 Case-IH parts, and parts for Deere, New Holland, and many other manufacturers.

There are hundreds of other parts suppliers on the internet. Just go to the search engine www.google.com and enter "farm equipment parts" in the search box. If you have a specific make or model, just enter that, too, and chances are you'll find what you need.

Do Good And Reduce Taxes

Financial trusts have been a tax avoidance tool of the wealthy for generations. Many farmers in the U.S. today should also consider them.

A charitable remainder trust greatly reduces income taxes today and estate taxes after you're gone. It earns the donor an income tax deduction for the future gift to charity. The only negative is that upon death the assets in the trust go to charity, instead of to your family. That's where life insurance comes in, says Steve Sanborn with Morgan Ross, an endowment counseling firm in Overland Park, Kansas.

"A farmer with property worth \$500,000 that he bought 45 years ago faces capital gains taxes if he sells or estate tax issues if he leaves it for his family," he says. "The taxes can be avoided by deeding property to a charitable trust. The trust grows tax-free, and the donor can draw on it as long as he lives."

Let's look at the \$500,000 property example. If sold for cash, the money - minus about \$100,000 for taxes and commissions - could be invested for yearly income. At death, any remaining assets would pass on to heirs and be taxed again.

On the other hand, if the property was deeded to a charitable trust, the assets could be sold today for \$500,000 tax-free and the money put into the trust. It would earn a \$103,453 tax deduction for the future charitable gift. The trust would then invest the \$500,000, less the real estate sales commission, and it would grow tax-free. Earnings could be used to fund regular annuity payments to the beneficiary who set up the trust and also pay for an insurance policy payable to heirs with a value equal to the value of the property placed in trust. In Sanborn's example, an 8% return on investment over 24 years could return \$832,839 in income to the beneficiary, provide over \$628,582 in tax-free insurance to heirs, and put \$475,000 into the hands of a charity.

Of course, the example assumes that the beneficiary lives 24 years. In a worst-case scenario, the beneficiary dies a day after setting up the trust, the heirs inherit the life insurance policy and the charity receives the value of trust assets less expenses.

Morgan Ross works closely with Children's Community Foundation (CCF) to create and administer charitable trusts for an annual fee and service charges. The advantage Sanborn claims Morgan Ross offers over other trust administrators is that CCF will immediately fund the trust for the appraised value of any property deeded to the trust. If the property is first deeded to CCF, the final designee for the estate can be changed and the disbursements can be increased or decreased. Many of the same tax advantages and guaranteed annuity payments can be arranged through other charities.

Like any business decision, setting up a trust should be done carefully with the advice of trusted professionals. Legal, tax and financial advisers can provide information and advice. Payments and administrative costs should be compared when selecting a firm to administer the trust.

Contact: FARM SHOW Followup, Steve Sanborn, Morgan Ross, 10855 Lowell, Suite 810, Overland Park, Kan. 66210 (ph 913 894-6226; email steve@childrensfoundation.com). *Jim Ruen*

Torrin Polk, University of Houston receiver, on his coach, John Jenkins: "He treats us like men. He lets us wear earrings."

Shakespeare, Leonardo da Vinci, Benjamin Franklin, and Abraham Lincoln never saw a movie, heard a radio, or looked at television. They had "loneliness" and knew what to do with it. They were not afraid of being lonely because they knew that was when the creative mood in them would work.

Middle Ages Were Warmer Than Today

New research shows the earth was warmer during the Middle Ages than it is today, contrary to what environmentalists have been saying since the 1980's.

Harvard University recently conducted the most comprehensive study yet of global temperatures over the past 1,000 years. Results showed that today's temperatures are neither the warmest over the past millennium, nor are they producing the most extreme weather. The findings showed that the world experienced a Medieval warm period between the ninth and 14th centuries, with global temperatures significantly higher even than today. After that, the world cooled dramatically. Since 1900, the world has begun to warm up again but has still to reach the balmy temperatures of the Middle Ages.

According to researchers, the evidence confirms suspicions that today's "unprecedented" temperatures are simply the result of examining temperature change over too short a period of time. (Robert Matthews, *London Telegraph*)

Deere's Continuing Legacy

Deere & Co. dominates the farm equipment business because it is the only original manufacturer still doing business as it always has. They've been in business since 1837, and they're still John Deere. Today, Deere is as strong among collectors as in new tractor sales. One reason is that Deere always made a big thing out of the notion that newer isn't always better, according to Pat Ertel, editor of *Antique Power* magazine. That means, for example, that Deere's basic two-cylinder tractor engine design lingered from 1923 through 1960. You can still buy parts for a 1924 John Deere Model D at a regular dealership.

The durability of those old tractors means that out of approximately 1.5 million of them built through 1960, 750,000 of them are still running. (Excerpted from an article by James Ewinger in the *Cleveland Plain-Dealer*)

Heard on the radio. An airline jet recently dumped a load of jet fuel over an urban area in Minnesota before making an emergency landing. Usually when that happens, the fuel dissipates before hitting the ground but, in this case, the plane was low enough that the fuel soaked some construction workers in the path of the plane. I heard the situation being discussed on the radio and an airline mechanic called in to say that the way to get fuel out of clothing is to put a can of Classic Coke in with the laundry when washing them. He said it takes the fumes right out of the clothing.

A 3-year-old went with his dad to see a litter of kittens. On returning home, he breathlessly informed his mother that there were two boy kittens and two girl kittens. "How did you know?" his mother asked.

"Daddy picked them up and looked underneath," he replied. "I think it's printed on the bottom."

A young man who had just been unexpectedly "released" from his job, asked his employer if he would write him a recommendation. After much doubtful consideration, the boss came up with this:

"To whom it may concern: John Jones worked for us one week, and we are satisfied."

A farmer went into the doctor's office for his annual checkup, and the doctor asked if there was anything unusual he should know about. The man told the doctor that he found it strange that his suit must have shrunk just sitting in his closet because it didn't fit when he put it on for a wedding recently.

The doctor said, "Suits don't shrink just sitting there. You probably just put on a few pounds."

"That's just it, Doc. I know I haven't gained a single pound since the last time I wore it."

"Well, then," said the doctor, "you must have a case of Furniture Disease."

"What in the world is Furniture Disease?"

"Furniture Disease is when you reach that stage in life when your chest starts sliding down into your drawers."

Farm-Based Businesses Help Boost Incomes

If you're looking for new ways to add to your bottom line, take a look at the money-making ideas featured here and on the next page.

If you've found or heard about a new income-boosting idea, we'd like to hear about it. Send details to: FARM SHOW Magazine, P.O. Box 1029, Lakeville, Minn. 55044 (ph 800 834-9665) or E-mail us at: Editor@farmshow.com.



Gene Cafourek made this state-of-the-art mini spray rig by mounting a 16 1/2-ft. boom on front of his 18 hp garden tractor. He uses the sprayer to control weeds at three local cemeteries and on a half dozen local farmsteads.

He Does Custom Work With Home-Built "Lawn Sprayer"

"It works like a big commercial farm sprayer," says Gene Cafourek, Stewartville, Minn., who made a state-of-the-art mini spray rig by mounting a 16 1/2-ft. boom on front of his 18 hp garden tractor. He uses the sprayer to control weeds at three local cemeteries and on a half dozen local farmsteads.

A 25-gal. poly tank mounts on back of the tractor. A Hypro roller pump is belt-driven off a pulley mounted on the engine crankshaft. A Terra Tronics monitor, which mounts on a bracket in front of the steering wheel, is used to monitor field speeds and to measure acreage in order to get the proper application rate.

The 3-section boom is made from 1-in. pipe and is equipped with five flood jet nozzles spaced 40 in. apart. Valves mounted on a manifold next to the tractor seat can be used to turn each valve on or off, allowing spraying width to vary from 40 to 120 in. Cafourek normally sprays in either a 10-ft. or 16 1/2-ft. swath. The boom mounts on a length of 1-in. tubing and can be raised or lowered by pulling a pin.

A 12-volt air compressor pump is used to make marker foam in a 1-gal. aluminum tank.

A hand gun equipped with 75 ft. of hose is used to spot spray weeds. It lets Cafourek get off the tractor and spray around obstacles.

"It really works good and is a lot of fun to operate," says Cafourek. "My sprayer has so many accessories that it looks like a small airplane. It has a total of 13 different valves that can be used at different times. The manifold has six valves - five to operate each nozzle individually and one to operate the handgun. There's a main valve to

shut the boom on and off, and there are two valves next to the steering wheel that control the left and right side of the foam marker. The boom has four valves to adjust swath width when using the foam marker. There's also a relief valve to adjust spray pressure.

"A small mirror mounted on front of the tractor points down toward the nozzle in front of the tractor and let's me see if it's working properly.

"I had been using a rear-mount boom, but I didn't like it because cemeteries have a lot of trees and grave stones so I got a sore neck from having to turn around all the time. Each outside section on the boom is connected to a rope. By pulling on either of the ropes I can draw the sections back against the sides of the tractor, allowing the rig to squeeze through narrow spaces."

The boom rides only about 22 in. off the ground which minimizes drift. The nozzles can be set to spray either up or down. "By pointing the nozzles downward my shoes don't even get wet," says Cafourek. He generally runs the boom at about 18 psi. "I chose the Hypro pump because it's a high pressure, low volume pump. I crank the throttle on the tractor to adjust pressure. I plumbed the handgun so I can apply anywhere from 0 to 100 psi."

According to Cafourek, the sprayer's only limitation is that the 25-gal. tank can only cover about one acre at a time. "At one cemetery I have to fill the tank 11 times. I plan to build a new sprayer on another tractor that will be equipped with a 75 to 100-gal. tank," he notes.

Contact: FARM SHOW Followup, Gene Cafourek, 110 2nd Ave. SE, Stewartville, Minn. 55976 (ph 507 533-6283).



"Customers love it because of its rich, moisturizing, soothing properties," says Eileen Whitten about her hand-crafted, all natural goat milk soap.

Goat Milk Soap A "Natural" Business

By Janis Schole

For the past three years, Eileen Whitten has been tapping into a specialty market to boost income from her goat herd. The young Fort Assiniboine, Alberta, farm woman decided to start making and selling hand-crafted, all natural goat milk soap. She says customers love it because of its rich, moisturizing, soothing properties. She calls her operation, "Nanny Acres."

Whitten raises registered Alpine and Saanen goats. She did some research on the internet to find soap recipes and started experimenting.

"None of those recipes worked to my satisfaction, so I developed my own just by trial and error. I have my own little trade secrets for overcoming a few problems that can arise when making soap, like how to prevent soda ash from forming during the curing process and how to keep the soap bars from souring without refrigeration," she says. "Some people have trouble with their milk curdling during the process, but I never have. I'm very confident in my techniques and my finished product is very professional looking."

This professional look is made possible by custom-made plastic soap molds which put her logo on every bar.

Whitten says milk soaps in general, create a rich and creamy lather and are soothing to sensitive or irritated skin. They help skin conditions such as psoriasis and eczema and help balance skin oils.

Whitten uses about two liters of raw goat milk to make 50-bar batches in her basement "soap room." She measures and weighs all her ingredients using a digital scale and, during the process, she ensures the proper temperature is reached, using a digital thermometer.

Whitten produces nineteen different scents - varieties of soap, seven of which use all natural essential oils for their fragrances. She also makes a "Cowboy/Cowgirl scrub" which is



She uses custom-made plastic soap molds. Once the soap has set, she removes bars from their "molds" and "cures" them on shelves for three weeks, essentially just one of the 19 soaps with a piece of loofah embedded in it for scrubbing power.

One soap she produces is an all-natural pet bar called "Shoo Bug Shoo." The oil blend she uses is a natural insect repellent.

In addition to the milk, Whitten includes palm oil, coconut oil and olive oil. She also adds emollients such as emu oil, castor oil and shea butter. She uses natural coloring from things such as carrot juice.

The Nanny Acres All Natural Goat Milk Soaps cost \$5 per bar or three bars for \$12 (Canadian). Bar size is about 3.5 oz.. There's a \$5 shipping and handling fee for mail orders.

Contact: FARM SHOW Followup, Eileen Whitten, Nanny Acres, Box 176, Fort Assiniboine, Alberta, Canada, T0G 1A0 (ph 780 584-2210), email: nannyyacres@telus.net).

Whitten's milking herd consists of 10 does, which she milks twice per day. She plans to double the number of does she milks next year.



Farm-Based Businesses Help Boost Incomes

Used Processing Equipment Puts Small Farm Dairy in Business

When John and Judy Davis, Kennan, Wisconsin, began looking for ways to increase income from their small Holstein herd, they figured their options were either to add cattle or to process and market their own milk.

They were already buying a lot of feed. Adding cows was going to require even greater feed purchases or more land. That wasn't what they really wanted.

So they decided to look into processing their own milk. They learned that dairy processing equipment, even for a small farm, was going to set them back close to \$1 million. "It was easy to see why no one else was doing it," Davis says.

Still, they liked the idea of bottling and selling milk, so they looked at used equipment. "Health and sanitation regulations outlawed a lot of older equipment. There was hardly any used equipment available that would pass inspection," he reports. "We could have put together a milk processing plant for our farm from modern used equipment, but the cost was still going to be between \$300,000 and \$500,000."

"We finally found some older used pasteurization, homogenization and bottling equipment that didn't meet state and federal requirements. Some of what we found was in good shape, but just needed guards and shields here and there to be brought up to date," Davis says.

After checking with the Wisconsin Department of Agriculture, Trade and Consumer Protection, they learned that the old equipment could be used if it were updated. Davis figured he could make most of the

necessary modifications in his shop, so they purchased the used equipment and he went to work.

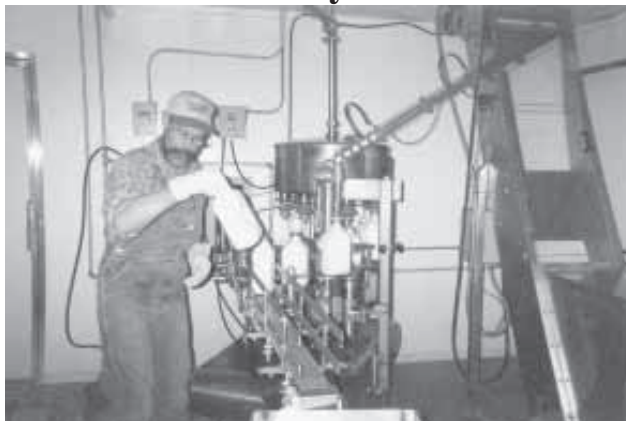
"It took two years to get the equipment together and make all the changes that were required so it would pass inspection," he says. "I had to have some of the parts I needed made at local fabricating shops. I did the work on the farm with the inspectors literally looking over my shoulder. There were times when they made me redo some of the work, but I knew it would pass inspection when I was done."

One of the more difficult challenges was finding a bottling machine. The Davises literally looked high and low for one, even contacting carton and container makers. "We were looking at paper and plastic, but then learned about Stannic, a Canadian company that still produced glass containers. We contacted them and they helped us locate a reasonably priced used bottling machine that would work with their containers."

Once the building and equipment passed inspection and the bottles were delivered, the Davises opened a store at their farm where they're selling whole, 1% and 2% milk (both white and chocolate) and cream from their cows. They also stock butter and cheese from Edelweiss Cheese Co., Marshfield, Wisconsin.

"We sell our excess raw milk to Edelweiss Cheese, in exchange for butter and cheese. When their route man picks up our milk, he delivers the butter and cheese," Davis explains.

The Davises also provide milk to a few area stores and have started a small home deliv-



After bringing some older used pasteurization, homogenization and bottling equipment up to date, John and Judy Davis are able to process and market their own milk.

ery route as well.

To pay for the equipment, the Davises sold part of their herd. They're now milking only 10 cows, but are processing most of the milk on the farm. Volume doesn't require them to process every day, but milk sales from the farm store and through area grocery stores are increasing at a steady rate. They price their milk competitively so they figure they'll continue to gain market share. Right now, they're making as much from the farm as they were milking twice as many cows. "I'm estimating that if I pay myself \$15 per cwt., I can afford to continue processing," Davis says. Their plan is to grow the herd as demand increases, while processing an ever-

increasing percentage of the milk they produce.

While the Davises believe small dairy processing might be making a comeback, they're not sure they'd recommend it to everyone. "We were able to put our plant together for under \$100,000, but it took most of my time over a two year period to do it. There were a lot of legal and regulatory hoops to jump through, and some of them were on fire," Davis says.

Contact: FARM SHOW Followup, John and Judy Davis, Davis Farm, North 5026 Cty. J, Kennan, Wis. 54537 (ph 715 474-3454).

"Chile Man" Makes A Living On 2 1/2 Acres

It takes hard work and some marketing know-how, but Robert Farr figures any innovative grower can make a good living on just a few acres.

Despite a successful career in computer marketing, Farr was really a frustrated farmer. By 1998, his 1/4-acre yard in Virginia was nearly filled with several varieties of chile peppers, herbs, and other plants. One day he decided he was ready for a change in careers.

So in July of that year, he and his wife, Carol, made a move to the country, near Purcellville, Virginia and settled in on a 10-acre farm.

Robert brought along his chiles and herbs and added elderberries, gooseberries, horseradish, tomatoes, and numerous perennial flowers.

The Farris now have 2 1/2 acres of crops. Through direct marketing, they've turned the produce from those acres into a gross income of about \$125,000 last year.

In 2002, they harvested 1.5 million chile peppers (which are quite small in size), along with tomatoes, horseradish, berries and herbs. These crops form the base of 20 different gourmet hot sauces, salsas, barbecue sauces and mustards. They blend and cook the ingredients on the farm, and bottled them up in about 20,000 bottles. That's 18,000 more than they sold their first year, just four years earlier.

The Farris worked together to develop the recipes for each of their products and they sell direct to consumers and restaurants, pocketing the share normally taken by retailers and distributors. A selling point, particularly with restaurants and quality conscious consumers, is that no artificial fla-

vors or colors are added to their product and no chemicals are used in growing their crops.

Rather than just calling them sauces and salsas, each product has a distinctive – and innovative – name. There's Louisiana Lightnin', Hold Your Sympathy, Perfectly Pungent Papaya, Caribbean Shake, and Gimme Some Ginger! If one of those doesn't get your attention, maybe you're up for some Jumpin' Jamaica Jerk, Honey I'm Home, or Respect Your Elderberries. For people who aren't into hot chiles, they offer Born to Be Mild and Just Horsin' Around, a horseradish mustard that contains no peppers.

To reach consumers, they attend more than 20 fairs and festivals, but much of their success comes from open houses at the farm where they hold their own festivals, usually with entertainment, and invite in the public to come out and taste their wares. They'll host 12 such events this year, including two plant sales.

"We invite people to come out not only to taste our products, but to take tours of our fruit, vegetable, and flower gardens," says Farr, who is known throughout the area as The Chile Man. "I host the 30-minute tours throughout the day, and also give tours of our commercial kitchen where we make our sauces and salsas."

With his computer background, Farr put together a website (www.thechileman.com) that also generates sales and contains recipes that use his products.

He credits much of their success to his marketing background, but he says another reason for their success is the way in which they produce their crops. "We use organic production methods and plant crops in raised beds," he says. They control weeds using no-



Through direct marketing, Robert Farr has turned the produce from 2 1/2 acres of crops into a good living. Last year he harvested 1.5 million chile peppers.

till methods and mulch. And they use companion plantings to control insects and enhance production.

Another value-added segment of the Farris' farm business is teaching their production methods to others. In what they're calling the Chile Man Seminars, they're holding a series of classes in organic growing and creating a sustainable garden or small farm. In so doing, Farr figures to capitalize on all aspects of the business.

Farr intends to continue expanding the Chile Man sauce and salsa business, but says eventually he may need to contract with someone to produce ingredients for him.

He recommends that if traditional small

grain and livestock farmers need additional income, they consider the possibilities of value-added products. It could be something like growing cucumbers and making pickles, keeping bees and selling honey, growing berries and making jam to sell, or anything else that interests you that will sell in your area. He predicts interest in such farm-produced products will continue to grow.

Contact: FARM SHOW Followup, Robert Farr, The Chile Man, 35796 Milligan's Run Lane, Purcellville, Va. 20132 (ph 540 668-7160; email: rbfarr@erols.com; website: www.thechileman.com).

Farm-Based Businesses Help Boost Incomes

Aqua Farm Ties Fish Tanks To Greenhouse

Fish and greenhouse plants make a good combination on Tom and Paula Speraneo's S&S Aqua Farm.

The Speraneos raise tilapia, a firm white-fleshed fish that produces an amazing pound of filet from a pound of feed. Along the way, it also produces a large amount of high nitrate fish waste.

Getting rid of fish waste and aerating ponds usually requires a lot of expensive equipment. The Speraneos decided to filter the fish tank water through hydroponic growing beds to clean the water. Bacteria in the gravel-filled growing beds break down the waste into nutrients for the high-value organic produce planted in the beds.

"We sell live fish for \$3 per pound and produce for up to \$6 per pound," says Tom Speraneo. "The hydroponic beds produce 23 to 27 lbs. of produce for every pound of fish we sell."

Tom and Paula started out in 1991 with a salvaged 550-gal. tank and three homemade growing beds. The unit was housed in a greenhouse enclosure on the south side of their home. Every ounce of feed and nutri-

ents that went into the system or came out was measured and recorded.

A year of experimenting and accurate record keeping gave them the data to qualify for a Small Business Administration loan. In 1992, they built a 50 by 80-ft. greenhouse with six commercial 1,000-gal. fish tanks that produce 1,000 lbs. of tilapia each month. Each tank is linked to 4 to 6 growing beds and forms what Speraneo refers to as a "node".

Simplicity is the key to the Aqua Farm system. Simple Sears sump pumps move water between the fish tanks and growing beds. After trying expensive aeration blowers in the fish tanks, the Speraneo's daughter suggested simply capping the pipe from the pump and drilling holes in them. The resulting water spray sufficiently aerates the tanks. It also creates a counter-clockwise current that drops fish solids to the tank bottom where they are pumped out and into the growing beds to feed a wide variety of plants.

"We have grown over 400 different kinds of plants, everything from strawberries to dwarf bananas and dwarf New Guinea im-



S & S Aqua Farms sells both fish and plants. Fish tank water (at right in photo) is filtered through hydroponic growing beds (at left), providing nutrients for high-value organic produce.

patiens," says Speraneo. "We discovered people pay more for flowers than food. We can take a bed of impatiens plants, add 75¢ worth of potting soil and pot and sell it for \$10."

Today S&S Aqua Farm sells fish, plants and plans. Speraneo has helped set up 119 installations around the world. He estimates

there are around 750 sites based on his plans in existence from Canada to the Canary Islands and Australia to Russia.

Contact: FARM SHOW Followup, S&S AQUA FARM, 8386 County Road 8820, West Plains, Mo. 65775 (ph 417 256-5124; email: snsasquasys@townsq.com; website: www.townsq.com/snsaqua).

Online Birdseed Business

High quality birdseed sold on the Internet at a premium price is putting money in the hands of Gordon Moe and Dan Ecker, who combined their skills to form eBirdseed.com.

Moe, a computer programmer from Hawley, Minn., was floored by the difference between the farm price for grain and the price being charged in stores for the same grain sold as birdseed. He enlisted the help of Ecker, a Grandin, North Dakota sunflower grower, to launch a birdseed-selling business on the Web.

Moe programmed the easy-to-navigate website while Ecker provides the sunflower seed and coordinates orders and shipping. The Web-based business launched in February 2002. Offering a varied selection of products and free shipping, the site took off and volume has increased steadily.

While their prices aren't cheap, they're still within reach of many local stores. For example, a 7-lb. bag of "Sunflower Hearts Wild Bird Food" fetches \$16.79. Their biggest seller is a 25-lb. bag of black oil sunflower seed, produced by Ecker, that goes for \$26.25. After deducting the free shipping and the cost of the bag, the price received is still well above that of the local sunflower market.

Other products offered at the eBirdseed.com have names like Backyard Buffet Finch Mix, Nyjer Plus, Premium Wild Bird Mix, Cherry Cobbler and more. They offer cracked corn, in-shell peanuts, Nyjer seed, peanut bits and pieces, red millet, white millet and safflower.

Ecker will eventually produce millet and other grains used in the various



A wide variety of high-quality birdseed is available on a new website called eBirdseed.com.



Gordon Moe and Dan Ecker combined their skills to launch the site.

eBirdseed.com mixes.

Moe notes that while business increased 120 percent during a recent month, they're still not getting rich. But considering the U.S. wild birdseed market is about \$2 billion, they figure even a little piece of it will be worthwhile.

Contact: FARM SHOW Followup, eBirdseed.com, 27823 86th Ave. S., Hawley, Minn. 56549 (ph 218 486-5607; email: gordon@ebirdseed.com; website: www.ebirdseed.com).

Farm-Based Business Equipment Sources

Low-Cost Engine Analyzer

As computer chips get faster and cheaper with more capacity, it's getting easier for "shade tree" mechanics to set up shop to work on late model vehicles. For example, you can buy the new Xray analyzer for \$399. It does the work of equipment that would have cost thousands of dollars just a couple years ago.

It easily plugs into any Ford, General Motors or Chrysler onboard computer, giving you a snapshot of all engine functions. Identifies engine error codes and monitors engines on-the-go, when needed.

As new cars come out, you can get latest new codes by downloading them off the internet. Warranted for the life of the product.

Contact: FARM SHOW Followup, CBS Performance Automotive, 52 County Rd 5 #201, Divide, Colo. 80814 (ph 800 685-1492; www.cbsperformance.com).



Rabbit-Raising Equipment

If you're interested in rabbit production on either a small or big scale, Bass Equipment has a complete line of rabbitry equipment - cages, feeders, waterers, etc. Bass also offers vinyl-coated and galvanized wire by the roll so you can design your own cages and runs.

For a free catalog, contact: FARM SHOW Followup, Bass Equipment Co., Inc., P.O. Box 352, Monett, Mo. 65708 (ph 800 798-0150; www.bassequipment.com).

Do-It-Yourself Alcohol Stills

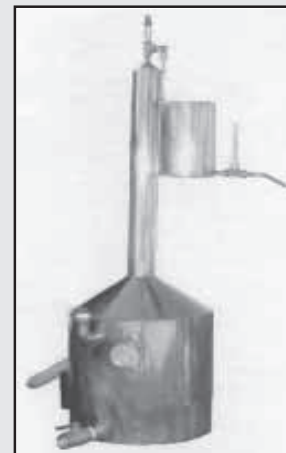
The Revenoor Co. has been building alcohol stills for more than 25 years at its plant in Yamhill, Oregon.

The company offers copper stills ranging from 5 gal. to 1,000 gal., and custom builds larger units. Models can be heated by wood, electricity, or propane.

The company has all kinds of customers but most are interested in producing alcohol to burn in vehicles or farm equipment. It can also be used for home heat.

The company provides detailed information to customers on how to make and use home-brewed alcohol.

Contact: FARM SHOW Followup, The Revenoor Co., Inc., P.O. Box 602, Yamhill, Oregon 97148 (ph 503 662-4173; website: www.revenoor.com; terry@revenoor.com).



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Farm-Based Businesses Help Boost Incomes



You don't need big equipment to get big logs out of the woods, says the manufacturer of logging equipment for ATV's and small tractors.

"Logging Arch" For ATV's

You can use your 4-wheel ATV to move logs safely and with less power using this new "logging arch." The unit can also be used behind a small tractor or pickup.

The two-wheeled rig lifts most of the log off the ground, reducing drag and keeping dirt off the log. It's equipped with a 3,200-lb. 2-speed manual winch; a 25-ft. long, 3/8-in. dia. choker; and two-side release snatch blocks. A pair of handles on the arch is used to lift it up and over the log.

The unit handles logs up to 20 in. dia. and 16 ft. long or even longer. Logs less than 10 ft. long can be balanced so they can be fully suspended. For longer logs a second arch can be used on back, allowing you to carry both ends of the log.

"It's lightweight and easy to maneuver

which makes it easy to position over logs. A doubling option allows the winch to handle up to 6,000 lbs.," says a spokesman.

The company makes several other logging arch models, including a "junior arch" equipped with tongs instead of a winch; and a "fetching arch" designed to pull logs up steep hillsides. The largest model handles logs up to 4 1/2 ft. dia.

The logging arch sells for \$1,475, the junior arch for \$430, and the fetching arch for \$1,575.

Contact: FARM SHOW Followup, Future Forestry Products, Inc., Box 1083, Willamina, Oregon 97396 (ph 888 258-1445; email: contact@futureforestry.com; website: www.futureforestry.com).



For longer logs a second arch can be used on back, allowing you to carry both ends of log. A hand-pushed model for smaller logs is also available.



In field trials, workers have weeded up to 35 percent faster compared to hand labor.

"Lay Down" Electric-Powered Crawler

Bending over to plant, pick or weed is the worst part of market gardening. But "the bends" are just a bad memory once you climb on the Crawler from Elomestari, Ltd., Juva, Finland.

The Crawler is a battery-powered cart with foot-operated controls. A padded frame supports a reclining body and head, leaving hands free to do their work. At row ends, the cart can be moved to a new row or the body frame can be rotated 180° and slid sideways to return up the same row.

The base price of approximately \$2,600 can be paid for quickly in increased productivity. "In field trials, workers have weeded up to 35 percent faster compared to hand labor, planting speed has doubled and fewer rests are needed," says Petri Leinonen, Elomestari owner. "It also reduces occupational injuries."

A 12-volt electric motor in each wheel propels the working bed through a field at up to 0.3 mph. A single battery charge powers the unit for 6 to 10 hours.

Optional accessories include a second worker's platform, solar cells and canvas canopy. Customized Crawlers as wide as 39 ft. with room for multiple beds are available. Special greenhouse units have sensors for steering, leaving speed foot-controlled.

on hills."

He also designed a lot of adjustable features into the rig. For example, the rear wheels adjust from 32 to 40 in. rows. "The frame that goes over the rider can be slid all the way to the left or right so that the front and rear wheel follow the same track, with the other rear wheel on the other side of the row," says Gurgel.

To make it easier to reach two rows, the seat swivels from side to side or adjusts up



Battery-powered cart has foot-operated controls, leaving the operator's hands free to do the work.



Special greenhouse units have sensors for steering, leaving speed foot-controlled.

Contact: FARM SHOW Followup, Marcia Miquelon, University of Wisconsin Healthy Farmers, Healthy Profits Project, 460 Henry Mall, Madison, Wis. 53706 (ph 608 262-1054; website: <http://bse.wisc.edu/hfhp/>).



Junior Gurgel built a lot of adjustable features into this 3-wheeled picker. It's powered by a 5 1/2 hp Honda gas engine that belt-drives the front wheel.

Low-Slung Cart Makes Harvest Fun

Junior Gurgel says harvest on his fruit and vegetable farm is a lot more enjoyable since he came up with this low-slung one-man cart.

The 3-wheeled picker is 8 ft. long and has a chassis made from 2 1/2-in. sq. tubing. Two 26-in. bike-type wheels mount on back, and there's a single 12-in. lugged wheel on front. Power is provided by a 5 1/2 hp Honda gas engine. The engine belt-drives the front wheel, with a 12 1/2-in. dia. double pulley attached to the engine and a smaller double pulley attached to the wheel. Gurgel uses his left foot to push on a pedal that releases an idler pulley and allows the rig to go forward. He uses his right foot to activate the bicycle-type brakes on the rear wheels.

The rig steers via a handle located in front of the driver's seat. The handle is connected by cable to a 1-in. dia. bolt that goes through a car wheel hub and yoke. Gurgel pushes the handle to turn left and pulls on it to turn right.

"I use it to harvest asparagus and beans and to train strawberry runners to fill in the

row instead of the walkway between rows," says Gurgel. "I can harvest three acres of asparagus in only 3 1/2 hours. I also use it to control weeds. I often take my picker to vegetable shows, where I tell people it's the only way a mom and pop operation like ours can increase acreage without having to hire more help.

"The belt tightener allows me to just inch along, although I can also go at a brisk walking speed if I want. The steering handle mechanism has small notches cut into it 1 inch apart so the rig stays where I set it, so when I'm going straight down the row I don't even have to steer which leaves my hands free for harvesting."

He says he built the picker heavy to hold up under heavy farm use. "The rear wheels are off a feed cart and have 1/4-in. rod spokes which are a lot heavier than bicycle wheel spokes. The front wheel is off a small manure spreader. The engine mounts low on front to keep a low center of gravity, which is important on side hills. I've driven it on 45 degree slopes with no problems. I used double pulleys to make sure that the belt won't slip

New Ways To Fill Center Pivot Tracks



The "Gadget" is a 77-ft. long rig equipped with 17 tires and a 14,000-lb. packer on back. Machine's center section has four large tires that can be raised and lowered to pre-form the soil into a hump.

Custom Rut Filler Business Minimizes Crop Damage

Robert Hittle of Liberal, Kansas, has a thriving custom business filling in center pivot wheel ruts on alfalfa and grass - using a home-built machine that lets him fill in ruts without damaging the crop.

"Conventional rut fillers use discs that penetrate deep into the soil and cut off alfalfa roots, killing the plant. My machine shaves only the top 3 in. of soil without killing the plant. By the following summer the crop has grown back so much you can hardly even tell where I've gone," says Hittle.

Hittle uses a Deere 8410 MFW tractor to pull the hydraulic-operated machine, which he calls the "Gadget." It's 77 ft. long and is equipped with 17 tires and a 14,000-lb. packer on back. The machine is built around an old road grader frame. Its center section has four large tires that raise and lower and are used to pre-form the soil into a hump. A single semi-tire runs over the hump to pack it down, followed by the packer which packs the hump into a dome shape. A harrow section then smoothes out any ridges that form between the rig's dual wheels.

If soil erosion is a problem, a second machine equipped with a trailer is used to bring more soil into the field and build an even bigger hump over the rut. The trailer holds 22 yards of sand and has a live floor to unload the material out a hole in the middle of the floor and another one at the back. There are two harrows under the trailer - one in the middle and one under the back end - to smooth out the dirt. A scraper blade hooked on back of the trailer then catches all the extra dirt and makes the hump. Blow sand taken



If soil erosion is a problem, this machine is used to bring more soil into the field and build an even bigger hump over the rut. The trailer on it has a live floor to unload the soil, which is then formed into a hump by scraper blade on back.

from fence rows works best for fill.

"Both machines are built heavy and ride on dual semi truck axles and wheels for reduced compaction," says Hittle. "I've used this equipment for seven years and have been improving on it all the time. I've worked for farmers up to 150 miles away and have done as many as 70 circles in one winter. Over the years I've put on at least 8,000 miles. I carry a 150-gal. fuel tank with a hose reel on the side of it, so when I'm on the road I can fill up with diesel in towns that I travel through."

"It usually takes me 4 to 5 hours to complete an 8-tower field. I charge \$110 per hour for the Gadget. I've also done several wheat fields over the years. I charge \$95 per hour for the dirt trailer. I don't use the Gadget in corn or milo fields because the residue plugs the machine up. However, I'm now building a machine designed to work in corn, milo, and wheat stubble."

Contact: FARM SHOW Followup, Robert Hittle, 1731 Road P, Liberal, Kansas 67901 (ph 620 624-3112).



Jace Agee recently built this 10-wheel semi trailer rut filler. It holds 22 yards of material and can travel at highway speeds.

Center Pivot "Rut Filler"

A new "rut filler" fills deep ruts with pea gravel or small crushed rock.

The machine, which is available for purchase or rent, is designed to be pulled by any tractor with at least 130 hp. It consists of a wagon with sloping sides that rides on dual wheels all the way around. There's a hydraulically-operated, 16-in. wide door at the bottom center bottom part of the wagon, with a steel compactor plate underneath and behind it. There are also a pair of steel skids on each side of the door that are positioned about 10 in. off the ground in transport position. A pair of hydraulic cylinders are used to raise or lower the entire wagon as needed.

To fill a rut you lower the wagon so the skids just touch the ground, then open the door and drive forward. The rig fills the tracks perfectly full, as fast as you can drive around the field.

The box holds about 10 tons of rock.

"It does a nice, neat job. The operator has total control over the material at all times," says Jace Agee, A.G. Products, Inc., Alamo, Nevada. "Other belly-dump machines on the market don't have any control over how the material is spread. The hydraulically-operated door on our machine allows you to drive up to a pivot and shut the door, then raise the machine and turn around and drive over to the next track without making a mess. If you want, you can even overfill the track which can help prevent erosion on sidehills. It also works great for filling ruts on roads that lead out to the center pivot, and for filling gullies in fields."

"We've been renting out a prototype model for about six years, charging about \$100 per day, and our customers keep asking us to come back year after year."

Agee also recently built a 10-wheeler semi tractor trailer rut filler with a capacity of 22 yards. It works on the same principle as the



Hydraulic-operated door at back of trailer has a steel compactor plate underneath it.



Agee's original center pivot rut filler has duals all the way around and lowers to the ground to fill ruts.

other machine but is much larger and can travel at highway speeds.

"It lets me haul material in from a long distance and also spread it with the same machine, without having to move the material twice," says Agee. "It eliminates the need to haul material in and stockpile it."

Agee charges \$80 per hour for work with the bigger machine.

Contact: FARM SHOW Followup, A.G. Products, Inc., HCR 61, Box 52, Alamo, Nevada 89001 (ph 866 226-0463 or 775 729-2620; fax 775 729-2621; website: www.hayhandler.com).



TracPacker can be adapted to 30, 36, and 38-in. wheel spacings.

Track Packer

Nebraska farmer Dan Gillespie built the TracPacker, a rut filler that mounts on front of a tractor and packs irrigation pivot tracks in one pass. Disc gangs move the displaced soil back to the track where it's packed twice into the bottom of track.

Contact: FARM SHOW Followup, Dan Gillespie, 83370 539th Ave., Meadow Grove, Neb. 68752 (ph 402 634-2484; website: www.tracpacker.com).

Trailer-Type Rut Filler

Last issue we told you about Brian Hoffner's center pivot rut filler. Unfortunately, there was a mix-up on the photos. The correct photo is at right.

Hoffner made a cart out of an old road sand and salt spreading trailer which he bought from a local state highway maintenance department. The machine, which holds about 10 tons of material, has a 16-in. wide conveyor at the bottom to drop material onto the fan. The sides slope in to the conveyor, so it empties out completely.

He stripped off the spreader fan and then turned the box around on the trailer so he could see the opening from the tractor seat. Then he added a 2-ft. long flange on each side of the drop opening. "The flanges direct material into the tracks. I made them adjustable, so I can open or close them to fill narrow or wide tracks," Hoffner says.

"It's become a small sideline business for me. I can use whatever material people want,



Cart's opening is in front so tractor driver can see material as it discharges.

from gravel to sand or soil," he says. "Gravel allows better drainage away from the wheel track, so ruts aren't as likely to form. I've found that if ruts are deep, I can fill them about two-thirds full with gravel and then the field can be tilled without disturbing the gravel base."

He charges \$30 per 10-ton load to fill ruts.

Contact: FARM SHOW Followup, Brian Hoffner, 30300 Road 57, Gill, Colo. 80624 (ph 970 352-4654).



Inventor says the Track Tamer is an easy way to fill ruts.

Track Tamer

This patent pending implement has adjustable rotating blades for filling tracks. It uses tractor's hydraulics to make the adjustments. Cutting edges are replaceable.

Contact: FARM SHOW Followup, Layne Klompien, 304 Blackwood Rd., Bozeman, Montana 59718 (ph 406 586-4730; fax 406 586-5089).

T-Post Driver Doubles As A Puller

This new T-post driver can also be used to pull posts.

The Post-Mate weighs 28 lbs. and, unlike conventional post drivers, is designed to be used at waist level. A pair of handles drive a square steel tube that fits inside a larger tube. There's a U-shaped bracket at the top of the larger tube and another bracket at the bottom. To attach the unit to the post, you place the top bracket behind the post and then insert a metal pin through the bottom bracket. To pound the post down, you simply lift the handles up about 1 ft. and then let go. The same handles are used to pull the post out.

"It's simple and safe to use and doesn't damage the top of the post," says the company.

Sells for \$195 plus S&H.

Contact: FARM SHOW Followup, Specialty Converting and Supply, Inc., Box 913, 1114 E. Marion Ave., Nashville, Ga. 31639 (ph 800 524-7567; fax 229 686-7751; email: scsinc@alltel.com; website: www.scsincorporated.com).



Post-Mate uses a pair of handles to both pound the post and also pull it out.

Hand Pump Fits Existing Wells

Steve Cockerham, Colville, Washington, put together a manual pump for his well so he can get water in the event of a power outage.

"It fits into a 6-in. well casing, right alongside the submersible pump," he explains.

To market the idea, Cockerham and his sons formed Hydro-Slide Industries.

Cockerham says the pump works something like an old fashioned well pump. He uses two PVC pipes - a 2-in. pipe with a 1 1/2-in. pipe inside it that both extend down to the water level.

"The inner pipe brings water up and acts as the sucker rod. The pump works on the down stroke rather than the upstroke so the weight of the water column helps to move the water up," he notes.

The add-on pump requires at least a 6-in. well casing. Cockerham recommends it for wells where depth to water is 200 ft. or less. "If you have to go deeper, the natural flex in the PVC pipe could make it less effective or even lead to breakage," he says.

Several models are available, with prices



Manual pump works something like an old fashioned well pump and is made from two pieces of PVC pipe.

ranging from \$279 to \$399 for the all-PVC pumps and pipe to reach a static water level of 35 ft. You'll need more pipe if your water level is lower than that. Details are available at his website.

Contact: FARM SHOW Followup, Hydro-Slide Industries, Steve Cockerham, 653-C Mosby Rd., Colville, Wash. 99114 (ph 509 684-2185; email: scockerham@plix.com; website: www.hydroslide.com).

Latest New Accessories For ATV's

ATV Parts Depot specializes in parts and accessories for ATV's. Here are a few of its newest offerings:

ATV Light Bar with Mounting Base - It's equipped with a pair of 55-watt bulbs that mount behind and about 2 ft. above the



driver's head. The bar is made from steel tubing and bolts onto the rear rack. The bulbs are said to deliver up to three times as much light as standard high intensity bulbs found on most ATV's, and are also equipped with an optical lens. The result is a 20-degree wide horizontal beam of light with up to 2,600 ft. of reflective range. The lights are turned on or off with a switch. All wiring is included.

Sells for \$229.99.

Switch From 2-WD To 4-WD - This front-end disconnect system for 4-WD



ATV's allows you to switch from 4-WD to 2-WD and back again, all on-the-go. Disengaging the front wheels makes the ATV a lot easier to steer, says the company. It also saves wear and tear on front-end parts. The entire unit replaces the ATV's front driveshaft and is controlled by a spring-loaded cable.

The control system bolts onto the side of your ATV, next to the handlebars. Pulling on a handle puts you in 2-WD. To switch back into 4-WD you simply push a button.

The system is designed for all Honda 4-WD models as well as the Yamaha Wolverine.

Sells for \$275.95.

Titan 589 Tires - These lugged 6-ply tires are said to be one of the lightest high-performance mud and snow tires on the market today. They provide a much smoother ride than most of the other ATV mud tires on the market. The lugs are about 1 in. deep and are curved to run lengthwise down the center of the tire which helps smooth the ride.

"These tires provide good traction yet give



a good ride. And, because they're 6-ply, you don't have to worry about puncturing tires on corn stalks," says a company spokesman.

The tires are available in sizes ranging from 25 in. high and 8 in. wide to 28 in. high and 12 in. wide. All tires are designed to fit 12-in. wheel rims. They sell for \$64.95 to \$94.95.

"High Lifter" Kit - This kit for 4-WD ATV's bolts onto the machine's shocks and



control arm and is designed to increase ground clearance by about 2 in.

Available for Honda, Yamaha, Suzuki, Polaris, Kawasaki, and Arctic Cat models.

Sells for \$89.95 to \$159.95 depending on the model.



Farm AG Kit - This "kit" consists of super-tall 27-in. tires that turn your 4-WD ATV into a mini tractor, says the company. The 4-ply tires have self-cleaning "super lug" tread for slow-speed agriculture usage. Works great in very wet conditions. According to the company, no other ATV-type tire can match this tire's pulling power.

In most cases, the tire will increase ground clearance by 2 in. or more. When combined with the "high lifter" kit, the ATV's ground clearance increases by about 4 in.

Sells for \$559.80.

Contact: FARM SHOW Followup, ATV Parts Depot (ph 800 945-1850; email: atvpartsdepot@mindspring.com; website: www.ATVPartsDepot.com).

Crashedtoys.com Sells "Totaled" ATV's, Motorcycles, Boats, Etc.

A Minnesota company is doing a booming business on the internet selling damaged equipment that insurance companies said was too damaged to repair.

Many of the boats, motorcycles, ATV's and snowmobiles don't appear to be badly damaged. For example, if you twist an ATV frame 1/4-in. in a rollover you may never notice it. But if you file an insurance claim, it may be totaled out.

"Ninety per cent of the time, it is the cost of labor that kills repairs," says Joe Peltier, owner, St. Croix Specialties, Inc., Stillwater, Minn. "If parts and labor exceed 60 to 70 percent of the value, it's totaled out."

The result can be a good deal for buyers, whether they're looking for parts, something to repair or something to jump on and ride.

"If an ATV frame gets bent 1/4-in., it doesn't affect how it drives one bit, but the insurance company says the frame has to be

replaced," explains Peltier.

He cites a used Honda Rubicon ATV that sold for \$6,000 new and has a used value of \$5,000. If the frame had to be replaced, it would cost approximately \$1,200 for parts. Labor at a skilled shop would run about \$60/hour and take 30 hours. The insurance company looking at a \$3,000 bill totals it out and writes the owner a check.

Once, the insurance company might have recovered 20 percent or less of the totaled-out machine's value selling it for parts. Peltier, an independent accident investigator and damage appraiser for insurance companies, saw an opportunity. Today, he markets totaled-out machines from his website. He auctions 20 to 30 rigs each week. The Rubicon described above might sell for \$3,000. As a result, insurance companies are recovering 50 percent or better of their costs. A buyer is getting a good deal, and Peltier

collects a commission. Such potential deals have attracted interest from both buyers and insurance companies.

"We have had buyers from Maine to Seattle and down to Miami, Florida," he says. "And we are now doing business with 12 different companies, including five of the biggest insurance companies in the U.S."

Peltier's website - www.crashedtoys.com - had 3.2 million visitors in March alone. He had revenues in 2002 of \$360,000 and projections of \$600,000 in revenue for 2003.

Peltier encourages other entrepreneurs to look for opportunities like the one he found. In this day of big and super big business, it's easy to think there is no room for the little guy.

"It's easy to think that these huge companies are so big they don't need anybody," says Peltier. "Our philosophy is that even a small company in Stillwater, Minn., can help ma-



This 2003 Suzuki hit a tree and was totaled out by the insurance company. The frame has a small kink in it, but the machine itself runs great.

for companies save money."

Contact FARM SHOW Followup, Joe Peltier, St. Croix Specialties, Inc., 1775 Industrial Blvd. Stillwater, Minn. 55082 (ph 651 275-9245; fax: 651 275-9253; website: www.crashedtoys.com).

BUYING TIPS YOU CAN USE

Randomly selected farmers “tell it like it is” in nominating their “best” and “worst” buys.

By: Mark Newhall
Editor

Bill Gergen
Senior Editor

Lee Vrzalik, Innis, Tex.: “I wanted to tell other FARM SHOW readers about my experience with the **Magnum** cutting torch featured in the last issue of FARM SHOW. After buying one and using it, I don’t recommend it for the average farmer. It burns very hot but it’s difficult to control and expensive to run. I work on transmissions and thought it would be ideal for cutting gears and other parts. But it burns so fast there is very little time to work, and the rod must be held at a precise angle. Very difficult to use.

“I called the company in California and they weren’t much help. I’m heading to California soon and asked if I could stop by for some pointers but they said they don’t do that and that I should look at the instructions on their website. That didn’t help much although I found out the torch is primarily designed as an underwater cutting torch. When I asked about returning it, they said if I had started it up it could not be returned. I don’t think this is the right torch for the average guy.”

Everett W. Gustafson, Brockway, Penn.: “I have a **Deere** 318 garden tractor. I built a cab for it and a snow plow. I don’t have to take off the mower in winter. I just leave it in place for the extra weight. In the summer,

years ago Gaylen bought a used 1995 **Deere** 6810 self-propelled forage harvester. He says it’s his “worst buy” ever. “The first season it had some electronic problems caused by internal heat. The dealer said he would send someone out to look at it - at \$45 per hour.

“The second year with this machine could best be described as a living hell. It was constantly having electronic troubles. The only thing that worked consistently was the radio, which would tell me every hour about Deere’s wonderful parts and service program. That fall during corn silage harvest I had to replace the blower band, which is the highest wear item on the machine. It took three men eight hours to do the job. Then, a week later, the blower assembly exploded and it took four men two days to replace it.

“All fall the machine ran trouble-free for a total of only five days. By the end of the silage harvest season I was calling the machine my ‘Patsy Cline,’ because whenever I walked by it she fell to pieces. Deere’s solution to the problem was to say ‘buy a newer one, they’re better.’ In the two years that I owned the machine it lost \$60,000 of its value, and I had to spend more than \$40,000 just to try to keep it running. If that’s the best they can do I’ll never buy another piece of Deere equipment. My dealer tried to help me but I got no product support from the company.”

John Brady, Downey, Idaho: “In general terms, the quality of steel used in new equipment is softer and lighter than that used in older (i.e. 1950-1975) farm equipment. We’ve noticed this problem mostly in tillage and haying equipment. As a result, we end up having to do more welding repairs than should be necessary.”

Mrs. O.J. Gorringer, Sayward, B.C.: “I like **Honda** pumps and generators, as well as **Honda** lawn equipment including mowers and weed eaters. They’re trouble-free and come with a hassle-free warranty, and they start easy. Being able to pull-start a machine is a top priority for me.”

Frank L. Johnson, Arbon, Idaho: “My **DR** trimmer mower is my best buy. I’ve used it for four years with no problems, replacing one belt and a bearing in the cutterhead. I’ve used it to cut waist-high wild ryegrass out of fence lines.”

Olen C. Gray, New Site, Miss.: “I like my 1982 **Massey Ferguson** 245 tractor equipped with a 42 hp diesel engine. It has a lot of power for a garden tractor and I like the power steering. It will pull any kind of 2-row equipment.

“My 2001 **Deere** 235 riding mower equipped with a hydrostatic transmission is a best buy. It mows evenly and is easy to operate.

“My 1990 **Troy Built** garden tiller is the best on the market.”

Steve and Jane Weiss, Augusta, Wis.: “My 2002 **Chevrolet** Suburban Z-71 pickup has a great ride and trailers well. Acceleration is smooth and handling superb. My model is equipped with an ‘On Star’ system which works well.”

Valice Cargill, Stockton, Mo.: “My 2000 **Ford** Ranger pickup never got more than 16 mpg so I took it back to the dealer. They said nothing was wrong with it. I removed the air cleaner and found the area behind it was stuffed full of cloth fibers. I thought removing them would solve the problem, but it only got worse. I finally traded it even up for a 1998 **Dodge** Ram 4-WD pickup. It was the best trade I ever made.”

Wayne Eltiste, Tecumseh, Neb.: “My 2000 **H & S** Hy-Cap 12-wheel hay rake is my best buy. It does a great job of following the ground and makes a good, square windrow. If I want I can make a windrow so big it’s hard to get it into the baler. It sure cuts down on baling time.

“My **International Harvester** Farmall 806

Farmers Nominate Best, Worst Buys

OPINION

Tell Us About Your “Best or Worst” Buy

Send your nominations to:
**FARM SHOW, P.O. Box 1029,
Lakeville, Minn. 55044, or use
the survey form on our website at
www.FARMSHOW.com,
or E-mail your comments to:
Editor@FARMSHOW.com**

I pull three 20-in. pull-type mowers off to one side of the mower, adding 60 in. to the mower’s 50-in. width. The 318 is a very good lawn tractor.”

Dan Hill, Dixmont, Maine: “I read a comment in a previous issue about a farmer who complained that his 4-in. grinder would not cut 1 in. pipe. I thought that was a good example of improper use of a tool. I’ve used a **Black & Decker** 4 1/2-in. grinder for several years and it does a good job sharpening mower knives, removing welds, cutting off rusted muffler clamps, etc. Cutting off pipe and steel stock is best done with a powered hack saw, not a grinder. Anyone who expects a \$20 grinder to do heavy work like that will be disappointed. In short, you need to use the proper tool for the job at hand. Don’t expect a **Ford** 9N to pull a 5-bottom plow.”

Mike Hanley, Cashton, Wis.: Mike’s “worst buy” is **Sani-Tred** from Ideal Products of Plymouth, Ind. It’s a liquid rubber coating for floors and walls. “I used it on the floor of the recreation room in our home’s basement. It’s supposed to permanently waterproof any concrete or wood surface without creating any odors or toxic fumes.

“My problem was that the second coat wouldn’t stick to the first coat so it peeled up in sheets, resulting in total failure. I called the company and they said I got a bad batch. They told me to try one of their other products and put the second coat over that. However, that failed, too. This time I took photos, sent samples and wrote a letter to the company, but they didn’t answer. I waited 30 days and sent a follow-up letter. Again, no reply. I’m now out \$1,000 and six months time on a job that should have taken no more than seven days and cost no more than \$300. And, I still have to clean up the mess that was made, which will be a big job.”

Gaylen Meiburg, Melvin, Iowa: Three

Farmers Nominate Best & Worst Buys

tractor is a best buy. I bought it used in 1973 with 4,048 hours on it, and it now it has more than 11,000 hours. The clutch and torque amplifier have been replaced twice and the brakes once. It still starts easy and runs smooth, and uses only one to two quarts of oil between 100-hour service intervals. The valve cover and oil pan have never been removed."

Ron Cook, Lavina, Montana: "They don't make 'em like this any more," says Ron about his 1967 **Ford** 1-ton pickup equipped with a dump box. He also owns a 1969 Ford 1/2-ton pickup. "Both pickups are still working great."

"I also like my **Ford** 1910 4-WD tractor. It's amazing what this little tractor will do."

On the "worst buy" side, he lists the **Ryobi** battery-powered drills he uses at his job. "I can't get much use out of these drills because the batteries always seem to be drained. I'd never buy any of the company's 12-volt, 18-volt, or 14.4-volt models. Some of the good battery-powered drills I've used include **DeWalt**, **Panasonic**, and **Bosch**."

Nick A. Wiederhold, Williamsburg, Ohio: "My 1952 **International Harvester** Farmall Cub, which I bought used from my grandfather, is my best buy. I use it to mow our yard. It works better than the Swisher trail mower we pull behind it, even though it's 49 years older."

"Our 1999 **Chevrolet** Malibu is a worst buy. I'm a Chevy enthusiast but don't ever ask me to buy another Malibu. This vehicle has already gone through four sets of brakes and one set of rotors. The intake manifold gasket blew, along with the left front wheel bearing, and the heater and air conditioning controls went out - all before the car even had 60,000 miles on it. Fortunately, the dealer covered all these premature failures at no cost."

Ken Gilbertson, Ada, Minn.: "My 1995 **Hoelscher** small square bale accumulator is my best buy. The design of the machine and the quality of the material it's built out of, as well as the workmanship that went into it, are all outstanding. No problems."

"My **Sears Craftsman** 6 hp oil-free air compressor is my worst buy. It was a lot louder than an oil-type compressor, and after the warranty expired a connecting rod in the compressor broke. I took the compressor apart and found that it wasn't even worth repairing."

Clifford Burke, Homestead, Fla.: "My 2002 **New Holland** 29D tractor is well built, easy to service, and comfortable to operate."

"My 2002 **Sears Craftsman** Robo Grip pliers is my worst buy. It's a great idea but is poorly made. It twists and bends if any pressure is applied."

Marrel W. Bush, Lambertson, Minn.: "I get a lot of use out of my 2001 **Milwaukee**

"It's more fuel efficient when pulling a 32-ft. fifth wheel camper than other pickups running empty."

sawzall. It's handy to use and is well built."

"My all-time favorite buy is my 1996 **Dodge** 2500 pickup equipped with a Cummins diesel engine and automatic transmission and 3:55 rear end. It's more fuel efficient when pulling a 32-ft. fifth wheel camper than any other pickup empty. The Sears tires I put on it provide a nice ride. This is a real cruising machine."

Richard Bergman, Gleason, Wis.: "I like my 1955 **Massey Ferguson** 50 tractor and

1957 **Massey Ferguson** No. 12 baler. I've had good luck with both machines and they're both easy to work on. The tractor always starts. My four children all learned to drive and bale hay with these machines, and now my grandchildren are starting in."

Wayne Dagen, Reed City, Mich.: "I like my 2002 **GM** Sierra 1/2-ton pickup."

"In the fall of 2001 I bought a new 42-in. **Yard Machine** riding mower equipped with a Briggs & Stratton 14.5 hp overhead valve engine. I used it to cut grass for only about 15 minutes before it started smoking so bad that I couldn't even see where I had already mowed. The dealer gave me a replacement model to use temporarily and tried to get Briggs & Stratton to send a new engine, but they refused."

Henry T. "Hank" Vinson, Golconda, Ill.: "My **Deere** GT275 tractor equipped with a 17 hp engine, agricultural tires, and 48-in. deck is my best buy. I use it to mow about six acres, sometimes twice a week. Last year I used it to mow my lawn 32 times. I have to mow fast, sometimes over rough areas and along pond banks, but this machine always does a quality job. I replace the blades and belts every year."

Jeff Schindel, Oconto Falls, Wis.: "My 1997 **Chevrolet** 1500 4-WD pickup equipped with an automatic transmission is my worst buy. Before the pickup even had 40,000 miles on it I had to replace an EGR valve, O2 sensor, oil cooler lines, front wheel hubs and anti-lock brake sensors, intake gaskets, heater connections, and a door handle. The radio and lights work when they want to. I won't buy another Chevy truck. However, I do have a 1977 **GM** pickup that I wouldn't part with."

Marcus A. Evers, Eugene, Mo.: Over the years Marcus has had a lot of success with **Allis Chalmers** equipment. "We're still using our 1936 **Allis Chalmers** WC tractor equipped with 12-ply road grader tires for bush hogging and raking hay. We use our 1951 **Allis Chalmers** WD tractor for mowing and also for making hay with our 1968 **Allis Chalmers** 303 square baler. We use our 1974 **Allis Chalmers** 200 tractor for heavy work and for making hay with our **Vermeer** 605H round baler. We use our 1968 **Allis Chalmers** 1600 backhoe for handling big bales and dirt work."

Donald Borton, Delavan, Ind.: "I like my 1998 **Lincoln** car. No problems and it gets 25 to 27 mpg, which I think is reasonably fuel efficient for a car its size."

"My **Weiser** power bolt lock is my worst buy. It has a coded touch pad system that I thought would work great with our tool shed. However, it never worked right. The company sent a new power strip but it didn't work, either."

Mark Miller, Belvidere, Tenn.: "My dad has a 1972 **Oliver** 1365 tractor equipped with a 4-cylinder diesel engine. Over the years all we've had to replace was a clutch. The tractor has less than 5,000 hours on it."

Randall L. Lacy, McHenry, Md.: Randall's pleased with a couple of **Hewlett Packard** products - his 2001 **XL753** computer and his 2002 750 combination printer, scanner, and copier. "Both products were purchased at our local Wal-Mart store and have been problem-free. I use the computer every day to keep farm records, nutrient management planning, surfing the internet, and sending email. I use the printer-scanner-copier for everything from copying documents to making copies of photos."

"My 2000 **Troy Built** wheeled string trimmer equipped with a Briggs & Stratton gas engine is my worst buy. The engine powers a round trimmer head that holds two pieces of nylon line. The problem is that the line is held to the head with a metal plate with a tab, and

Allis-Chalmers Manure Spreader

In the last issue of **FARM SHOW** a reader sent in a photo of an old pto-driven manure spreader that unloads out the front. He asked if any of our readers could identify it. Several people contacted us to report that it's an **Allis-Chalmers** 110 spreader, made in the late 1950's.

"The 110 stands for the spreader's 110-bu. capacity," said Martin Pohlman, Caledonia, Minn. "The early models were equipped with two turbine-type beaters while later models had three. The conveyor chain ran forward so the weight was always being transferred toward the tractor rather than to the back of the spreader."

"There were also two unique prototypes of the spreader. The first was equipped with a self-loader on the rear and the second had a cover so that it could be pulled behind a chopper. The 1960 price for the spreader was \$938.10. The company only made a total of 1,500 units."

As a coincidence, we recently heard about an Illinois farmer who uses the same **AC** spreader as a mulching machine for blueberries. Hubert Smith and his wife Bunny apply composted sawdust to one acre of blueberries. He equipped the spreader with a cross conveyor on front that's powered by an orbit

whenever I run the trimmer in heavy grass the line comes loose and flies off. I spend more time trying to tighten up the line holders than I do trimming."

Jim Gage, Jr., Schoharie, N.Y.: "Our 1997 **Ford** F-350 pickup equipped with a Power Stroke diesel engine is our worst buy. We bought it used in 2001 and have had nothing but trouble ever since. At 30,000 miles it needed new rear brakes. Last year we had to replace the rear brakes again as well as a new rear end and universal joints. At about 60,000 miles the starter had to be replaced and it needed new rear universal joints again. Last January the universal joints had to be replaced yet again, and last March the starter again went bad after only six months of use."

"The door handles are made of plastic and break off easily. We removed the door panels and found that the door latches are bolted onto tin, which was all cracked. The best part of the truck is the Power Stroke diesel engine."

W.T. Brantley, Jr., Raleigh, N.C.: "We've used **Deere** tractors over the years, starting with a 1940 model B. We've always had one or more on the farm since then. Our latest purchase was a 1997 **Deere** 7810. We've had some minor problems with it including leaking steering cylinders, a hole in the air conditioning line that caused loss of refrigerant, a leaky oil pan gasket that apparently was improperly installed at the factory, and a cab head liner that came loose and dropped down. The dealer didn't help out on any of these problems. Several of my neighbors have had the same head liner problem in their **Deere** 7800 series tractors."

"On the plus side, the tractor handles nice and starts right up in cold weather. The cab is roomy and quiet. Also, this tractor is more fuel efficient than our **Deere** 4440."

B. Scott, Hodges, Alabama: "Our **Bush Hog** 2425 front-end loader mounted on a 1997 **Ford** 5610 tractor is my worst buy. The problem is there's no way to level the bucket to scrape and keep it in a fixed position. I've done everything suggested by the company and my dealer with no success. I tried bypassing the joystick control but that didn't help, either. I have a neighbor with a similar loader who has the same problem. I owned a **Deere** tractor equipped with a **Deere** loader before and it worked perfect."



Several readers identified this as an Allis-Chalmers 110 manure spreader.

Hubert Smith recently converted one of the front-unload spreaders into a mulching machine for his blueberry crop.

motor. He uses a small **New Holland** tractor to pull the unit between the rows of berries."

Contact: **FARM SHOW** Followup, Hubert Smith, 5730 U.S. Hwy. 40, Altamont, Ill. 62411 (ph 618 483-6588).

Michael Gray, Jonesboro, Ark.: "I bought my 1983 **Honda** 200e Big Red 3-wheeler used, and it still works great. The transmission is equipped with a high and low range. This rig has a lot of pulling power - I've even used it to pull out a Grizzly 660 4-wheeler."

"My 1994 **Suzuki** 4-WD ATV is the worst \$1,500 I've ever spent. The engine spits, sputters, and backfires. It has no power and breaks down all the time."

John C. Johnston, Baltimore, Ontario: "My **Massey Ferguson** 1045 4-WD compact tractor equipped with a front-end loader is my best buy. It's not a big tractor, but it's all muscle and you can't beat it for plowing snow. It operates both my haybine and baler with ease. I think it's the perfect tractor for my 30-acre hobby farm. I've used it to go around our house and clean out the eave troughs. I also use it to unload objects out of my 1/2-ton pickup that are too heavy to move. At times I use it like a big wheelbarrow. It uses only two liters per hour of fuel while bush hogging. It's a great little tractor for hobby farmers."

Allen A. Drayna, Eagle Bend, Minn.: "It's by far the best pickup I've ever owned," reports Allen about his 1995 **Dodge** Ram 3/4-ton 4-WD pickup equipped with a diesel engine. "It has more than 274,000 miles on it but the engine still purrs like a kitten. I raise dairy heifers and use this pickup to pull my 6 1/2 by 25-ft. aluminum livestock trailer. It gets 11 to 14 mpg depending on whether it's loaded or empty. I've replaced the clutch, but the engine has never been touched."

"I'm not happy with my 2000 **AquaTherm** outside wood burning boiler. It uses way too much wood and its forced air draft blows way too much heat out of the chimney. It's well-built, but I believe it could be improved tremendously by adding some type of heat baffle to pick up more heat before it goes out the chimney."

Bob Van Pelt, Roseville, Calif.: Bob's impressed with his **Rodex** 5000 underground pest blaster. "I have major gopher and ground squirrel infestations in my orchards, pastures, and vineyards. After just two applications from the **Rodex** 5000, I've almost eliminated them."

(Continued on next page)

Farmers Nominate Best & Worst Buys

(Continued from previous page)

"Gopher baits and bait stations for squirrels don't work for controlling these pests in my orchards."

Myron D. Hebbert, Chadron, Neb.: "My air-powered T-Post driver made by **Rohrer Mfg.** is my worst buy. It's advertised as one-person operation, compact in size, with interchangeable sleeves that allow it to be used with almost any post on the market."

"However, I found I needed another sleeve to drive the posts I was using. Unless I bought the sleeve - which isn't cheap - I could use it on only about half my posts. Another problem is that it works slow."

"When I ordered the machine, the dealer told me it would work fine and that they had used it to drive posts through pavement. However, I found it worked so slow I could drive two or three posts in by hand in the same time it took him to use this product. I felt the dealer misrepresented this product in his advertising and over the phone. After I paid UPS \$25 to return the driver, the dealer refunded the purchase price minus \$50, a so-called restocking fee."

"My **Brawler** stock tank liner is my best buy (Western Industries, Miles City, Mont). My old stock tank had a cement bottom in it that had rusted out. The liner fit fine and eliminated the need to buy a new tank and do the work of installing it."

Steve Domstrich, Poyette, Wis.: "It works great," says Steve about his 2001 **Woodmaster** outdoor wood burning stove. "The first winter we burned 12 cords of wood, and last winter about 15 cords."

Edward B. Edelen, Jr., Bryantown, Md.: Edward's impressed with **Bead Cheata** and **Rust Converter** sold by **Gemplers**. "Bead Cheata breaks tire beads loose quickly and easily with no damage to the wheel rim. It works well on any rim. Rust Converter is easy to apply, works fast, and gives you a good finish even if you don't paint it on. Works great to put a finish on old tools that I want to put on display."

Kale Monroe, Castalia, Iowa: "Our 1997 **JCB Fastrac** 185-65 tractor is a best buy. My 75-year-old father puts more than 800 hours per year on it, mainly to operate one of our New Holland big square balers. It's the smoothest riding, fastest tractor on the market and makes road travel a joy. I just bought a new 3185 Fastrac to put on my other New Holland big square baler."

Zeigler Dairy Farms, Newton, Wis.: "My worst buy was a loan from **Farm Credit**. These people aren't lenders, they're money salesmen. Their lending knowledge is very limited. They kept coming to my farm until they sold me a loan. After that it was nothing but harassment and abuse. I'm glad my loan is now paid off. I don't recommend Farm Credit to anyone."

Roger McKenzie, Hatchechubbee, Ala.: "I have more than 86,000 miles on my 2000 **Dodge** 3500 pickup, which is my best buy. I've used it many times to pull a Deere bull dozer. A hole wore through a transmission line at 53,000 miles - otherwise no problems."

"My 2002 **DR** brush mower is my worst buy. The coil on it failed with less than four hours of use. Also, this mower is hard to handle on uneven land."

Debbie Foe, Lockport, N.Y.: "Our **Case-IH CX90** is a handy tractor. The cab offers a good view, and the shuttle shift transmission makes backing up to equipment an easy job."

Tom Griggs, Athens, Ala.: "After 55 years of farming I believe my best buy is what I like to call my 'Free Tractor' - a 1976 **International Harvester** 686 which I bought for \$4,000 less than a comparable Deere. I placed the \$4,000 in a savings account, and in the years since then the account's value has

grown so much that now it totals several thousand dollars more than what the tractor originally cost. It has been a good, reliable tractor that has required very few repairs. It really hasn't cost me a dime."

On the worst buy side are some combine belts he purchased from **Jay-Dee Enterprises**. "These belts weren't worth the time it took to put them on. The only way I could ever get the company to reply to my complaints was to threaten legal action, and this matter was never resolved to my satisfaction."

Morgan Sellers, Eutaw, Alabama: "Our **Hardy** stainless steel outside woodburning furnace is our best buy (ph 800-542-7355 or www.hardyheater.com). We use it to heat our home and basement, as well as our hot water, using wood that we cut on our own farm. It heats about 3,000 sq. ft."

Harold W. Wittler, Carroll, Neb.: "My 2003 **Chevrolet** Silverado 2500 heavy duty pickup rides smooth and has a lot of power. No problems so far."

"Our **DeWalt** tools are best buys. No problems."

Chris E. Hendrickson, Cambria, Wis.: Chris is the satisfied owner of a 2000 **Bobcat** 873 skid steer loader. "So far we've put about 1,200 hours on it with few problems. It has an enclosed cab with heater which we really like. We added a radio."

"Our 1999 **Chevrolet** Silverado 1500 extended cab 4-WD pickup equipped with a 5.3-liter, V-8 engine is a best buy. It rides comfortably and handles well. It has about 36,000 miles on it with few problems."

"My **Harvestore** silage storage system is almost 30 years old. It has always cost a lot of money to keep running and has required multiple major repairs over the years. We've had good luck with high moisture corn in Harvestores, but this silage unit has always given us headaches. We've switched to putting silage in bags because we get much better silage, and because we don't have to climb up bags like we do with silos."

"It has always cost a lot of money to keep running."

Jon S. Iverson, Northwood, Iowa: A 2000 **Ford F-150 XLT** Supercab 2-WD pickup equipped with a 5.4-liter engine rates as Jon's "best buy". "I've owned four Ford F-150's during the past 20 years and they've all performed well. I put a lot of miles on my pickups, and this one already has about 38,000 miles on it. It does a good job pulling our 30-ft. travel trailer. It's more stable pulling the trailer in crosswinds than a pickup equipped with twin I-beam suspension, but it rides a little rougher."

Patrick McGoldrick, Oxford, Penn.: Patrick's impressed with his 1998 **Troy Bilt** wide body lawn mower. "We use it to mow our 1-acre lawn which is very steep. We had been using a Cub Cadet riding mower, but even when it was equipped with wheel weights it didn't do a very good job. The **Troy Bilt** does a great job and has been trouble-free."

"I don't like **Sears Craftsman** power tools and lawn and garden equipment. My most recent negative experience was with a gas-powered leaf blower. If I tilted the blower the least bit to the left or right it stalled. The company says that's normal, but I don't think so."

Paul Baer, Carsonville, Mich.: Paul's pleased with his 2001 **Kubota** M5700 tractor equipped with a front-end loader and shuttle transmission, powered by a 5-cyl. die-

Peroxide Use Catches On With Reader

FARM SHOW recently published an article on the benefits and cost savings of treating livestock water with hydrogen peroxide instead of chlorine (Vol. 26, No. 4).

Reader **Fred Hill, Luzerne, New York**, contacted us to point out that there are other benefits to using this oxidation agent around the home and farm. Hydrogen peroxide is available as a 3 percent solution in many retail stores. You can make a 3 percent solution by mixing an ounce of 35 percent peroxide into 11 ounces of distilled water. If you have 50 percent peroxide solution, you mix 1 oz. with a pint of water to make approximately a 3 percent solution.

Here's how Hill uses peroxide:
Cleanser for vegetables and salad greens. Add one cup of 3 percent peroxide solution to a sink of cold water and wash vegetables thoroughly. Then rinse and drain. If pressed for time, spray vegetables with 3 percent solution and rinse immediately.

For cleaner dishes, use 2 oz. of 3 percent in your regular dish washing formula. This will make your glasses sparkle and your dishes cleaner.

Freshen and disinfect the kitchen with 3 percent solution in a spray bottle. Use to wipe off countertops, appliances and give the kitchen a clean, fresh smell. Can also deodorize refrigerators, lunch boxes, etc.

In humidifiers or steamers, use a pint of 3

percent solution in a gallon of water to keep them clean and make them work more efficiently.

In the laundry, use 8 oz. of 3 percent solution per load, in place of chlorine bleach. Even though 3 percent is a relatively weak solution, it's probably not a good idea to pour it directly onto colored fabric.

Clean your face with 3 percent solution on a cotton ball.

For a rejuvenating, detoxifying bath, add 2 to 2 cups of 3 percent solution to a tub of water and then soak for up to half an hour.

Cure athlete's foot by soaking feet nightly in 3 percent solution until condition clears.

Improve pet health by adding an ounce of 3 percent solution to a quart of drinking water. You can also eliminate some pet odors by mixing peroxide into pet bath water.

Make toothpaste by adding just enough 3 percent peroxide solution to baking soda to make a paste. It cleans your teeth and freshens your breath.

Water plants with 1 oz. of 3 percent solution mixed in a quart of water.

Sprout seeds with an ounce of 3 percent solution in a pint of water. Soak the seeds overnight. If you rinse the seeds, use the same amount of peroxide with each rinse.

Control insects by mixing 8 oz. of sugar or molasses with 4 to 8 oz. of 3% hydrogen peroxide and a gallon of water.

better clean up their act."

Scott D. Dean, East Peoria, Ill.: "It's an easy machine to operate and set up," says Scott about his 2001 **Miller MillerMatic** welder. "No problems. I'd buy another one in a minute."

Brad Vandersteen, Fisher Branch, Manitoba: "My 2000 **Kubota** M9000 front wheel assist tractor has a lot of power and is compact and maneuverable for loader work. You don't get into this tractor, you put it on. The cab is quiet and comfortable, and all controls are within easy reach. Visibility is excellent."

Ed Meyer, Rodex Industries, Inc., Box 160, Midvale, Idaho 83645 ph 800 750-4553: Ed was so impressed with a fly trap invented by a New Zealand farmer that he recently became a dealer. The inventor simply punched holes around the outer circumference of each end of a pop can and also cut some holes around the circumference of a plastic bucket. He put some rotten fish and liquid into the bucket and then sealed the bucket with plastic. Flies head for the holes in the cans. Once inside they're trapped.

The trap has since gone into commercial production and is available in four different sizes.

Jim Jenco, Nucla, Colo.: Jim likes his 1999 **Hardy** 4-WD tractor equipped with a 2-cyl., 25 hp diesel engine (Hardy Diesels and Equipment, 15749 Lyons Valley Road, Jamul, Calif. 91935 ph 800 341-7027; website: www.hardydiesel.com). "It's a great little tractor for use on a small farm. I ordered it by phone after seeing an ad. I bought it equipped with a Koyker front-end loader and also with a 3-pt. mounted backhoe. The price was right - I paid less than \$10,000 for everything. Ten-year-old American-made tractors with comparable horsepower cost more than that. The tractor is made in China, but the loader and backhoe are made in the U.S. The company also makes a 50 hp tractor."

"I used the backhoe to dig a ditch for a propane gas line and also to dig a 6-ft. deep hole for my cistern. I also used it to dig holes in hard ground where I wanted to plant some fruit trees. The only drawback is that I have to get off the tractor and climb up onto the

Farmers Nominate Best & Worst Buys

backhoe to operate it. Then when I want to move ahead I have to get back on the tractor. Last winter I used the tractor to operate a 3-pt. mounted wood splitter. I also use it to pull a 6-ft. disk, and I plan to use it to pull a single bottom moldboard plow. The tractor has more than 1,000 hours on it with no problems, although the engine does stall once in a while if I work it too hard.

"The company provides adequate service and ships parts out UPS. One time when the breather hose on the fuel injector leaked, I called the company and had a new hose within a week. Everything on the tractor is metric, which is one thing I don't like."

Carl Wyss, Washington, Ill.: Carl's impressed with a couple of repair products called **Shoe Goop** and **Shoe Goo**. Both are made by Eclectic Products Inc. and are available at K-Mart and Walmart. Or you can call the company at 888 847-0770.

"I've used these products for years to fix shoes, suitcases, garment bags, work clothes, cracked bands on wrist watches, pants, belts, rubber cultivator wheels, and cuts on tractor tires," says Wyss. "The two products are quite similar although Shoe Goop is a little more liquid and is therefore more versatile."

"Shoe Goo bonds to leather, rubber, and canvas and is strong enough for gym and sports shoes. It can be used to seal rubber boots and waders."

"A few years ago I used Shoe Goop to repair cracks in the press wheels on my corn and soybean planter. I think the area I repaired will last longer than the original rubber. I went through 10 or 15 tubes, but I still don't think I spent as much money as it would've cost to buy even one press wheel. Both products sell for about \$4 a tube."

Joe C. Dunne, Maquoketa, Iowa: A 1972 Ford 7000 tractor equipped with a diesel engine rates as Joe's "best buy". "I bought it

in 1973 as a demonstrator model with a little more than 400 hours on it. Today it has about 13,700 hours. I've replaced a fuel pump, clutch, head gasket, and four sets of tires. The rest of the tractor is just as it came from the factory, including the fuel injector pump and the injectors."

Lynn Simonsen, Sleepy Eye, Minn.: Lynn likes his 1994 Ford F-150 4-WD pickup equipped with a 302 cu. in., V-8 engine and automatic transmission. "I bought it used with about 35,000 miles on it. Now it has more than 102,000 miles and is still going strong. It gets about 16 mpg. I replaced the radiator at about 100,000 miles."

Russ Anderson, Covington, La.: Russ says two products have "tremendously reduced" battery maintenance in his cars, truck and tractor. The first one is **Battery Mat** made by the Battery Mat Corp. in Winchester, Va. "It's a felt pad that you put under the battery in the vehicle's battery tray. The mat is impregnated with chemicals which trap and neutralize battery acid. The mat prevents acid from eating under the battery and around the sides. You can find them on the internet at www.batterymaintenance.com or call 800 362-5397."

The second product is **Permatex Battery Protector**, an aerosol that you spray onto battery terminals after the cables are connected. It provides protection from corrosion and chemical build-up on the terminals. "I've used this product for more than a year on every vehicle and implement I own that has a battery. Most of the connections are still as clean and bright as the day they were made. The product can be found in many auto supply stores," says Anderson.

Robert C. Peckham, Woodstock, Ct.: "In 1988 we bought a 1979 International 2554 truck equipped with a diesel engine and two new **Delco** batteries. The batteries are still

going strong which I think is fantastic."

John Scott, Joyceville, Ontario: "Our 1994 **Mira Fount** energy-free water tank is a best buy. It's an insulated tank equipped with large balls that cattle push down to drink. An underground line runs from our house to the water tank, and the warmth from the well water keeps the water from freezing. We had a colder than normal winter but this water tank never froze up. We like not having to spend money on electricity."

"Our **Empyre** outdoor wood burning furnace is a best buy (Cozeburn Mfg., Manitoba, Canada). We've used it for three years to heat our 80-year-old limestone house. We bought it because we got tired of paying high oil bills. There may be other, more high tech outdoor

"We had a colder than normal winter but this water tank never froze up."

furnaces on the market, but with the exchange rate as high as it is, this Canadian-built furnace was the right price. All we do is put wood in it, clean out the ashes, and occasionally top the water level. It has been absolutely trouble-free."

Mike Johnson, Montrose, Colo.: Mike says his **Coleman** Charger rechargeable flashlight is his "best buy". He uses both a 90 and a 60 model. "I keep one of these lights plugged in at all times in our living room, master bedroom, shop, and barn. They're always ready to provide up to two hours of bright, continuous light. The 60 model is smaller but has all the 90 model's features except it has a smaller beam and slightly shorter run-time. A couple of my Coleman

flashlights are more than five years old but are still going strong. The newest one was added to our barn just a few months ago."

On the negative side, he lists his **Ryobi** reciprocating saw. "I was using it with a 9-in. blade to cut off the top of a 6 by 6 treated barn pole when the saw started smoking and then quit working. I think it should have had an overload protection device of some kind."

Russell E. Berg, Mt. Horeb, Wis.: "Our 2001 **Pacific Western** outdoor stainless steel wood burning furnace is our worst buy. It came with a 20-year limited warranty. Last October, several small holes developed in the bottom of the furnace, allowing water inside it to leak out. We contacted the company and then quit working. I think it should have had an overload protection device of some kind. The next time we called they said the owner had sold out. The next time they said he had retired. The bottom line is, the company won't honor the warranty so we have to fix any problems at our own expense."

"We paid a premium for this so-called 'top quality' stainless steel furnace, but now we're stuck and have to look for another furnace. Interestingly, the name Pacific Western is still in use. The company says it's 'not the same company', yet they're still making furnaces that have the same name. We told the Consumer Protection Agency of Wisconsin about this company. I'd be cautious about dealing with them and view their 'warranty' as suspect."

Martin Pohlman, Caledonia, Minn.: "My 1979 Ford F-100 pickup equipped with a 300 cu. in., 6-cyl. engine is my best buy. It has about 215,000 miles on it but still doesn't use any oil. It has been a really tough and reliable pickup, and it still gets about 16 mpg. I'd definitely buy one of these old beauties again."

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Utility Vehicle Built For Less Than \$500

A Wisconsin farmer says his home-built utility vehicle was inexpensive to make and works as well as anything on the market.

"I got the inspiration after my dad bought a Deere Gator a few years ago. I wanted one, too, but I didn't want to spend the money so I converted a Subaru pickup," says David Miller, of Pickett. "I based the design on a Kawasaki Mule. My total cost was less than \$500."

He started with a 1987 Subaru Brat 4-WD pickup which he bought from a friend for \$125. He stripped it down to the 4-cyl. gas engine, 4-speed transmission, brakes, steering, and coil spring suspension system. A new frame was fabricated from 2-in. sq., 3/16-in. wall tubing. He replaced the original wheels with larger (26.5 by 1400-12) turf tires, and he made 5-in. wide spacers in order to adapt the new four-bolt wheels to the original five-bolt pattern. He cut 12 in. out of the driveshaft to fit the shorter, 72-in. wheelbase.

A 44 by 54-in. hydraulic dump box mounts



Dump box is raised and lowered by a pair of hydraulic cylinders that operate off a 12-volt power pack.

on back. The box is lined with a sheet of 1/4-in. thick white plastic. A 12-volt power pack operates a pair of hydraulic cylinders that raise and lower the box.

A hood was fashioned out of broken plastic panels from a Pepsi vending machine. The side panels hinge on the bottom and swing out for easy access to the engine.

Miller added a roll cage with a cargo light on back and headlights on front. The machine



David Miller started with a 1987 Subaru Brat 4-WD pickup and ended up with a utility vehicle. "I use it for hauling rocks, dirt and wood, pulling wagons, and so on," he says.

has two seats that flip forward for access to the rig's gas tank and battery. To make the shrouding around the base of the seat and the top of the hood he used plastic off the front part of a pop vending machines. There's a drawbar hitch on back.

"I use it for hauling rocks, dirt, and wood, pulling wagons, and so on. The box has a 1,500-lb. load capacity," says Miller.

Contact: FARM SHOW Followup, David Miller, W11215 Zoar Rd., Pickett, Wis. 54964 (ph 920 589-6936).

Home-Built Deere Utility Vehicle

Stanley Byerly needed a little utility vehicle to haul things like grass clippings, leaves, and tools around his New Salisbury, Indiana, farm.

He had a dumping yard trailer and an old Deere model 72 front deck riding mower, so he decided to put the two together.

To make the machine, Byerly first removed the deck from the front of the old mower and shortened the remaining frame so the operator's seat is slightly behind the drive axle. He replaced the original 8-hp motor with a 10 hp Briggs & Stratton.

Then he coupled the remade power unit to the trailer tongue with an articulated steering joint that also allows the trailer to flex from side to side. "It's like a universal joint - or maybe half a universal joint," he says. "If I were doing it over, I might just use half a universal joint instead."

Big articulated tractors have hydraulic cylinders at the articulation point. Byerly didn't see a need for that. Instead, he fashioned a manual form of articulated steering using a rod that pulls or pushes on the joint.

He says nearly everything he used to make the utility vehicle came from the junk pile. He used a steering wheel from an H Farmall and a steering gear from a Fordson Major Diesel. The seat he salvaged from an old Murray riding lawnmower.

In order to make the trailer and the mower the same height, he put the hubs from an old Bolens lawn tractor, along with the wheels and 12-in. tires, on the trailer. With the bigger wheels and tires, he needed more clearance, so he raised up the trailer body by removing it from the frame and setting it back on top of some 4 by 4-in. wood blocks. Remounted this way, the trailer still works the



To make his utility vehicle, Stanley Byerly joined a dumping yard trailer to an old Deere 72 front deck riding mower.

same. "I didn't have to change anything about the way the trailer dumps," he says.

The only real cost to make the machine was his own time.

Contact: FARM SHOW Followup, Stanley O. Byerly, 7155 Corydon Junction Road NE, New Salisbury, Ind. 47161 (ph 812 347-2186).



Splitter consists of a 10-ft. long, steel I-beam with a fixed push plate at one end.

Skid Steer Splitter Handles Giant Logs

"It lets me use my skid steer loader to split logs up to 46 in. long and any diameter. Works fast and you never have to get out of the cab," says David Miller, Pickett, Wis., about his hydraulic-operated log splitter. It quick-attaches to universal mounting brackets and operates off the loader's hydraulics.

The splitter consists of a 10-ft. long steel I-beam with a fixed push plate at one end. A splitting wedge slides back and forth on a pair of steel rollers, powered by a big 6-in. dia., 3-ft. stroke hydraulic cylinder.

A 10-in. wide, 14-in. high "spacer block" at one end of the beam can be used to split shorter pieces of wood. The metal block reduces the opening to 36 in. The block is hinged at the bottom and rests at an angle

behind the I-beam. He can flip it up into place by tipping the loader arms.

After splitting the wood, Miller can also use the machine to pick up the split pieces and haul them away.

If he wants he can remove the splitter from the skid loader and set it on steel legs or on a wagon rack or truck bed. He hooks up the splitter hoses to any hydraulic source and uses a separate valve to operate the cylinder.

"It has a lot of power. I've used it to split logs up to 5 ft. in diameter with no problems using a New Holland skid loader equipped with a 65 hp diesel engine," says Miller. "I built it because I have a home-built wood stove that's 4 ft. wide and will take a 50-in. long log. I triple plated each side of the I-



Unit can split logs up to 46 in. long and any diameter.

beam with 1/4-in. thick steel for extra strength.

"It didn't cost a lot to build. The I-beam was scrap metal, and the cylinder came off an old garbage truck. I spent about \$70 on

hydraulic hoses and valves. My total cost was only about \$300."

Contact: FARM SHOW Followup, David Miller, W11215 Zoar Rd., Pickett, Wis. 54964 (ph 920 589-6936).

How To Reach Us

To submit a "Made It Myself" Story Idea, New Product, Shop Tip, "Best or Worst Buy", or other information, send a note along with photos, drawings and literature, if available. We'll get back to you later if we need more details. Send to: Editor, FARM SHOW, P.O. Box 1029, Lakeville, Minn. 55044 (ph 1-800-834-9665; fax 952 469-5575). E-Mail: Editor@farmshow.com. You can also submit information at our

Website: <http://www.farmshow.com>.

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This 1973 Deere Hydro 140 equipped with a front-end loader was originally equipped with a Kohler 14 hp engine. Kaczmarek replaced it with a 14 hp Vanguard.



Deere 317 tractor originally had a Kohler 17 hp engine, which Kaczmarek replaced with a Vanguard 20 hp model. Note external oil filter relocation kit (arrow).

By Bill Gergen, Senior Editor

Repowered Garden Tractors Work “Better Than New”

If you have an older model garden tractor that has a worn-out engine but the rest of the tractor is still in good shape, you'll be interested in the repowering service provided by Jim Kaczmarek of Hastings, Minn.

Kaczmarek specializes in replacing Kohler 1-cyl. and other engines with new Vanguard 2-cyl. “twin overhead valve” engines. He will repower your tractor right in his shop, or sell you the engine along with a kit that lets you do the job yourself.

“On most tractor models the new engine bolts right in. On other models, the tractor frame may have to be modified quite a bit. In all cases, the engine side panels fit like they did before so you can hardly even tell the tractor has been repowered,” says Kaczmarek.

Some of the tractors he commonly repowers include the Deere 140, 314, 317, 318, and other models; Cub Cadet 682, 782 and 1450; Ariens GT 14; and Case 446.

“The Vanguard engine runs smoother and in many cases has more power than the Kohler,” says Kaczmarek. “One problem on

some Kohler models is that they don't have an oil pump so if you use the tractor on hills the engine can run dry.”

The Vanguard engines range from 14 to 23 hp. “We use the Vanguard because it's a high quality engine with a lot of torque, and it's also smaller so you can add more power without having to make many modifications to the tractor frame. We use the tractor's original key switch and ignition but install a new starter. In cases where we have to install an external oil filter, a hole is drilled into the tractor frame. We order the engine without the exhaust manifold and muffler, which we install separately. The muffler can be mounted on either side of the tractor or even out the front.”

One unusual repower job involved a 1973 Deere Hydro 140 garden tractor equipped with a front-end loader. It was originally powered by a Kohler 14 hp engine. Kaczmarek replaced it with a 14 hp Vanguard engine 15 years ago, and it's still running strong today. “The Vanguard engine has a lot of power for its size,” says Kaczmarek. “There's 200 lbs.

of liquid in each rear tire on this tractor and also about 500 lbs. of weight on back. The tractor alone weighs about 700 lbs. and the loader about 400 lbs., for 2,000 lbs. total. The loader can haul a load of about 700 lbs. That's a total weight of 2,700 lbs. However, the Vanguard 14 hp engine has enough torque that it can power the tractor and also operate the loader with no problem.

“Another advantage of the Vanguard engine is that it's relatively lightweight. The original Kohler weighed about 140 lbs., but the Vanguard model weighs only 95 lbs. The lighter weight makes the tractor much easier to steer.”

Cost varies depending on the tractor model and engine used, but generally is in the \$1,800 to \$2,000 range when Kaczmarek does the installation work. Do-it-yourselfers can purchase the engine and kit for \$900 to \$1,450, depending on engine size. An oil filter relocation kit sells for about \$130, and a stub shaft kit for about \$70. The exhaust manifold and

muffler sell for about \$80.

He started his repowering business in 1988 and says business has grown every year. He has customers as far away as Montana and Wyoming. “Some of the original engines on older garden tractors are becoming obsolete and aren't even available any more. The Kohler 20 hp engine is a good example,” says Kaczmarek. “We always have a big supply of new Vanguard engines on hand and also keep a good supply of Deere garden tractor parts and some Cub Cadet parts. We also sell repowered garden tractors already fitted with Vanguard engines.”

Besides repowering garden tractors, Kaczmarek has also used the Vanguard engine to repower Bobcat and Case skid steer loaders and even a 5-wheeled Deere Gator.

Contact: FARM SHOW Followup, Jim's Repair, 16330 Goodwin Ave., Hastings, Minn. 55033 (ph 800 618-8738 or 651 437-7199; e-mail: bkacz@jimsrepairjimstractors.com; website www.jimsrepairjimstractors.com).

Deere Garden Tractor Specialists

Jim Lundell recently called to tell us about his family's growing business. He and his sons, Brad and Brian, who farm near Kiron, Iowa, buy and sell used garden tractors and parts. They ship parts to buyers all over the U.S. and Canada.

“We can supply used parts for just about any Deere garden tractor made up through the mid 1980's,” says Jim. “As far as I know, no one else offers parts for these tractors on the scale that we do. We have about 100 garden tractors on hand which we use for parts. We buy a lot of tractors from dealers and also at auctions. It's surprising how many people are still using old 1970's Deere lawn tractors. It's because these tractors were built so well that they don't wear out.”

Lundell says people often come to them after learning that their Deere dealer doesn't have the parts they need, or that the parts are too expensive. “For example, someone from Maryland recently called who had a 400 model built in the late 1970's. He needed two side panels and a grill for it. We happened to have a good used grill at a fraction of the cost

that Deere wanted.

“The most parts in demand might be gas tanks and mower decks. We also sell a lot of engines, flywheels, blocks, steering columns, steering wheels, side panels, transaxles, hydrostat parts and even complete hydrostats,” says Jim.

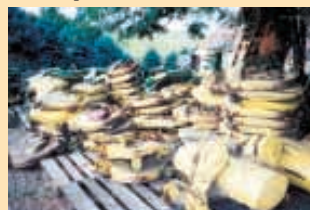
The Lundells recently converted their barn into a garden tractor parts store. “We remodeled the entire upstairs and installed parts bins and shelves along the walls. We bought the parts bins from local dealers who were going out of business.”

The Lundells also collect and restore garden tractors. Their goal is to restore one tractor from every farm machinery line. But it's the Deeres they're most interested in. Their specialty is Deere's Patio Series (Vol. 25, No. 2).

Contact: FARM SHOW Followup, Lundell Tractor, 6583 310th St., Kiron, Iowa 51448 (ph 712 675-4339 or 712 675-4341; fax 712 675-4301; email: bl4440@schallertel.net; website: www.weekendfreedommachines.org).



Jim Lundell and sons Brad and Brian, keep a large supply of used Deere garden tractors and parts on hand at their business near Kiron, Iowa.



These photos show some of the different kinds of parts available including mower decks, fuel tanks, tires and other items.



Take Us To Your Barber

We need your help! One of the most challenging aspects of publishing a magazine like FARM SHOW is getting the word out. Here's an idea: When you're done reading this copy of FARM SHOW, instead of tossing it out, why not leave it in a public place where others might find it? Your barbershop, doctor's office, equipment dealership, favorite restaurant, or anywhere else you think people might enjoy it. If you don't want to part with your copy, just send us the name and address of those local establishments (FARM SHOW, P.O. Box 1029, Lakeville, Minn. 55044 or E-mail: circulation@farmshow.com) and we'll send them a couple free issues.



Clamshell Tie-Down Secures Big Pickup Loads

Hubert Smith recently came up with a secure new way to tie down big loads in the bed of his pickup.

"I bought a new utility tractor and I had to drive to Louisville, Kentucky, to pick it up. I didn't want to hook up my gooseneck trailer but I wasn't sure how I would tie it down in the bed of my pickup," says Smith, who came up with what he calls a "clamshell tie-down" that makes it easy to anchor big loads to the gooseneck ball in the pickup.

It consists of a couple pieces of 1/2-in. thick plate steel that fit on either side of the ball hitch and hook together with a lynch pin.

There's a heavy chain hook on either end of the clamshell to hook to chains or ropes that tie the load down.

"You can turn it any direction. It'll hold anything the ball hitch can hold. Takes just a second to put on or off," notes Smith, who farms near Altamont, Ill. "It's the first really substantial way I know of to tie down a big load in the pickup."

Sells for \$88 plus \$15 S&H.

Contact: FARM SHOW Followup, Hubert Smith, 5730 N US Hwy 40E, Altamont, Ill. 62411 (ph 618 483-5081).



"Clamshell tie-down" consists of a couple pieces of 1/2-in. thick plate steel that fit on either side of the ball hitch and hook together with a lynch pin.

Tag-Along Loader Made On Truck Frame

Loading farm equipment onto trucks is a lot less of a problem since Thomas Beene, Hughes, Arkansas, built a hydraulic-lift loader that tows behind a tractor.

Beene started with the frame of an old single-axle grain truck and stripped off everything from about 11 ft. in front of the rear axle. He pulled the two side beams of the frame together at the front to make a tongue. Then he added an 18-ft. boom on the frame, mounted on a pedestal he built in front of the axle. He made the boom from a used tillage toolbar.

A pair of 6-ft. hydraulic cylinders about 2 inches in diameter raise and lower the boom.

He cut off the axles so the differential doesn't turn, but left the dual wheels and tires to support his load.

Beene, who farms and runs a used machinery business, says when some of his custom-

ers saw his lift, they asked him to make them one like it. He's sold five or six a year since the early 1980's.

Frank Allman, who works with Beene, says they usually keep a couple on hand to use themselves and maybe another one or two to sell. "I make them in the wintertime when it's slow in the shop," he says. "Usually I just make up a few and sell them, but we've also made some to specifications for buyers."

Allman says they usually use a 3 by 6-in. toolbar, but have also made them from 3 by 5-in. bars. So far, they've been able to find used steel for every one they've made, and there's no shortage of truck frames.

He says it's getting harder to find hydraulic cylinders with a long enough stroke for the lift, so they're considering using new ones. They've also made some with just one larger lift cylinder.



Loader tows behind a tractor and is hydraulically raised and lowered by an 18-ft. boom.

Beene says they also have a manlift they can attach to the end of the boom so they can work in high places, trimming trees or working on buildings or grain bins. "We use it behind a tractor and it just plugs into the remote outlet. It's a handy piece of equipment,"

he says.

As long as they can find used cylinders, they can sell the lifts for under \$3,000.

Contact: FARM SHOW Followup, Thomas Beene, 9179 Hwy 38E, Hughes, Ark. 72348 (ph 870 339-3434).



To make their Owatonna swather more useful during the off season, Tim and Tom Nelson mounted a 3-stage forklift mast on front. A hydraulic cylinder mounted underneath tilts frame forward and back.

Owatonna Swather Fitted With Forklift

Tim and Tom Nelson, Carlinville, Ill., made their Owatonna swather a lot more useful during the off season by mounting a forklift mast on front.

They say it took very little modification to mount the 3-stage lift on front of the machine. A hydraulic cylinder mounted beneath the frame tilts the frame forward and back.

The Nelsons say the mower is a lot more maneuverable than a conventional forklift and it handles rough ground better. The Nelsons use it for all kinds of jobs, including construction work.

Contact: FARM SHOW Followup, Tim & Tom Nelson, 12656 Catholic Springs Rd., Carlinville, Ill. 62626 (ph 217 585-3857).



Modification requires bolting three pieces on front of rotor, just inside the feederhouse.

Combine Attachment Reduces Plugging

Crops like soy beans, flax, hemp, and even oats can be tough on combines, knotting up in front of the rotor and plugging it up. Joe Federowich, Asheville, Manitoba, solved the problem with a simple modification to his Case IH combine.

"I worked on this for several years before I got it right," he admits. "But it's a pretty simple modification that anyone can do."

The modification requires bolting three pieces on front of the rotor, just inside the feederhouse. "It bolts onto the impeller ears on the front of the rotor," he says. "It takes about four hours to put it on, but most of that is in taking the combine apart to get to the front of the rotor. The attachment itself requires only 16 bolts.

"We've used this for three years in all types of crops and it almost eliminates plugging,"

he says.

"Last year, we had it on combines on four farms and all reports were good. Wheat and canola don't plug as much, so it didn't seem to make as much difference in those crops as in hemp and flax. There were no reports of any negative effect on seed quality."

While he's used it in all crops in his area, Federowich hasn't yet tested it with either corn or soybeans. He has used it in dry beans with good results, though.

Federowich's attachment fits Case IH 1480 through 2388 model combines. He says it eliminates rumbling, rotor stress and a lot of belt wear.

Contact: FARM SHOW Followup, Joe Federowich, RR 2, Asheville, Manitoba, Canada R0L 0H0 (ph 204 548-2289; email: jfed@mts.net).

Scaled-Down New Holland Baler Makes “Mini Bales”

A Pennsylvania company is doing a booming business scaling down New Holland small square balers to make decorative 16 to 24-in. long bales that weigh just 6 to 8 lbs.

“They look like the real thing. There’s a market for them for decorating, landscaping, and other uses,” says Sam Esch, Strasburg, Penn.

His company rebuilds used New Holland 310 or 273 small square balers that are about 20 years old. They scale down the pickup and knoter and replace the original bale chamber with a smaller one. They also cut down the shielding around the modified parts so everything looks proportional.

“Rebuilding a baler this way is much less expensive than trying to build a new mini baler from scratch,” says Esch. “Another advantage is that parts and service for the baler

are available through New Holland dealers. You can average 10 to 15 bales per minute.

“Bales made by the original baler measure 14 by 18 inches. The mini bales look just like the original ones except they’re 8 by 11 in. They sell for up to \$2.50 apiece. Pet stores often sell the bales in bags, which the customer takes home and uses as bedding for their pets. Some people are even floating small barley bales in ponds - inside small cages - to get rid of algae.”

Esch says you can use the baler normally in the field or set it up as a stationary unit and use an electric motor to power it. “Some people with big round balers use the baler this way. They set the round bales off to the side of the field to save time. Later, they unravel the bales on a conveyor and feed them into the mini baler.”



Scaled-down New Holland small square baler makes decorative 16 to 24-in. long bales that weigh just 6 to 8 lbs. Bale at right is a normal sized bale.

The mini baler sells for \$4,950.

Contact: FARM SHOW Followup, ESCH

Hay Equipment, 1324 Village Rd., Strasburg, Penn. 17579 (ph 717 687-0321).

3-Pt. High-Lift Bale Spear

“My 3-pt. round bale lift has enough reach to stack bales three high on the ground or two high on a wagon, and can dump bales over a fence or into a feeder,” says Richard Hicks, Stanton, Mich.

According to Hicks, the unit lifts bales much higher than a conventional 3-pt. bale spear and keeps them level. It’s fitted with a 1 1/2 by 8-in. hydraulic cylinder that leverages the spear up higher as the 3-pt. is raised. Maximum lift height is about 9 ft. Hicks can lift 4 by 4-ft. bales three high on the ground and 4 by 5-ft. bales two high. The boom that the spear bolts onto keeps the bale perfectly level all the way to its stacking position.

“I use it on my Deere 4010 tractor and couldn’t be happier with it,” says Hicks. “I got the idea when I priced a new front-end loader at \$3,000. My 3-pt. bale lift is easier to mount than a loader, and it keeps the traction and weight on the rear wheels so the front wheels don’t have to plow through mud and snow. I also have a better view of the bale as I spear it than I would with a loader. It’s built strong - I’ve used it to lift 1,000-lb. bales.”

Hicks says he’s willing to build units for \$350, excluding the cylinder.



Boom holds bale perfectly level all the way to its stacking position.

Contact: FARM SHOW Followup, Richard Hicks, 5500 Hillis Rd. N.E., Stanton, Mich. 48888 (ph 989 762-5360).



“My home-built, 3-pt. round bale spear lifts bales much higher than a conventional 3-pt. bale spear and can dump bales over a fence or into a feeder,” says Richard Hicks.

His Big Bale Feeder Saves Tons of Hay

Gene Himelick, Economy, Indiana, was tired of seeing wasted hay on the ground around his cattle feeders. He decided he could build something better.

He started with a frame made from 1 1/2-in. dia. pipe. The feeder’s 6 ft. wide and 21 ft. long, with a V in the center to hold three 60-in. bales (or four smaller round bales) above a wooden bunk. To make the center V-shaped rack, Himelick ran a length of 4 by 4-in. angle iron from end to end in the center and then put pipe braces from the top outside of the frame to the angle iron. “That made an upside down 90-degree angle with the legs set at 45 degrees from horizontal,” he explains.

He made a frame for the bunk by running lengths of 2 by 2 angle iron along the sides and ends of his pipe frame at a height of 24 in. He made the bunk floor and sides of treated 2 by 6 lumber, giving it 5-in. high sides to hold in the silage, grain or hay. Where the bunk floor boards meet the angle iron at the bottom center of the bale holder, he cut the board ends at 45-degree angles.

He set the entire bunk on runners made of 1/4-in.-wall, 2-in. sq. steel tubing so he can move it if he needs or wants to.

“The idea is that the cattle eat hay off the bottoms of the bales, not the sides. Metal



Feeder is 6 ft. wide and 21 ft. long, with a V in the center to hold three 60-in. bales above a wooden bunk.

shields help block the sides of the baler. I’ve been using it for three years now, and the hay that ‘dribbles’ from the bales stays in the 24-in. high bunk to be eaten later,” he says. He can also use the bunk to feed grain or silage.

“It cost \$1,395 to build,” he adds. “Based on feeding 25 head of cattle, I figure it will pay for itself in hay saved after five years of use.”

Contact: FARM SHOW Followup, Gene Himelick, 10986 Taylor Rd., Economy, Ind. 47339 (ph 765 886-5661; fax 765 886-5259; email: glhimelick@aol.com).



New 3-pt. mounted fabric layer is equipped with a single large shank with a roll of fabric on a horizontal shaft above it.

“Fabric Layer” Fights Erosion In Waterways

“It’s a great way to reduce erosion when forming new grass waterways,” says Chris McCormick about his company’s new fabric layer that buries a special woven fabric in erodible soils.

The 3-pt. mounted machine is equipped with a single large shank with a roll of fabric on a horizontal shaft above it. As the point digs down, the fabric is unrolled in the slot and buried about 18 in. deep with 18 in. left above ground.

The fabric barriers are put in about every 30 to 75 ft., depending on the grade. They hold the soil until grass has time to take root.

“It’s built heavier than any other machine

on the market and is very user friendly,” says McCormick. “During testing we used the machine to install more than 8,000 ft. of fabric. When we built this unit we listened to what farmers wanted.”

Options include a spring-loaded couler, and a wheel kit that allows you to pull the unit behind your pickup for road transport. Sells for \$2,850.

Contact: FARM SHOW Followup, McCormick Equipment, 185 Hwy. 92, Pleasantville, Iowa 50225 (ph 515 848-3855 or 515 669-3427; email: mccormick01@msn.com; website: www.mccormickequipment.com).



Heatwerks, Inc., makes two models of big bale burners that are being used to heat buildings and dry grain.

Bale Burner Turns “Waste Bales” Into Fuel

If you can put it through your baler, you can turn it into fuel for the “BaleBurner” from Heatwerks, Inc., Morland, Kansas.

Heatwerks makes two models of big bale burners that are being used to fire boilers for heating buildings, dry grain, and other purposes. Dave Goff, company owner, says one of his burners is being used in ethanol production. “To date, installations have used boilers, but the burner could easily be modified to a forced air system,” he says.

The Heatwerks Big Rig, which can produce up to 3 million btu’s, opens on the side, while the smaller 1 million btu Ranch Rig opens on the end.

Features of the Heatwerks burners include a grate made of four chain-driven rollers that rotate the bale as it burns, allowing for more even and complete combustion. “We found this was necessary in order to keep straw bales burning,” Goff says. “If we don’t keep turning the bale, a straw bale will actually smother itself out.”

An electric motor powers the chains. A

popular option is an auger system that automatically removes ash, so the system never has to be shut down for cleaning.

Goff began making bale burners four years ago. He says most of his customers burn wheat straw, but says some have baled prairie grass, weeds and brush for fuel. “We also make a coal adapter for our burners since we have access to low cost coal,” he adds.

While larger Big Rig systems with all the options sell for around \$25,000, Goff is selling a no-frills version of the Ranch Rig with water jacket and roller grate for under \$5,000. “We have an arrangement with a trucking company, so we can help buyers out even more by arranging reasonable shipping from Morland to their location,” he says.

Goff says he’d welcome inquiries from potential customers and dealers as well.

Contact: FARM SHOW Followup, Dave Goff, Heatwerks, Inc., Box 234, Morland, Kansas 67650 (ph 785 627-3696; email: davegoff@ruraltel.net).



Grate made of 4 chain-driven rollers rotates bale as it burns, improving combustion.



Hydroponics tower system consists of stackable pots mounted on a swivel plate.

Garden Towers Boost Production 800 Percent

You can raise two acres of plants on just a quarter acre of land with new Verti-Gro garden towers. The hydroponics tower system was designed for greenhouse and pick-your-own operators who wanted to do more in a limited area. Now homeowners can get the same benefits.

“We have about 100 commercial growers using this system,” reports Tim Carpenter, the brain behind Verti-Gro. “About half are out-of-doors. They can grow 30,000 plants in 1,200 pots stacked 4 to 5 high, all on a quarter acre.”

Carpenter claims that plants produce faster, too. Strawberries will bear fruit in six weeks in the spring and eight in the fall.

The Verti-Gro kits consist of stackable pots, a swivel plate, premixed growing media, a 4 to 6-month supply of fertilizer, a pump, timer and drip irrigation system, and detailed instructions. Larger systems require a nutrient reservoir. Kits don’t include the low-cost electrical conduit pipe used to support the stacks off the ground. Carpenter notes that it would cost more to ship than purchased off

the shelf.

“The indoor unit takes about 10 minutes to set up, and the outdoor unit about an hour,” says Carpenter.

The supplied growing media is perlite and vermiculite. He reports that organic growers often substitute a perlite and compost mix. With hydroponics, the organic producer doesn’t have to wait to get fields certified. All that is needed are organic inputs.

Kits range from a single stack for \$159.95 to \$499.95 for a four-stack kit. Components are also sold separately. Tomato towers are higher and only two pots per stack, as the tomatoes hang down rather than growing up.

“Peppers do phenomenally well,” says Carpenter. “Tomatoes just keep producing if they are trimmed. We would expect 20 to 30-lbs. per plant from two plants per pot.”

Contact: FARM SHOW Followup, Tim Carpenter, Verti-Gro, Inc., 15000 S.E. U.S. Hwy 441, Summerfield, Fla. 34491 (ph 800 955-6757; fax 352 347-9877; email: info@vertigro.com; website: www.vertigro.com).

Radar Finds Old Drain Tile Lines

Before you can upgrade existing field drainage, you need to find old drain tile lines. Engineers at Ohio State University have been getting the job done with “ground penetrating radar,” or GPR.

Until now, the only sure method has been the use of hand-held tile probes, which are extremely labor intensive. Tile contractors spend a lot of time and money locating old lines so they can upgrade drainage with new lines spaced evenly along old lines.

GPR works by directing radar pulses into the ground and measuring the time it takes for the signal to travel down and bounce back.

Soil type and condition effect the signal so equipment has to be carefully calibrated for each situation.

Tests by OSU engineers on 11 plots successfully found 80 percent of the tile, including both clay and plastic, down to depths of about 3 ft. Tests will continue this year and they hope to develop mobile equipment that can be used practically, according to Barry Allred, an agricultural engineer with the USDA Agricultural Research Service (contact him by phone at 614 292-9806 or email allred.13@osu.edu).

Some of the best new ideas we hear about are “made it myself” inventions born in farmers’ workshops. If you’ve got a new idea or favorite gadget you’re proud of, we’d like to hear about it. Send along a photo or two, and a description of what it is and how it works. Is it being manufactured commercially? If so where can interested farmers buy it? Are you looking for manufacturers, dealers or distributors? Send to FARM SHOW, P.O. Box 1029, Lakeville, Minn. 55044 or call toll-free 800 834-9665. Or you can submit an idea at our Website at www.farmshow.com.

Mark Newhall, Editor

**FARM
SHOW**

**“Made
It
Myself”**



"People have a lot of fun watching it bob up and down in parades," says Tom Wheeler about the 2-wheeled cart he made just for fun. It's shown here in the "down" position.

Two-Wheeled Parade Cart Bobs Up And Down

"When we're in a parade people scratch their head trying to figure it out. As we get closer, they smile or laugh," says Tom Wheeler, Ray, N. Dak., about the two-wheeled cart he made just for fun.

The cart rides on a pair of 24-in. truck wheels and is painted red, white and blue. The seat, which is big enough for two adults or three kids, bobs 28 in. up and down as the rig moves along. The seat is welded to a pair of short steel pipes that mount over a longer steel pipe that forms the axle. The axle rotates inside the two pipes.

"I got the idea after seeing a story in FARM SHOW about someone who offset the wheels on a Jeep," says Wheeler. "I didn't have a

Jeep so I came up with the idea to make a two-wheeled cart and offset the axle instead of the wheels.

"It's fun to watch the different reactions people have to it. When the cart is parked and people walk by it, no one bothers to take a second look. But as soon as the cart starts moving and they see the riders moving up and down, they stop and stare in fascination. Sometimes at parades I'll walk behind the crowd and listen to people as they talk about what they've just seen."

Contact: FARM SHOW Followup, Tom Wheeler, 6561 115 Ave. N.W., Ray, N. Dak. 58849 (ph 701 568-3204).



Seat bobs 28 in. up and down as rig moves along.



Rod Tempel and his 6-ft. long, mini wooden fence and barn. Fence consists of a series of interconnected rails and can be set up in any configuration to keep it from tipping over.

Fold-Up Play Fence

Kids - and moms - will like this 6-ft. long, miniature wooden fence that folds up into a neat package for storage.

Invented by Rod Tempel of Morgan, Minn., the fence consists of a series of interconnected rails and can be set up in any configuration to keep it from tipping over. It's made up of a series of 7-in. long, 3-in. high rails made from cherry, pine or oak. The rails are held together by doweled glue joints that give the fence flexibility. Half the rails have three beams and the other half two beams. There's a latch at one end of the gate.

"You can fold the fence to any shape you

want. Conventional plastic fences don't always stay upright on a carpet and are always moving around. My fence is designed to stand up on bumpy carpets without falling over," says Tempel.

The fence sells for \$13 plus S&H. A 5-ft. long, 2 1/4-in. high fence is also available and sells for the same price. Tempel also makes a 12-in. wide, 26-in. tall play barn that sells for \$69 plus S&H.

Contact: FARM SHOW Followup, Rod Tempel, 43448 Co. Hwy. 2, Morgan, Minn. 56266 (ph 507 249-3947).

**FARM
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**Ag
World**



"It rides right over gravel with no problems," says Neil Ohler about his "oversize" home-built bike scooter.

Scooter Built From Bike Parts

"They don't cost much and they're a lot of fun," says Neil Ohler, Staveland, Alberta, about his home-built bike scooter.

The oversize scooter measures 5 ft. long and was made using a 20-in. bike's handlebars, front and rear wheels, and frame. The big wheels make it easy to ride, even over gravel. Ohler cut away the top part of the frame and lengthened the bottom part. A 1 1/2-ft. long, 6-in. wide aluminum plate was screwed onto the frame between the wheels and a rubber grip pad off an old vehicle's

running board was glued onto it. The bicycle's front wheel brake is used to slow down or stop.

"A scooter this big rides right over gravel with no problem," says Ohler. "Operating it is good exercise because you're constantly changing legs. The leg that's on the pad gets most of the exercise because the operator is constantly lifting himself up and down."

Contact: FARM SHOW Followup, Neil Ohler, Box 127, Staveland, Alberta, Canada T0L 1Z0 (ph 403 549-2480).



Chuck Smart built this replica of the first bicycle ever built. It has no pedals. You just run and coast.

Perfect Replica Of First Bike Ever

This perfect replica of what's considered to be the first bicycle ever built was put together by Chuck Smart, Fitzgerald, Ga.

The "Draisienne" dates back to 1817 in Europe where it was invented by Karl Von Drais, a land surveyor who was looking for a faster way to get around. The Draisienne had no pedals. You just run and coast.

Smart built his replica based on old drawings of the bike. "The wheels and frame are all wood. The only metal is in miscellaneous hardware," says Smart.

Contact: FARM SHOW Followup, Chuck Smart, 118 Hiawasse Rd., Fitzgerald, Ga. 31750.



Hairless "Minskin" cat breed is a cross between the Sphinx and Munchkin breeds.

He Created A New Kind Of Cat

Paul McSorley is so crazy about cats he started his own breed. He calls them Minskins.

To produce the nearly hairless Minskins, the Provincetown, Mass. cat breeder crossed a Sphinx with a Munchkin. Sphinx cats carry a dominant gene for hairlessness with only a light fuzz over most of their torsos. Munchkins are small cats with a Dachshund-like look. They carry the recessive gene for short legs.

Most new breeds come from a natural mutation that a breeder recognizes and breeds back to create a breed. McSorley developed his concept first and then crossbred the two foundation breeds.

"In the first generation, all the kittens carried the dominant hairless gene, while half carried the short-legged gene," explains McSorley. "Breeding them back to either foundation breed will produce about 25 percent Minskins."

It is the third generation that will breed true to the standard with all offspring both short-legged and hairless. The standard doesn't demand rebreeding to the foundation breed. Allowable outcrosses are Sphinx/Munchkin crosses and short hair breeds. What counts is that the cat demonstrates both genes.

McSorley is in the process of seeking recognition from the International Cat Association (TICA). The Munchkin breed was only recognized in 1995 and then only after what McSorley describes as a "cat fight". He hopes this effort will go smoother.

"I'm intrigued by their unique differences



"Minskins" have short legs and are covered with light fuzz.

and the art of selective breeding," he says.

By promoting his breed standard, McSorley hopes to avoid problems with sky high prices. He recalls that some early Munchkin breeders tried to cash in on their limited numbers.

He expects that a Minskin sold for breeding might go for \$1,500 to \$2,500 (comparable pricing to the foundation breeds). However, he is not planning to sell kittens.

"I would sooner place an animal in an established breeding program in exchange for a kitten back in the future," he says. "I am not marketing the cats for sale as much as for expanding the breed."

Contact: FARM SHOW Followup, Paul McSorley, TRT Cattery, 9 Center Street, Provincetown, Mass. 02657 (ph 508 487-6955; website: www.minskin.com).

One Horse PTO Power

Ammon Weaver figures why crank an ice cream maker when you can let a horse do it. Not only does the horse maintain consistent power, but he doesn't expect to eat any of the finished product.

Weaver runs a metal forming company and, in his spare time, makes horse-powered treadmills. So far, he has built nine, and they are all spoken for.

"We're starting another batch of ten," says Weaver. "Using them for ice cream making has been the most popular, but we use ours on a washing machine."

While the treadmill with its pto gearbox can be connected to any mechanical drive, Weaver also makes a hydraulic motor that runs off the pto. He has used that to power other equipment.

"Horses are easy to train to the treadmill," says Ammon. "In about 10 to 15 minutes, the horse has it all figured out."

The horse is led onto the inclined treadmill, and a bar is placed behind the animal. Once the treadmill is put in gear, if the horse doesn't walk forward, the treadmill belt will slide him back into the bar. This starts him forward.

"Once a horse gets used to it, he doesn't



Horse-powered treadmill drives a pto shaft that can be used to perform a variety of jobs.

even need the bar across his backside," reports Ammon. "It is just like climbing a constant grade."

Ammon's treadmills have an adjustable grade ramp. He says he gets about one horsepower from a light work horse, but he is planning to build a twin one for twice the power.

Contact: FARM SHOW Followup, Ammon Weaver, Athens Enterprises, 1821 Matherly Road, Liberty, Ky. 42539 (ph 606 787-8474).

Woman Finds Success As Champion Tractor Puller

European men competing in pro stock tractor pulling know they're pulling against the best when Johanna Herlevi shows up. She's a customer service rep for Finnish tractor maker Valtra and a champion tractor puller. Her tractor is named Doris.

"My dad named her," explains Herlevi. "In Finnish, it is comparable to 'sweet girl' or 'chick.'"

Herlevi got involved in pulling through her dad, a champion puller himself. When his team began building a pro stock class tractor in 1998, the team boss suggested that she be the driver. It took the 20-year-old only a few minutes to accept the offer.

Today she competes against not only her dad, but also her brother. All three compete with Valtra 200 plus hp tractors. Modified for competition, the SisuDiesel 634 DS engine can generate well over 1,800 hp at 6,500 rpm's with a single turbocharger.

In six years of competition, she has become a top contender in the class. She was European Championship Gold winner in 1998, Silver winner in 2001 and Bronze winner in 2002. Her brother took Gold this past year, and her father placed fourth.

"It's a family affair," says Herlevi. "As we all drive in pro stock class, sometimes we get a little competitive, but still most of it is in fun. We don't take it so seriously that we can't support and help each other."

Herlevi's dad and brother built her tractor as well as their own. Now that she lives three hours from home, they handle all the tuning and mechanical upkeep, but at competitions, she does what is needed.

While she was the only female puller when she started, three other women pulled in the European Championship this past year. She encourages females to consider trying it, especially if there is a tractor puller in the family.

"It is largely a male hobby, so everybody likes when there are females around," reports Herlevi.

Contact: FARM SHOW Followup, Johanna Herlevi, Valtra Inc., FIN-44200 Suolahti (ph 358(0)20 4550886; email: johanna.herlevi@valtra.com; website: <http://tractorpulling.valtra.com/frameset.htm>).



Johanna Herlevi competes in pro stock tractor pulls in Europe where she's a top contender in her class. By day she's a customer service rep for Finnish tractor maker Valtra.



The 20-year-old Herlevi competes against not only her dad, but also her brother. All three compete with Valtra 200 plus hp tractors. Modified for competition, the SisuDiesel 634 DS engine can generate well over 1,800 hp at 6,500 rpm's with a single turbocharger.



Here the pto powers an ice cream maker. Weaver also makes a hydraulic motor that runs off the pto. He has used that to power other equipment.

Dog Walking Carts Catching On Fast

If you've got a dog that needs more exercise, and you're the kind of person who likes to entertain your neighbors, the growing "sport" of dog carting may be for you.

Manufacturers of dog-pulled carts say business is booming. R.J. Walsh and Sons have been making harness racing carts for horses for 40 years. A few years ago the company discovered there's a market for dog carts, too. The company now makes a variety of carts to fit all kinds of dogs.

Darlette Ratschan, Santa Clarita, Calif., who has used a Walsh cart, has been dog carting for more than two years. She says some people like carts they can ride in. Others want to walk alongside.

Unlike traditional double shaft carts, which hang from the sides of a harness, Walsh's dorsal hitch extends up and over the back of the animal to a point just behind the front shoulders where it attaches to the harness. The adjustable sulky seat and footrests are carefully balanced over the wheels to produce a slight negative pressure on the animal.

"The dorsal hitch is easier on the dog, and he isn't restricted as he is in a straight shaft cart," explains Ratschan. "If another dog rushes up, your dog can turn to meet it. Also, your dog doesn't get knocked over sideways if the cart turns over."

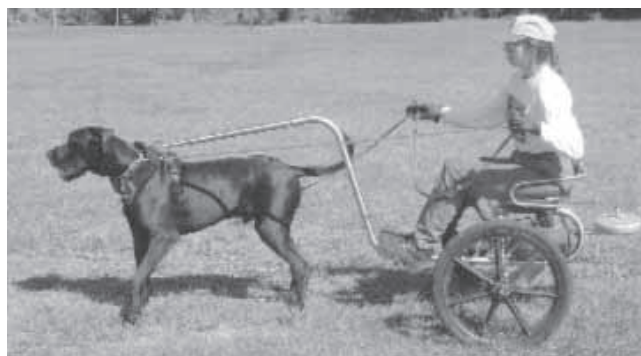
Currently, Walsh makes the Millennium Mini and the City Mini. Both are priced at \$651 (U.S.) plus \$180 shipping. The City Mini is slightly smaller with a narrower wheelbase for the confines of city spaces. The sulkies feature a stainless steel chassis, 24-in. reinforced nylon wheels with industrial ball bearings, steel axles and springs, pneumatic tires, a molded plastic seat and Ikon shock absorbers. Extras include disc brakes, a speedometer, 26- and 28-in. steel-spoked wheels and padded seats.

A multiple hitch for up to three dogs is available.

Ratschan has developed her own harness for the Walsh sulkies, which she makes and sells for \$90 through her company TZLites.

"It is like a mini bareback pad for a horse with padding for the hitch and big wide webbing for the harness," she says. "The dogs wear reins which attach either to a halter or to a dual ring collar."

Contact: FARM SHOW Followup, R.J. Walsh & Son P/L, Box 229, Padstow NSW 2211 Australia (ph 612 9707-3411 fax 612 9707-3629 ; email: jimw@comcen.com.au; website: www.rjwalsh.com.au/mini) or Darlette Ratschan (ph 661 255-2657; email: tzlites@aol.com; website: http://hometown.aol.com/tzlites/tzlitesp1.html).



Manufacturers of dog-pulled carts say business is booming.



Cart's dorsal hitch extends up and over back of animal to a point just behind the front shoulders, where it attaches to harness.



"It looks just like the 440 articulated steering tractor that Steiger made for Allis Chalmers back in the late 1960's," says Marvel Nelson about his 1/3-scale model.

Articulated Tractor Patterned After An Allis Chalmers 440

Marvel Nelson's little articulated 4-WD Allis Chalmers is a head turner.

"It looks just like the 440 articulated steering tractor that Steiger made for Allis Chalmers back in the late 1960's," says Nelson about his 1/3-scale model.

Although Nelson just built the tractor a couple of years ago, he had been thinking about doing it for two decades.

"I collected most of the parts to build this tractor about 20 years ago," says the retired Mineral Point, Wisconsin, farmer. "What I needed was something to pull firewood out of the timber. It needed a low center of gravity and good traction. Because I was busy with farming, it just never got done."

The drive axles are from two 1-ton Chevrolet trucks with vacuum 2-speed rear ends. The engine is a Chevy 6-cylinder 292. He used an automatic transmission and transfer case from a 3/4-ton Chevy 4-WD pickup. The steering console, grill and radiator were salvaged from a 190-XT Allis. He put the two truck axles together so they pivot in the cen-

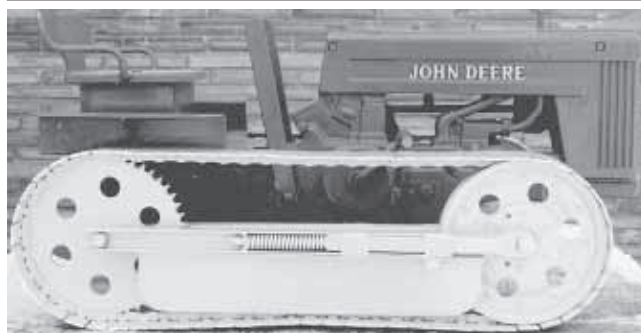
ter and used a hydraulic cylinder mounted on one side of the frame to steer. A hydraulic pump mounted on the motor provides power for the steering.

The tractor also features hydraulic brakes. And with the automatic transmission and transfer case combined with the two-speed axles, he has 12 forward gears and four in reverse. "The slowest speed is between 1 and 2 mph, and top speed is nearly 70 mph," he notes.

Once he had the tractor together, he had a new hood, fenders and body sheet metal shaped by a local metal shop.

The 1/3-scale 440 has been at many other shows and parades. But it hasn't been out into the timber to drag out firewood. "That's just not going to happen," Nelson says. "I don't want it dented or scratched."

Contact: FARM SHOW Followup, Marvel Nelson, 592 County Hwy. U, Mineral Point, Wis. 53565 (ph 608 967-2256; email: mbnlsn@chorus.net).



Frank Miller's 1/4-scale tracked tractor is designed to look like a Deere 420 tracked model. Driver turns the pedals to make the tractor go forward or backward.

He Put Tracks On A Pedal Tractor

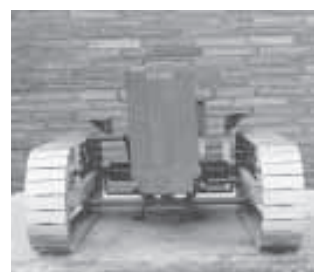
"I built it for my grand kids," says Frank Miller, Mott, N. Dak., about the 1/4-scale Deere tracked tractor that he built out of an old Deere pedal tractor.

The tracked tractor is designed to look like a Deere 420 model, which was originally made in the 1950's. The driver turns the pedals to make the tractor go forward or backward. He pulls on a pair of levers to turn left or right.

Miller started with an old beat-up Deere 60 pedal tractor that was given to him. "The casting was broken in several places and the rear axle housings were shot. There wasn't anything I could do to convert it back into a working pedal tractor," says Miller.

He removed all the wheels and built new rear axle housings, then replaced the wheels with large sprockets. The rear drive sprockets are blank sprockets that he purchased from a hardware store, while the front sprockets came off a Deere combine. He drilled holes into all the sprockets to make them look authentic. The pedals chain-drive a pair of shafts that connect to the rear sprockets.

To make the track, Miller mounted no. 40 roller chain around both sets of sprockets, then welded a series of flat steel cleats onto the chain. The cleats measure 1 in. wide by 4 in. long and are 1/8 in. thick. One cleat is



To make the track, Miller mounted no. 40 roller chain around both sets of sprockets, then welded a series of flat steel cleats onto the chain. One cleat is welded onto each chain link.

welded onto each chain link.

"The track carriers are spring-loaded so the track stays snug all the time. However, the tractor is fairly heavy and there's a lot of track area to cause friction. As a result, my grand kids can pedal the tractor forward or backward, but they don't have enough power to make it turn," notes Mott.

Contact: FARM SHOW Followup, Frank L. Miller Farms, 307 Iowa Ave., Mott, N. Dak. 58646 (ph 701 824-2637).

Old Crawler Collection Is Gradually Being Restored

Collecting old crawler tractors is a relaxing, enjoyable hobby, says George Shinnners, owner of Antigo Construction Inc., Antigo, Wisconsin, one of the largest concrete demolition companies in the country.

Over the years, Shinnners accumulated a handful of vintage gasoline-powered steel-tracked crawler tractors. About five years ago, he began collecting crawler tractors in earnest.

He now has nearly 100 tractors and related pieces of equipment in all. Some of them ran when he bought them, but many were in pretty tough shape. However, he says the majority of them can and will be restored. The rest are parts machines. In addition to crawlers, he's also added self-propelled and pull-type graders, rollers, rippers, logging arches and a rock crusher.

To put as many in working order as possible, he hired George Wells, a local mechanic who at 86 years old, has spent most of his life maintaining, overhauling and rebuilding construction machinery.

Engines are usually the first priority. Once Wells gets the engine freed up and running, he moves ahead with the rest of the restoration. After nearly two years of working on Shinnners' collection, Wells has managed to get 20 of the old crawlers running and has completely restored 12 of them.

To date, most of the machines in Shinnners' collection carry Holt and Caterpillar nameplates. But he also has a few made by Cletrac, International Harvester and others.

One of his most prized tractors is a 1925 Caterpillar "Two-Ton" that is on display out-

side the Langlade County Historical Society museum in Antigo, where it's hitched to a logging sled loaded with some impressive Hemlock logs.

The tractor was driven into place, but Wells disabled it to make sure no one would "borrow" the powerful display piece.

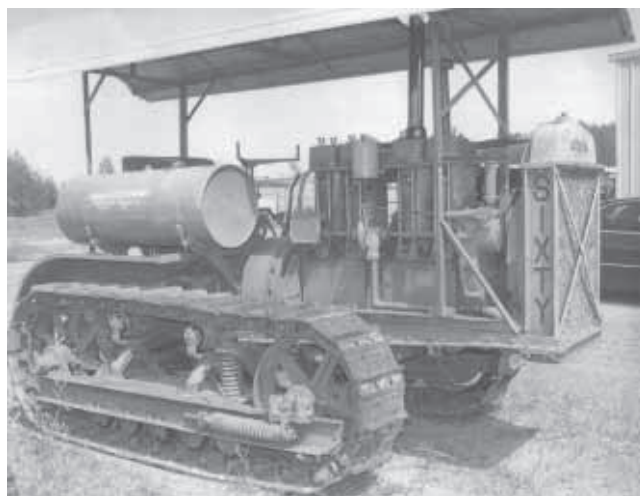
Also included in Shinnners' collection are a rare Caterpillar R2, a military R4 and a footclutch R5.

While his collection has gotten bigger than he ever anticipated, Shinnners continues to get calls from people who have old crawlers they'd like to sell or even donate if he promises to restore them.

"Most of my crawlers were used in northern Wisconsin, but I've bought machines from Minnesota, Michigan, and across the northern plains, and some from as far away as Utah, Nevada and California," he says. He often extends business trips to go out of his way to look at a tracked tractor somebody has told him about.

Eventually, he hopes to put the collection on permanent display in a new 8,000-sq. ft. building he completed this past fall. He's also developing an outdoor demonstration area to give his "old iron" a place to run one more time. In the meantime, though, if you're interested in taking a look, call or write to Antigo Construction and, he promises, they'll do their best to accommodate you.

Contact: FARM SHOW Followup, George Shinnners, Antigo Construction, Inc., 2520 N. Clermont St., Box 12, Antigo, Wis. 54409 (ph 715 627-2222; email: info@antigoconstruction.com).



About five years ago, George Shinnners began collecting steel-tracked crawler tractors in earnest. He now has nearly 100 tractors and related pieces of equipment in all.



About 20 of the old tractors are in running condition, with 12 completely restored.

Triple Farmall Runs On One, Two, Or Three Engines

Antique tractor lovers can't get enough of this triple tractor hookup put together by Dewitt Stewart of Bogalusa, La. He mounted three Farmall A's together on a frame with a single front axle and a single set of rear dual wheels. The tractor runs on one, two or three engines in any order. There are two steering wheels and two sets of clutch and brake pedals so Stewart can drive the tractor from either side.

The tractors used range from 1939 to 1946, all of which were completely restored. The triple tractor measures 9 ft. 2 in. wide.

Stewart built the tractor six years ago and has been wowing crowds at parades and shows ever since. He contracted to build the tractor for Rawlin Williams of America's Old Iron Museum in Bush, La., where the tractor is on permanent display.

Stewart made an axle to tie the three differentials together. He turned the ring gear upside down on the center tractor to make it work with the rest of the tractors. He also extended the front axle 20 in. Each transmission is bolted together with the original spacer housing. All pto's operate. All three clutches are tied together with one clutch pedal. One throttle operates all three engines.

"It was a lot of fun to build and always draws a lot of attention wherever it goes. My son Casey helped me build it," says Stewart.

"It makes a great parade tractor, and we really enjoy taking it to tractor shows and listening to people try to figure it out. It's surprising how many people ask me what year Farmall made this type of tractor. At shows I often crank one engine up, then put the other two engines in gear and let off on the clutch and drive forward to start the other two engines up.

"I know of only one other triple tractor hookup, which was put together by Harry Lee (Vol. 17, No. 4). There's nothing missing on my center tractor except for the drop housing axle and wheels. There are three differentials, three clutches, three throttles, three transmission shift levers, and three governors. It's a continuous job to keep the governors adjusted and the throttles all set.

"At first I mounted the steering system on the center tractor. However, it was awkward to drive with the shift lever between the operator's legs and the clutch lever on his left and the brakes on his right, so I remounted the steering system on the left side and added another steering wheel on the right side."

Contact: FARM SHOW Followup, Dewitt Stewart, 60007 Spring Valley Rd., Bogalusa, La. (ph 985 732-2065) or Rawlin Williams, 81171 Williams Blvd., Bush, La. (ph 985 886-5665).



Dewitt Stewart of Bogalusa, La., mounted three Farmall A's together on a frame with a single front axle and a single set of rear dual tires.



Tractor runs on one, two or three engines in any order. It has two steering wheels and two sets of clutch and brake pedals so Stewart can drive the tractor from either side.

Stewart also made a side-by-side version with two Farmalls.





Ken Assenheimer stacks bales with a home-built self-leveling accumulator equipped with bale hooks that pull together, dosing the gap between bales.



Home-built forklift device is used to handle 124-bale stacks. Extra top fork and a push-off bar help unload stacks.

By Janis Schole

Home-Built Devices Make Bale-Handling A Breeze

Ken Assenheimer of Barrhead, Alberta, handles a lot of square hay bales on his farming operation, but he does so with speed and ease thanks to two handy loader attachments.

Assenheimer stacks bales with a home-built self-leveling accumulator that he says works much better than commercial ones. The bale hooks on Assenheimer's home-built model actually pull the whole tier together, closing the gap between bales.

"The hooks go 90 degrees into the bale wa-

fers so you don't ever drop a bale," he says.

The accumulator is hinged on the top, so it self-levels when set down on the top of the stack, making it easier to use.

Assenheimer also built a forklift device to handle his 124-bale stacks. He added an extra fork at the top of the mast on his 930 Cat forklift (20,000-lb. lifting capacity) and a push-off bar that helps unload stacks. The folding frame is fitted with two hydraulic cylinders.

He can now move 1,600 bales in an hour. It takes only 15 to 20 minutes to load a truck (four 7-tier stacks of 124 bales each).

"The stack mover is quick-attach. Two bolts, two pins and four hydraulic couplers are all that need unhooking before you can back away from it and go back to operating a normal forklift," Assenheimer explains.

He says he has only \$2,500 (Canada) invested in materials to make the unit, since he was able to salvage and repair an old, bent

forklift mast. It took him about four weeks to build it and he says the reason he originally made it was to speed up loading and unloading of his large scale hay drying unit (featured in a past issue of Farm Show). Using it to load trucks when marketing his timothy hay was "an added bonus."

Contact: FARM SHOW Followup, Ken Assenheimer, Frontier Forage, R.R.#3, Barrhead, Alberta, Canada T7N 1N4 (ph/fax 780 674-4317).

"Rubber Lumber" Outlasts The Real Thing

Up to now, wood or steel were your two main choices for trailer flooring. A Texas company wants you to consider a third option that they call "Rumber".

Rumber is a composite material made of ground-up scrap tires and recycled plastic. It's stronger than wood, won't warp or bow when wet, and is more resistant to wear and abrasion. It won't splinter. It won't absorb spilled oil, diesel fuel, gasoline or grease. It can be pressure-cleaned without eroding away. Rumber is available in dimension lumber and plywood-like sheets. Dimension lumber available includes 2 by 4's, 2 by 6's and 2 by 8's, from 6 to 24 ft. in length.

Tongue and groove 2 by 8 boards can be used on all types of trailers, barn walls, and even squeeze chutes. Rumber can also be used as decking and for boat docks.

The company provides a 20-year limited warranty on Rumber products that are installed properly on horse/livestock and on skid loader trailers under 12,000 GVW.

Rumber is black because of the color of the recycled tires. It can be produced in gray and terra cotta colors, but the cost goes up considerably. Rumber can be painted.

The company says its Rumber sheets have proven to be a superior material for trailer sides, stall dividers and other uses in ranching and related industries. Rumber sheets have also been used as siding for snowmobile trailers, as the material is unaffected by the cold. Standard 4 by 8-ft. sheets are available in either 1/4-in. or 3/8-in. thicknesses. Custom sizes are also available.

Contact: FARM SHOW Followup, Rumber Materials, Inc., 621 W. Division St.,



"Rumber" is made of ground-up scrap tires and recycled plastic. Here it was used to make a trailer floor.

Muenster, Texas 76252 (ph 940 759-4181 or toll-free 877 786-2371; fax 940 759-4011;



Tongue-and-groove 2 by 8 boards can be used as deck flooring.

email: info@rumber.com; website: www.rumber.com).

Tire Holder Saves Your Back

The worst part of chopping firewood is the constant bending over to set up each block. Robert Bokenfohr of Morinville, Alberta, came up with a simple and effective way to give his back a break.

Bokenfohr uses a cut-down tire to hold a bunch of blocks to split all at once. He says an old car or truck tire (13 to 16 in.) works well and costs nothing. He removed the side walls with an angle grinder, making it possible to turn the tire inside out by hand. This also leaves a bigger space in the center of the tire to hold more wood.

The tire essentially serves as a heavy duty elastic band to hold a group of blocks upright and together while Bokenfohr steadily splits one after the other until they're all done. Then he removes the finished firewood and "re-loads."

He got the idea when he tried to stand more than one block up at a time to save himself from bending over as much.

Contact: FARM SHOW Followup, Robert Bokenfohr, R.R. 2, Morinville, Alberta, Canada T8R 1P5 (ph 780 939-3329).

He removed the side walls with an angle grinder, making it possible to turn tire inside out by hand.



Bokenfohr uses a cut-down tire to hold a bunch of wood blocks to split all at once.



Convert Your Pickup To A Dually

Need to improve traction and stability on your pickup or Suburban? Or maybe you'd like to get rid of that sway when towing a trailer?

A dual wheel conversion kit from Arrowcraft Products, Royal Oak, Michigan, might solve your problem. The company says they can increase tire life, too.

Arrowcraft kits are available for Ford, Dodge, Chevrolet and GMC trucks and Chevy and GMC Suburbans.

Included in the basic dual kit are new dual style wheels (you can get steel wheels, steel with stainless wheel liners, or aluminum) and adapters that allow duals to be mounted onto your existing axle with no modifications. This kit is all you'll need for flatbeds or utility bodies and others where you don't need a lot of flare. For most standard pickups, though, you'll want to add fiberglass flares to your fenders to allow for the dual wheels. And if you want, you can finish off your new look with matching front wheels.

Basic steel wheels come in gray and can be painted to any color you desire. Fender flares, which give you a factory dually look, are ready to sand and paint to match your vehicle.

All wheel and adapter kits come with the necessary mounting hardware and do-it-yourself instructions. Prices vary, but a basic Dodge kit sells for under \$500. Company



Dual-wheel conversion kit is available for Ford, Dodge, Chevy and GMC trucks and Chevy and GMC Suburbans.



Kit includes new dual-style wheels and adapters that let you mount duals onto your existing axle with no modifications. sources say even the high end kits with aluminum wheels are under \$1,000.

Contact: FARM SHOW Followup, Arrowcraft Products, 5022 Leafdale Blvd., Royal Oak, Mich. 48073 (ph 248 280-0210; website: www.arrowcraft.com).



Pulling two 20-in. push mowers behind his riding mower lets Bob Simpson "reduce mowing time in half."

Ganged Mowers Cut A 6-Ft. Swath

"I've reduced mowing time in half," says Bob Simpson, Saskatoon, Sask., who built a hitch to pull two push mowers behind his riding mower.

The 20-in. push mowers are hitched behind a riding mower with a 38-in. deck so the three mower decks cut a 70-in. wide swath. A pull bar runs across the back of the riding mower and bolts onto the mower's hitch. The pull bar is made from two lengths of pipe welded to an angle iron bracket.

A pair of strap iron brackets attach to the front of the two push mowers. A hole was drilled into each bracket which fits over the axle under the front wheels. Rods run from the brackets up to pipe couplings welded onto the pull bar. The rods are secured at both ends by pins. One rod on each mower was made adjustable by cutting 1 in. out of the rod, threading it, and using a coupling nut to join the threaded ends.

"The pull bar on the riding mower is about a foot above the ground in order to hold the push mowers off the ground. The threaded rod on each mower allows me to keep the mowers tracking correctly. I mounted a truck mudflap on the right side of the pull bar in order to keep the riding mower's cuttings away from the push mower on that side.

"I left the handle on one of the mowers so I can detach it to mow in corners."

A kill switch was installed in the shroud of each motor. "It's a simple on-off slide switch with one pole grounded to a pop rivet holding the switch to the shroud, and the other pole connected to the coil wire which went to the original kill switch. It not only stops the motor but prevents accidental starting," notes Simpson.

Contact: FARM SHOW Followup, A.R. Simpson, 530 Wilson Crescent, Saskatoon, Sask., Canada S7J 2M1 (ph 306 242-4628).



Marty Garrett replaced the edging blade on his lawn edger with a "wobbling" circular saw blade. "It lets me follow along the roots and plane them off at ground level, without tearing up a lot of grass," he says.

Lawn Edger Converted Into "Tree Root Planer"

Marty Garrett, Louisville, Ill., had a problem that's common to many homeowners - pesky surface tree roots that got in the way whenever he mowed his lawn. He solved the problem by replacing the edging blade on his lawn edger with a "wobbling" circular saw blade.

"It's like an inverted table saw on wheels. It lets me follow along the roots and plane them off at ground level, without tearing up a lot of grass like a stump grinder does," says Garrett.

The purpose of the "wobble" in the blade is to widen out the cut, which produces a shearing effect. To get this effect he mounted a wobble washer - which is thin on one side and thick on the other - on each side of a standard 7 1/2-in. dia. carbide tooth circular saw

blade.

"The teeth on the blade are 1/8 inch wide, but with the wobble action the blade cuts a much wider path that covers 13/16 of an inch," says Garrett. "When I'm done I just rake up the shavings and sawdust. Very little grass or soil gets torn up."

To make the conversion work, Garrett had to replace the original shaft that held the lawn edger blade. He also had to machine different bushings.

Garrett would like to find a manufacturer interested in the idea.

Contact: FARM SHOW Followup, Marty Garrett, 845 Garden St., Louisville, Ill. 62858 (ph 618 665-4508).



Using mostly junked parts, Harold Tribitt built this 4-WD articulated "mower tractor" equipped with a 6-ft. front-mounted deck that rides on a pair of caster wheels.

4-WD Articulated "Mower Tractor"

"It's built tough and will outlast any commercial riding mower on the market," says Harold Tribitt, Revillo, S. Dak., about the 4-WD articulated "mower tractor" he built mostly from junked parts. It's equipped with dual wheels on front and back and a front-mounted 6-ft. deck that rides on a pair of 400.8 2-ply caster wheels.

The tractor's frame came off an International Harvester 37 disk, while the axles and 6.50 by 16 wheels are off a pair of 1960's Chevrolet 3/4-ton pickups. Tribitt cut the axles down to fit. Power is provided by a 4-cyl. water-cooled gas engine off an Owatonna self-propelled windrower. The 4-speed manual transmission is also off a 1960's Chevrolet 3/4-ton pickup. The transfer case is home-built. The tractor articulates via a single 2 1/2-in. hydraulic cylinder that acts on a 1-in. dia. shaft.

Tribitt used sheet metal to build the deck, which is belt-driven off the engine. A small 1-in. dia. hydraulic cylinder that mounts under the engine serves as a belt tightener. Power steering is provided by a hydraulic

pump that came off a combine.

"It suits my needs perfectly," says Tribitt. "I built it a few years ago after I had a farm accident in which I lost partial use of my right hand. It came in especially handy when I used to fly airplanes and had a 1/2-mile runway on my farm. I needed something that could mow fast. I usually mow in third gear at about 4 mph. The tractor's small size and dual wheels keep it from making ruts in soft ground like a bigger tractor would, and the engine and transmission are heavy duty.

"The back end of the deck bolts onto the side of the tractor. To remove the deck, all I have to do is pull two 1-in. dia. pins and slip the belt off. There's a full length roller on back of the deck and a short one on front to keep the mower from scalping."

Tribitt says he spent a total of about \$1,200 to build the tractor, including about \$700 for the eight new tires.

Contact: FARM SHOW Followup, Harold Tribitt, 16108 482nd Ave., Revillo, S. Dak. 57259 (ph 605 623-4491).

Trailing Mower Provides 7-Ft. Cutting Width

"It covers a lot of ground and trails straight even on sloping ground," says Roger Burgess, Modesto, Ill., who had a hitch built that lets him pull a 40-in. Swisher mower - equipped with its own 8 hp Briggs & Stratton engine - behind his 48-in. Ariens garden tractor (Swisher Mower and Machine Co., Warrensburg, Mo. ph 800 222-8183; website: www.swisherinc.com/ridingmowers.html).

The hitch was built by Lloyd Meffert of Hetick, Ill. It consists of an angle iron pull bar that hooks up to the riding mower drawbar and pulls the 40-in. mower via two pin clips. Another angle iron is welded to the pull bar and runs diagonally up to the tractor frame, providing reinforcement to keep the trailing mower running straight.

"It lets me cut a total width of about 7 ft. which greatly reduces mowing time on my 4-acre lawn," says Burgess. "The riding mower is powered by a 17 hp Kohler engine so it has no trouble pulling the trailing mower. It pulls so easy I hardly even know it's there. We already had the Ariens mower and bought the trailing mower new for about \$600. It only takes about a half minute to remove the trailing mower from the pull bar. The only limitation is that this system doesn't work real well for mowing up close around trees and shrubs. We use it mainly for mowing big areas."



Roger Burgess had a hitch built that lets him pull a 40-in. Swisher mower - equipped with its own 8 hp Briggs & Stratton engine - behind his Ariens garden tractor.

Contact: FARM SHOW Followup, Roger Burgess, 13461 Stamper Rd., Girard, Ill. 62640 (ph 217 439-7415).



Robert Judice built this zero turn riding mower. It has an air conditioned cab and a 5-ft. deck that automatically raises or lowers according to mowing conditions.

He Mows Grass In Air-Conditioned Comfort

"I built this zero turn riding mower equipped with a 5-ft. deck two years ago. It has air conditioning and a deck that automatically raises or lowers according to mowing conditions," says Robert Judice, New Iberia, La.

The mower is powered by a 34 hp Kubota diesel engine and is all hydraulic-driven. It rides on 15-in. wheels on front and smaller golf cart wheels on back. Each of the front wheels is driven by a separate Charlin motor. The deck is offset about 10 in. to the left side, allowing Judice to get close to a ditch or building. The right side of the deck is even with the right front wheel.

He used 1/8-in. thick sheet metal to build the cab. The hood came off an old International Harvester 2 plus 2 tractor. The frame is built from 2 by 3-in. sq. tubing. A hydraulic reservoir is located under the left fender. The fuel tank is under the right. The cab is insulated with the same type of insulation material used in tractors. The seat is a boat seat that hinges backward. The diesel engine, which originally had been used to operate a water pump, powers three hydraulic pumps that are hooked together. Two of the pumps operate the hydraulic motors that drive

the front wheels, and the third powers a motor that belt-drives the mower blades. All of the pumps are located under the cab's floorboard, which lifts up for easy access.

The machine is equipped with a unique "blade sensor". It works on the pressure side of the hydraulic motor that drives the deck and powers a cylinder that raises and lowers the deck. The sensor allows the deck to lower automatically, depending on the length of the grass being cut. When it reads that the pressure on the deck cylinder is too high, it backs oil up into the cylinder, which then raises the deck slightly to relieve the pressure.

"I really like the air conditioned cab. It gets so cold inside the cab that the windows fog up," says Judice. "The evaporator coil is off an old Ford car and is located in back, just above the rear window. The compressor and condenser came off a Subaru car. I was told that the engine runs a little hot, so instead of locating the condenser in front of the radiator, I mounted it on the side of the cab. I use an electric fan to cool the condenser."

Contact: FARM SHOW Followup, Robert Judice, 5317 Daspit Road, New Iberia, La. 70563 (ph 337 229-6375 or 337 229-8180).



Richard Moore mounted the deck off a junked Deere 112 riding mower on a wheeled frame. He uses a Tecumseh 10 hp engine to power the trailing deck.

Deck Doubles Cutting Width

Mowing his 2 1/2-acre lawn takes half as long since Richard Moore, Colby, Kansas, added a second mower deck behind his 1970 John Deere 112 lawn tractor.

He was happy with the variable speed transmission on his 112 tractor and the way the 41-in. deck left his lawn looking manicured, but he felt he needed something bigger.

He found a junked 1968 112 at a local lawn mower shop. "The deck was in good shape, so I bought the tractor for \$75," he says.

Rather than trying to fix the junker and run two tractors, Moore made a trailer to hold the second mower deck to pull behind his tractor. He stripped the front wheels and spindles off the junked 112 and used those

on the back of his trailer, which he made from square steel tubing. He mounted a couple of new caster wheels on front of his trailer.

Then he devised a way to mount the deck from the junked tractor on the trailer, using the lever and mechanical lift mechanism from the old tractor. He used a 10 hp Tecumseh engine to power the trailing deck.

He says the most difficult part was adapting the deck lift linkage from the old tractor to the trailing unit. "I scratched my head a lot over that, but a friend was able to help me figure it out," he says.

Contact: FARM SHOW Followup, Richard Moore, 1886 County Road 15, Colby, Kan. 67701 (ph 785 462-3280; fax 785 462-8322).



"It lets me mow my lawn without leaving a thin strip of grass next to building foundations, etc.," says Marty Garrett about the trimmer he added to the left side of his mower.

Mower Has Built-In Grass Trimmer

Marty Garrett, Louisville, Ill., thought it would be neat to have a lawn mower equipped with a built-in grass trimmer. He couldn't buy one, so he built one.

"The trimmer extends about 2 in. beyond the left side of the mower. It lets me mow my lawn without leaving a thin strip of grass next to sidewalks, building foundations, and flowerbeds," says Garrett.

The trimmer consists of a vertical shaft and bearing that goes through the deck, and to which is attached a Teflon spool that holds the trimming line which is located underneath the deck. The rotating spool is belt-driven by the same engine that drives the blade. An idler pulley, connected by cable to a lever on the handlebars, is used to engage or disengage the spool.

Garrett used 1/8-in. thick sheet metal to build the 21-in. wide deck. The blade is powered by a 3 1/2 hp Briggs & Stratton gas engine.

"It does a nice, clean job and works great around trees and flowerbeds as well as sidewalks and building foundations," says Garrett. "We tested this in a cemetery that had been mowed but had growth around the stones that was 5 or 6 in. high. This whacked that off like no one's business. Whenever I need more line I just shut the engine off and pull more line out."

Garrett is looking for a manufacturer. Contact: FARM SHOW Followup, Marty Garrett, 845 Garden St., Louisville, Ill. 62858 (ph 618 665-4508).

Side-Mount Mower Built Out Of Cub Cadet Tractor

"It lets me cut a 9-ft. swath, saving a lot of mowing time," says Dwight Davis, Hope Hull, Alabama, who built a "wing" lawn mower out of a Cub Cadet tractor equipped with a home-built 5-ft. deck. He pulls it alongside his 1976 Power King garden tractor, which has a 4-ft. deck.

Davis removed the front axle, rear end, and operator's platform from the Cub, leaving only the tractor's frame and 12 1/2 hp engine. He mounted the tractor on a new frame made out of 2-in. sq. tubing.

He used 1 1/2-in. angle iron and 1/8-in. thick sheet metal to build the deck, which is equipped with three 20-in. blades. The deck is reinforced with 3/8-in. thick steel plate and 2-in. channel iron where the spindles mount. It's supported by four 10-in. caster wheels.

The frame that the Cub mounts on attaches to the Power King with three adjustable length, 1/2-in. dia. steel rods. The rods are threaded at one end, allowing Davis to easily adjust the distance between the two mowers. The rods attach to clevis pins that allow the attached mower to flex up and down.

The Cub's electric clutch is used to control the blades, which are belt-driven off the engine crankshaft.

"It works just as good as I had hoped it would and has reduced my mowing time by more than half," says Davis.

"I left the fuel tank, starting system, and charging system intact on the Cub frame. The only thing I added to the tractor was a frame to hold the battery."

"It handles real well. At first I was afraid the wing mower would pull the tractor to the side, but it hasn't been a problem. The wing mower is positioned right next to the tractor where it's easier to see than if it trailed behind."

"To operate the two mowers, I first start the Cub and use the electric clutch on it to



"It has reduced my mowing time by more than half," says Dwight Davis, who built a "wing" lawn mower out of a Cub Cadet tractor equipped with a 5-ft. deck.



Davis pulls the wing mower alongside his Power King garden tractor, which has a 4-ft. deck. Four caster wheels allow the wing mower to move in any direction with the Power King.

engage the blades. Then I start the Power King and turn on the pto to engage the blades. The decks overlap 2 in. The four caster wheels allow the Cub mower to move in any direction with the Power King. When needed, I can quickly remove three clevis pins and use the Power King by itself."

Contact: FARM SHOW Followup, Dwight Davis, 6073 Felder Rd., Hope Hull, Alabama 36043 (ph 334 286-6175; email: dpdavis@starband.net).

Repowered IH 4-WD Uses 50% Less Fuel

When the V-8 diesel engine on David and Ken Bense's 1985 IH 4786 4-WD tractor wore out, the rest of the tractor was still in good shape. The Hope, Ind., farmers replaced it with a 6-cyl. Cummins 855 diesel engine out of an IH 4070 cab-over semi tractor.

"It was a lot of work, but the repowering job made it a good tractor again," says David. "We already had the truck, which we had bought used several years earlier. The wiring in the truck's chassis was worn out so we sold the truck for scrap but kept the engine. It had about 100,000 miles on it but had been overhauled recently so it was still in good shape."

They lengthened the tractor frame and hood 14 in., making the cut up front so the new engine wouldn't sit directly over the welded-together part of the frame. A local machinist bent sheet metal for the hood. The new engine bolted to the tractor's 10-speed transmission without any modifications.

They made new engine mounts and had a plate made to adapt the tractor's hydraulic pump to the engine. The bolt pattern on the

Cummins matched up perfectly with the original bell housing.

The tractor was originally equipped with a muffler that came straight up through the middle of the hood. They fitted the repowered tractor with a side-mount muffler they made out of a 10-in. dia. pipe off an old grain leg. They welded disk blades on top and bottom of the pipe and also fitted it with a chrome rain cap. A chrome guard over the pipe keeps anyone from getting burned as they climb into the cab. To connect the muffler to the engine they bought new 5-in. dia. muffler pipe.

The air cleaner on the other side of the engine came off the semi truck, with the air cleaner's stainless steel pipe reworked to fit the tractor.

"We even removed some gauges from the truck dash and installed them in the cab," says David. "Larry Thayer, a retired neighbor who worked in the trouble-shooting department at Cummins, helped us do the work. We were able to sell parts off the old IH engine for about \$1,000. Our total cost was about \$16,000, which was a lot less than buying a



David and Ken Bense replaced the V-8 diesel engine on their 1985 IH 4786 4-WD tractor with a 6-cyl. Cummins 855 diesel engine out of an IH 4070 cab-over semi tractor. The tractor's original engine is high maintenance and parts for it are very expensive.

"We use the tractor for most of our tillage work including chisel plowing and disking. The Cummins engine has about the same

horsepower as the tractor's original engine. However, it uses only about half as much fuel."

Contact: FARM SHOW Followup, David Bense, 10333 North 1050 E., Hope, Ind. 47246 (ph 812 546-5506).

Bale Handling Truck Loads, Hauls, And Stacks

Richard Weber's home-built bale-hauling truck can pick up and load 10 big round bales nearly as fast as he can drive through the field.

Weber and his brother Dennis designed the unique truck in the late 1980s. Weber had a part-time bale-hauling business, using a 1-ton dually pickup, a 38-ft. gooseneck trailer, and a tractor at both ends to load and unload the bales. He decided he could save a lot of time and haul more bales if he had a machine that would load, haul, and unload the bales.

He explained what he wanted to his brother, an engineer, and the two of them decided what materials were needed to build such a machine.

It's built around a 1972 Chevrolet C-50 cab-over truck and chassis.

Up front is a bale fork that can be moved side-to-side by a hydraulic motor. To pick up and load a bale, two hydraulic motors raise the fork up a rack-and-pinion type curved

track mounted on each side of the cab. At the top of the cab, the bale fork releases the bale onto a table that sits behind the cab.

When Weber has loaded two bales side-by-side onto this table, the table lowers hydraulically and sets the pair of bales onto a chain apron on the truck bed. Hydraulic motors move the tracks back 5 ft. while Weber drives to the next bale.

Weber's truck will handle 10 bales at a time. He can fill it up in about 10 minutes if the bales aren't spaced too far apart on the field. The bed tilts to unload the bales. Weber says they slide off so that they are lined up snugly end-to-end.

Weber says one of the toughest parts of building the truck was making the tracks for the fork. His brother Dennis made the arc from rectangular steel tubing by cutting small sections, bending them together, and welding them in place. Then he cut a 4-in. wide



Bale-hauling truck designed by Richard and Dennis Weber is built around a 1972 Chevrolet C-50 cab-over truck. It can load up 10 big round bales on-the-go.

strip out of the inside of each tube and installed the rack inside.

Weber says they worked at the track in their spare time, so it took about a year to get it all together. Once they took it to the field, a few bugs showed up that had to be fixed before everything would work correctly.

The truck allowed him to build up his part-time business into a full time job and now has more than 130 customers.

Weber figures he spent around \$25,000 on materials to make the bale loader and flatbed. That doesn't include the truck itself.

Contact: FARM SHOW Followup, Richard Weber, Weber Bale Moving, 28107 N Road, Fowler, Kansas 67844 (ph 620 646-5401, email: sweber@swko.net); or Dennis Weber, San Marcos, Calif. (ph 760 471-6168, cell ph 760 809-4543, email: DWeber4026@aol.com).

Tillage Tool Rebuilds Ridges In One Pass

It took four years of trial and error, but Don Ohlman and his son Kevin, Central City, Nebraska, have come up with what they feel is the ultimate ridge-till tool.

"It's a one-pass tool that cuts and mixes residue into the soil as it rebuilds ridges," Kevin says.

The implement, which they have trademarked as the "Row Wrangler"™, does several different operations at once. Up front, a six or eight-blade chopper sits over the ridge. As the chopper cuts crop residue at the ridge, 22-in. banded coulters slice through crop residue at the bottom of the furrow at a constant depth. Behind and to the side of the banded coulters are scalping discs that scalp the side of the ridge, eliminating weeds and rebuilding the ridge. Following those are ripper sweeps that help relieve soil compaction and further mixes crop residue and soil. At the back there's a mulcher which further mixes crop residue and firms the ridge for planting.

All components are mounted on the toolbar using parallel linkages and down-pressure springs.

The Ohlman's received a patent on the Row Wrangler and have been selling it for a year now. Final assembly of the units is done in the Ohlman shop, but they've contracted with



Tool has 6 or 8-blade choppers up front and ends with harrow sections on back.

outside suppliers for components. Current available sizes range from 4-row, 36 in. up to a 10-row, 30 in.

Ohlman says each unit requires 20 to 25 hp, so a 150-hp tractor can pull a 6-row Row Wrangler. The list price ranges from \$13,133 for the 4-row, 36-in. configuration to \$30,633 for the 10-row, 30-in. machines. The Ohlman's are working with dealers but are also selling the machines direct.

Contact: FARM SHOW Followup, Kevin or Don Ohlman, 313 "G" St., Central City, Neb. 68826 (ph 308 946-3263; email: crealty@cconline.net).



"It cuts and mixes residue into the soil as it rebuilds ridges," say Don and Kevin Ohlman, who came up with what they say is the ultimate, one-pass ridge-till tool.



Bucket-mounted lights automatically tilt up and down with bucket, so they shine exactly where the light is needed.

Bucket-Mounted Tractor Lights

"I use them all the time - I can't believe how well they work," says Jim Kaczmarek, who installed a row of lights on a front-end loader bucket.

"I can tilt the bucket up or down to shine the light exactly where it's needed. For example, when I tilt the bucket down to dump dirt, the lights shine right on the dumping area. Even if a tractor has good lights, I think bucket-mounted lights would work much better because they automatically tilt up and down with the bucket."

Kaczmarek mounted four 65-watt sealed

beam lights along the top edge of the bucket. He drilled holes in the bucket to mount the light. The wiring for the lights runs through a length of square tubing just above the lights. The lights operate off the tractor's battery and are turned on or off by a pair of switches mounted on the tractor dash.

Contact: FARM SHOW Followup, Jim's Repair, 16330 Goodwin Ave., Hastings, Minn. 55033 (ph 800 618-8738 or 651 437-7199; email: jimsrepairjimstractors.com or bkacz@jimsrepairjimstractors.com).

"Slope-Proof" Spray Rig

"When using a spot sprayer on my ATV to spray along fences on hilly ground, it was always frustrating when you were on a sideways slant and the sprayer inlet tube would become exposed, so the sprayer would start to sputter or simply pump air," says Don Sharow, Camp Point, Ill.

"To remedy the problem, I built a cart that elevates the spray tank and then I made a reservoir which mounts in the cart below the main tank. The spray tank pulls chemical out of the reservoir. I drilled two holes in the bottom of the main tank, one on the left side and one on the right. The reservoir is made from 24-in. length of 8-in. dia. pvc pipe with

caps fitted on both ends.

"I drilled three holes in the top of the reservoir tank - two for the feed lines coming from the bottom of the main tank and the third hole for a vent pipe leading back into the top of the main tank. A fourth hole in the bottom of the reservoir becomes the new inlet feed line to the pump.

"Common 5/8-in. garden hose is used for feed lines to the reservoir and vent line and I used reinforced hose for the line to the pump.

"I have shutoff valves in both lines from the main tank so that when I refill I don't end up with a poor mix of herbicide and water in the reservoir. Once the chemical is mixed

up, I open the shutoff valves to allow the reservoir to fill.

"I recommend filling the new setup with plain water and then going for a ride over your roughest ground to test for leaks. Experience has taught me that since the main tank is elevated, the whole thing is top-heavy and the axle needs to be wider to stabilize the load.

"Now I can take the spot sprayer anywhere to spray weeds, no matter how rough the terrain."

Contact: FARM SHOW Followup, Don Sharow, 1842 E. 2200th St., Camp Point, Ill. 62320 (email: donzsb@adams.net).



Spray tank mounts on an elevated cart and pulls chemical out of a reservoir that mounts in cart below the tank.

Heavy Duty Grapple Fork Can Break Up Concrete

"We think it's the most powerful grapple fork on the market," says Greg Gregory, Sidney, Iowa, about his new heavy duty grapple fork for skid steer loaders.

The "Gregory Grappler" is designed for skid loaders with a minimum of 40 hp. It's made from high tensile, 1-in. thick steel. Both the upper and lower forks are hardened and gusseted for extra strength. The forks pivot on a 2 1/2-in. dia. shaft inside a machined and greasable bushing.

"It has super clamping power, which allows it to handle everything from concrete demolition and steel I-beams to big round bales," says Gregory. "It also works great for removing brush, large trees, rocks, and fence posts. You can use it to break up concrete in a fraction of the time it would take to use a jackhammer or other conventional methods. The bottom tines can penetrate the ground under the concrete and break it up into manageable sections which you can then haul away. Concrete with rebar isn't a problem - simply clamp onto a section of concrete and bend it back and forth to break the steel, then load it into a truck. You can let the material down into the truck more gently than you could with a loader."

According to Gregory, using their grapple fork this way eliminates the need to pre-break the concrete, which reduces removal time by



Grapple fork can be used to break up concrete much faster than a jackhammer or other conventional methods.

as much as 80 to 90 percent. "We've sold several units to contractors who have used them to remove up to 1,000 sq. ft. of concrete per hour."

In the closed position, the fork tines pass within 8 in. of each other, allowing you to use the grapple fork as a ripper or scarifier, he notes.

Sells for \$3,150 F.O.B. Sidney, Iowa.

Contact: FARM SHOW Followup, Sidney Mfg., N. Hwy. 275, Sidney, Iowa 51652 (ph 712 374-3366; fax 712 374-2822; email: Info@GregoryGrappler.com; website: www.gregorygrappler.com).



"It has super clamping power, which allows it to handle everything from concrete demolition and steel I-beams to big round bales," says Greg Gregory about his new heavy duty grapple fork for skid steer loaders.

Reader Recipes

We're looking for unusual, innovative, or just plain good-tasting recipes. If you have a favorite you'd like to share, send to: Reader Recipes, P.O. Box 1029, Lakeville, Minn. 55044 or E-mail: Recipes@farmshow.com

Bean Bread

1 1/2 cups baked beans
1/2 cup butter
1/4 cup brown sugar
1 large egg
1/2 tsp salt
1 3/4 cup whole wheat flour
2 tsp baking powder
1/2 tsp cinnamon
1/2 tsp nutmeg
1/4 tsp fresh ginger
1 cup walnuts

Preheat the oven to 350°. Mash the beans with enough water or stock to make them moist but not soupy. Cream the butter and sugar. Beat in the egg. Add the dry ingredients and mix well. Spread into a greased and floured loaf pan and bake for 45 min. Makes one loaf.

Anne Gray in
Rural Delivery

Lima Snacks

1 12-oz. box frozen baby lima beans
1 tbsp oil
1/2 tsp garlic salt

Allow frozen limas to thaw completely on an absorbent towel. In a shallow bowl, toss the lima beans with the oil, coating thoroughly. Spread the coated beans in a single layer on a cookie sheet. Sprinkle with garlic salt and any other seasoning that you favor. Bake at 350° for 30 min. or until the beans are toasted with a crunchy texture. Serve at room temperature.

Removing Grease Stains

- Rub mechanic's hand soap on the grease spot and wash as usual
- Use 1 to 2 cups of white vinegar along with your laundry detergent. You can put it

(Continued on next page)



Sling fastens to handle on car seat, holding baby bottle at the right height for do-it-yourself feeding.

Baby Bottle Sling

If you've ever driven around with a hungry baby in the back seat who's too young to hold a bottle, you'll appreciate the Ergo Baby Bottle Sling that attaches with Velcro to the handle on a car seat.

The sling holds a standard size baby bottle at just the right position so the baby can pull it toward him or her.

When you're busy, you can put the baby in the seat in the house and give him or her a bottle while you go about your duties.

Sells for \$14.99 plus \$2.95 S&H.

Contact: FARM SHOW Followup, Ergo Products & Design, P.O. Box 12225, Glendale, Ariz. 85318 (ph toll-free 866 644-6360 or 623 825-4460; website: www.ergopro-design.com).



"Not-A-Crock" uses a 3 1/2 or 5-gal. plastic pail to keep vegetables completely sealed at all times during the fermenting process.

New Way To "Crock" Vegetables

"It's a wonderful way to preserve fresh vegetables without the hassle and mess of using conventional earthenware crocks," says Justin Wielenta, Life Mission, Gaines, Penn., about his new "Not-A-Crock" system of fermenting fruit and vegetables.

The system keeps vegetables completely sealed at all times during the fermenting process. It consists of a food grade 3 1/2 or 5-gal. plastic pail with an airtight screw top lid; a "breathable" bungee adapter attached to the lid; and a natural granite, acid-resistant stone weight that goes into the pail with whatever you're fermenting. The stone weight is made in two 5-lb. halves, with a finger hole in the middle.

To use, you simply place your vegetables along with seasonings in the Not-A-Crock to within about 2 in. of the top of the pail, then place the stone weight and put the lid on, leaving about 1 in. of air space between the stone and lid. Then allow the food to ferment for two weeks. The bungee has a one-way flap-valve on it that will open periodically, allowing any gases that form to exhale.

"It has a number of advantages over earthenware crocks," says Wielenta. "Crocks are heavy and inconvenient to use, and every two weeks after the initial fermentation you have to scrape off a top layer of yeast growth. Our unit is completely sealed so no yeast can form. Also, there won't be any loss of liquid due to evaporation. And the pail's contents aren't exposed to the atmosphere so there's no contamination.

"The 1 1/8-in. thick stone doesn't take up a lot of space which maximizes the area for vegetables," he notes.

Life Mission doesn't "sell" the unit but recommends an \$85 donation, plus S&H.

Contact: FARM SHOW Followup, Justin Wielenta, Life Mission, Box 87, Gaines, Penn. 16921 (ph 814 435-6834).

FARM SHOW®

New Products Especially For Women And The Farm, Ranch Home

Pogo Seat Makes Pickin' Fun

The need to stoop and squat to pick berries is a thing of the past thanks to a nifty strap-on stool from Kruuse, a Dutch company. Called the Port-A-Stool, Texas Milking Stool or Strap-On Milk Stool, the one legged, spring-loaded stool lets you bounce down the berry aisle like a kid on a pogo stick.

A nylon belt wraps around the waist. Three short straps run from the belt to the seat of the stool and adjust to snug the seat up to the wearer's hips.

Sue Hazeltine, Janesville, Wis., enjoys using the spring-loaded stool when picking strawberries. "I just bounce along from plant to plant," she says.

Contact FARM SHOW Followup, Marcia Miquelon, University of Wisconsin Healthy Farmers, Healthy Profits Project, 460 Henry Mall, Madison Wis. 53706 (ph 608 262-1054; website: <http://bse.wisc.edu/hfhp/>).



One-legged, spring-loaded strap-on stool lets you bounce along from plant to plant.



Bill Koch uses old horse-drawn dump rakes to make unique picnic tables.

Rake Wheel Picnic Table

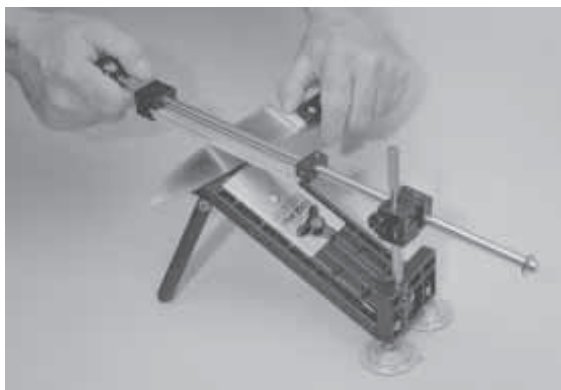
"We've made four of these picnic tables so far for people who want something unique that's actually a part of the history of farming," says Bill Koch, Raleigh, N. Dak., who uses old horse-drawn dump rakes to make picnic tables.

One of the main transport wheels is used for the table top, with the spokes supporting a flat piece of expanded metal mesh. The hub at center can be fitted with an umbrella or even a rotating lazy susan table.

The base is a packer wheel, stabilized with four spring tine rake teeth that extend up to the spokes under the tabletop.

"When completed, we paint as requested. It's an attractive, functional table that makes a great conversation piece."

Contact: FARM SHOW Followup, Bill Koch, 7650 46th Ave., Raleigh, N. Dak. 58564 (ph 701 597-3891).



"It removes only a fraction as much metal as a conventional sharpener," says Ben Dale about his new knife sharpener.

State-Of-The-Art Knife Sharpener

"It sharpens the blade at exactly the same angle on both sides and works faster than sharpening with a conventional stone. Also, it removes only a fraction as much metal as conventional grinding," says Ben Dale about his new knife sharpener.

The Edge Pro "Apex" consists of an injection-molded nylon frame that's held down by a pair of suction cups. (It can also be bolted down). A stainless steel plate supports the knife, while a pivot block on back is used to adjust the blade angle. The sharpening stone mounts on a rod that goes through the pivot block, which has marks on it that indicate blade angle. The angle is adjusted by loosening a knob and sliding the pivot block up or down.

To sharpen the blade, you use one hand to hold the knife handle and the other hand to run the stone back and forth along the rod, starting at the heel of the knife and working toward the tip. Once one side of the blade has been sharpened you flip the blade over and repeat the process.

The unit will sharpen any size or shape blade up to 3 1/2 in. wide, including serrated knives. Blade angle can be set infinitely, with indicator marks at 10, 15, 18, 21, and 24 degrees.

"Our sharpener lets you resharpen blades at exactly the same angle that was used the last time, which makes resharpening very fast and removes the least amount of metal possible. If you're sharpening the blade for the first time and don't know the angle but want to match it, you can do that, too."

Sells for \$125 plus S&H.

A professional version is also available.

Options include a scissor/chisel/plane blade attachment that will sharpen planer blades, flat chisels, and most gouges.

Contact: FARM SHOW Followup, Edge Pro Sharpening Systems, Box 95, Hood River, Oregon 97031 (ph 541 387-2222; email: edgepro@gorge.net; website: www.gorge.net/business/edgepro).

Elevator Eliminates Stair Climbing

It's not cheap but if you or a family member cannot negotiate stairways, you might want to consider a home-size elevator.

The LEV elevator can be retrofitted to existing homes or installed in new construction. Price ranges from \$18,000 to \$20,000, depending on installation.

It features an accordion gate; two recessed lights; wood handrail; plywood floor; car operating panel and hall stations in brushed stainless steel or brass; a battery backup emergency light and alarm; stop switch; automatic car lighting; and digital floor position indicator.

The electric-operated elevator has a capacity of 950 lbs. and can travel up to 50 ft. It rides on two no. 60 roller chains and makes five stops.

Because it operates on a chain drive system with a counterbalanced weight system, it doesn't require a separate machine room for hydraulics or a winding drum mechanism. The drive system and controller are housed inside the top of the hoistway.

Contact: FARM SHOW Followup, Access Industries, 4001 East 138th St., Grandview, Mo. 64030 (ph 800 925-3100; fax 816 763-4467; website: www.accessind.com).



LEV elevator can be retrofitted to existing homes or installed in new construction.



Foot-operated lever applies downward pressure to hold fish in place.

One-Handed Fish Cleaner

Following a farm accident in 1981 that cost him his right arm, George Reesor found there were very few tasks that he couldn't do with one hand. Cleaning fish seemed to be one of them. After giving the matter a lot of thought, he came up with a one-handed fish cleaner.

It's simply a 3-legged wooden bench with a piece of plywood for a work surface. An 18-in. length of 1 by 1 1/2-in. light metal tubing fastens to the end of the bench with a hinge, and a small plywood pad is bolted to one end of the tubing above the work surface. Two nails, spaced about 3/8 in. apart, protrude 1/4 in. through the plywood pad. A foot-operated lever, attached to the single leg directly below the hinge, is used to apply downward pressure on the pad to hold the fish in place. A piece of scrap wood at the other end of the tubing acts as a counterweight to hold the pad in the raised position.

"With this device, I'm now able to keep making use of the free protein that's swimming around in our farm pond," says Reesor.

Contact: FARM SHOW Followup, George Reesor, 11893 McCowan Rd., Rt. 4, Stouffville, Ontario, Canada L4A 7X5).

Flower Pot Clamps Onto Post

This new flower pot is made of two halves that clamp together around the base of your mailbox or any 4 by 4 post. There are 1 1/4-in. dia. holes in the sides for flowers to grow out of.

"It can be used on mailboxes, porches, patios, decks, or any other pole," says inventor Bill Taylor.

The Post Planter is made from weather resistant urethane and measures 17 in. high and 17 in. in diameter at the top and 9 in. diameter at the base, with a 4-in. sq. hollow in the middle where the two halves join. Each half attaches to the other with four transparent 1-in. plastic clips at the top and a clear 30-in. cable strap at the bottom. Each half can be used separately by drilling holes in the back side and screwing the half onto a deck rail, siding, etc.

"Each half weighs only 1 lb. so they're easy to set up and move," says Taylor. "If you want you can set the flower pot up high on a post and have vines cascading down it. Just screw a 2 by 4 to the post to serve as a base."

Available in terra cotta and sandstone colors.

Sells for \$59.95 plus S&H.

Contact: FARM SHOW Followup, Taylor Deckorate, P.O. Box 178, Roscoe, Ill. 61073-0178 (ph 866 393-7322 or 815 623-8828; fax 815 623-8988; website: www.taylordeckorate).



Flower pot is made of two halves that clamp together around the base of mailbox or any 4 by 4 post.



Each half can be used separately by drilling holes in the back side and screwing the half onto a deck rail, siding, etc.

Do Friends & Neighbors Borrow Your FARM SHOW?

You probably don't mind sharing your copies of FARM SHOW with friends, neighbors, relatives or co-workers, but wouldn't it be nice if they all had their own subscriptions? Now you can "gift" a year of FARM SHOW to anyone and renew your own subscription at a cut-rate price. See enclosed order form or call 1-800-834-9665 to order.

Reader Recipes

(Continued from page 30)

directly into the water or into the fabric softener dispenser.

- Rub Pine-Sol or Mr. Clean on the grease spot and wash as usual. Your can also use 3/4 cup of either along with your laundry detergent.

- Rub Dawn or Palmolive dish soap on the grease spot and wash as usual.

- Include a 1/2 cup to 1 cup baking soda with your normal detergent.

- For set-in stains, spray WD-40 on the stain, and let it sit for 30 min. Then wash the garment as if it had a fresh grease stain.

- Spray a generous amount of hairspray on the stain, and wash as usual.

Custom Harvesting

Carrot Pudding

2 cups flour
1 cup white sugar
1 cup brown sugar
2 tsp baking soda
2 tsp cinnamon
2 tsp nutmeg
1/2 tsp cloves
1/4 tsp salt
2 cups dry breadcrumbs
1 cup melted butter
2 cups grated, peeled carrots
2 cups grated, peeled apples
2 cups grated, peeled potatoes
1 cup raisins
1 cup walnuts

Combine first nine ingredients and stir in melted butter. Then add rest of ingredients. Spoon into greased coffee tin. Cover with aluminum foil held on with an elastic band. Steam in 1 1/2-in. deep water for 3 1/2 hours. Cool covered for 30 min., then take out of mold and put on cooking rack.

Can be frozen and doesn't need to be ripened.

Debbie Chikowsky in Grainews

Performance Boosting Tips From Combine Expert

Combine specialist and performance parts supplier George Kuchar has spent the better part of 35 years working with combines and combine operators across the U.S. and Canada. He gives seminars to combine owners to help them better understand their machines and improve performance. (You can reach Kuchar by phone at 217 854-9838 or by email at kuchar@ctnet.net.)

Kuchar says farmers only have to spend a few days each year and minimal dollars to better maintain their combine, do a better job of harvesting, save repair bills, and make more money from their crops. Kuchar tells farmers attending his combine seminars to go over their machines like a doctor giving a thorough physical. Start the diagnosis, Kuchar says, at the front of the machine, where the sickle meets the grain.

Sickle Timing

Time the sickle in the center of the platform, not on one end or the other. The center section on the head should always stop in the center of the guard. That being done, the sickle will cut uniformly and not tear plant stems and shatter the heads or pods, which can leave 1-2 bushels per acre on the ground.

Reel Setting

Reels are often set too fast or too slow. Either way can shatter grain or cause the platform auger to reject material. Kuchar says his rule of thumb is to set reel speed slightly faster than ground speed. "The reel should look like it's pulling the machine through the field," Kuchar says.

Also, locate the reel as far forward and as high as possible for crop conditions. The fingers should gently tip the crop toward the auger, not lift it or throw it on top of the auger.

Auger Setting

Kuchar says that slowing the auger speed will help it feed material evenly off the sickle. If it runs too fast the material is thrown back toward the sickle and won't move evenly into the auger and the feederhouse. About 130-140 rpm's is the best speed; 170-190 rpm's is too fast. Change the chain sprocket to set the speed.

On many machines, the auger moves more material to the sides of the feederhouse rather than to the center. It should feed evenly across the width of the feederhouse. You can improve feeding to the machine by removing some of the fingers in the auger. Kuchar suggests removing 3 fingers from each side nearest the edge of the feederhouse to make it feed more evenly. On rotor machines, remove the same number of fingers.

Kuchar says you can look at the paint wear patterns on a new head and tell a great deal about what is happening. On many machines there isn't any wear on the center of the auger, which isn't a good sign. This means that material is feeding too much to the sides and not enough to the center.

Auger Flighting

The main auger should not be sharp to the touch like a knife, it should be smooth on top and sharp on the edges. If it's sharp to the touch, it could be damaging grain as it feeds into the machine. Kuchar recommends grinding the top edge of the auger flat and to also make sure any bends are removed.

Another area to check is the length of the auger flighting. Kuchar says flighting should never extend more than 3 inches past the opening of the feederhouse. If it does, cut the flighting back and material inflow will improve. On pickup headers the length of flighting isn't as critical because the material is already in a swath and not feeding from the sides.

Kuchar says that operators should be careful not to run dirt into their machines. Excessive dirt can cause auger damage in as little as 150-200 hours. Normally auger wear wouldn't occur until 1,200-1,400 hours. Rasp bars and the leading edge of the concave are also subject to abnormal wear when dirt runs into the machine.

Feederhouse

Make sure the chain has the proper tension by checking specifications in the operator's manual. The correct tension should allow you to slide a piece of paper under the chain and remove it without pinching. If the chain is too tight, sprockets and bearings will wear too fast. Chains should run for 2,000 hours or more, but can wear out in only 1,000 hours if the machine has been taking in dirt or if tension is incorrect. Worn chain

becomes longer in the pitch and doesn't fit the sprocket, eventually wearing out the rear sprockets sooner than normal. If there's more than 1/8" inch play in the chain, plan on replacing it.

Kuchar says operators should also check to be sure the feederhouse chain is installed correctly. The leading edge of the chain feeding into the machine should be the taller part of the slot, not the other way around. In his travels, Kuchar has seen many machines with the chain installed backward, which reduces capacity and can damage grain as it feeds into the cylinder.

Lubrication Records

Keep an annual record of engine and separator hours and the hours when regular maintenance and lubrication took place. Good records with a used machine justify a higher asking price when it's time to trade or sell.

Cleaning

Always clean your combine in the fall before storing it. Use high pressure air to remove dust and chaff buildup. Don't wash it in the fall. Reserve washing for warm weather when the machine has ample time to dry off and won't freeze. Also, never point high pressure water at the bearings.....moisture will penetrate and shorten their workable life.

Greasing

Always grease when the machine is warm or when the weather is warm, so the bearings take the lubricant. If the weather is cold, grease when you finish for the day so the grease easily moves into the bearings.



Kuchar concave, right, is designed to increase productivity by reducing backfeeding and the amount of accumulated residue, such as that shown on OEM concave, left.

Oil Change Before Storage?

Some people recommend changing oil before storage, and that's fine, but Kuchar doesn't think it's absolutely necessary. Says George, "I don't think impurities in the oil damage an engine that sits all winter. My preference is to leave the old oil in the machine over winter and change it in the spring or summer. That way, if any condensation builds up over winter, you're getting rid of the condensation plus the old oil when you change it before harvest. Before changing the oil, always warm up the engine to normal operating temperature.

A good way to check for possible engine problems is to examine the oil filter. After removing a used filter, cut it in half and look for metal particles or shavings in the filter element. If any are present, the engine may be experiencing unusual wear that should be checked by a mechanic.

Chopper

Check bearings, belts and hammers. Hammers with more than 1/4 wear should be turned. Any hammer that's cracked or broken should be replaced. Remember that an even number of hammers should surround the shaft in each rank.



Because combines are built to handle a wide variety of crops and conditions, it's up to the owner to "customize" his machine for his own particular situation.

An uneven number causes imbalance and excessive wear on the bearings.

Belts

Any belt that shows splits or cracks should be replaced. The feederhouse belt is very important. If it becomes worn, slippage can occur and the machine doesn't feed properly. Make sure it is properly tensioned, not too tight or too loose. It's easier to replace belts before harvest than it is in the field.

Chains

Any chains should be checked for wear and stretching. If lubrication is necessary, use special chain lubricant rather than engine oil. The best time to apply lubricant is when the chain is warm after you're done operating for the day. This will allow the surfaces to accept the lubricant and disperse it into the rollers. Never apply chain lubricant on a cold day or when the machine is cold.

Discharge Auger

Be sure that the discharge auger flighting is flat and shows even wear. Anytime an auger has sharp rather than flat edges on the flighting, grain may be damaged. On the 9000 series Deere models, the top of the discharge auger can wear unevenly, causing cracked grain.

Sieves

Deere 9000 series sieves are generally good for 3,000 hours before bearings need to be replaced. If a machine has 4,000 hours or more, Kuchar says all the bearings should be closely checked and probably replaced. If a bearing goes out during operation, you can damage a sieve and the shoe, and that will be very expensive to replace. The 9000 has a 7-piece sieve and chaffer system, more moving parts than the STS models, which have one chaffer and one sieve.

Case-IH Sieves

The rotor machines have a larger sieve that needs to be checked. If the sides are showing signs of wear, replace the bearings and bushings.

Concave

Wear usually occurs in one spot, typically in the center where most of the material feeds in. Wear can also occur on both sides and not in the middle. If the machine is running at full capacity and calibrated properly, wear should occur evenly across the cylinder and the concave.

A worn concave will reduce threshing ability, lower the capacity, and might damage grain. Kuchar advises operators to check the wear every fall before harvest. Reset the cylinder/concave clearance to the recommended specifications every 500 acres.

Rasp Bars

On rotor machines, if wear shows on the first 2 feet of the rotor, adjust or replace as necessary. On a cylinder machine, use the wooden pencil test. Place a wooden pencil in the bars and if the wood sticks out from 1/16" to 1/8" of an inch, the bar needs replacing. You can operate the machine with

worn rasp bars, but you're losing efficiency, it pulls harder, it doesn't thresh as well, and you're using more fuel. Replace the bars and you'll pay for them in one season with better productivity and better capacity.



Kuchar filler plates reduce cylinder vibration by keeping dust out of cylinder.

Filler Plates For Concaves Rotor Machines

In soybeans use a filler plate under the first concave to keep pods out. In wheat fill the first concave and half the second one. No filler is needed for corn.

Cylinder Machines

In soybeans plug the first two slots. In wheat fill 4 or 5 slots, depending on how hard it threshes. In corn don't use any fillers.

Cornheads

Check for wear at the point where the cob hits the deck plate. If these areas are wearing, replace the deck plate.

The auger on the corn head should be set high enough so there are always full ears below the auger when it's running empty. This setting prevents the auger from damaging kernels. Also, you can install a large sprocket to slow the auger speed, which causes less damage to grain.

Snapping rollers will usually show wear in one spot. Once this starts the rollers should be changed. If they're not working efficiently, there's trash going into the machine, and that's cutting capacity, because trash takes up room. If there's extra trash going in, open up the deck plates and make sure only ears are going in. Too much trash going into the machine could also mean that the head is running too fast.

Don't speed up the head intending to chop the stalks. Extra speed means extra head loss because ears hit the plate and you're losing kernels that shell off the bottom of the ear. A better suggestion is to install knife rolls, and Pixall makes good ones.

Engine & Drive Train

- Check the transmission fluid level and color. Replace the fluid and filter every 500 hours.
- On the air filter, don't touch it until the warning light comes on. Don't clean it every day, just when it needs it. Don't clean the inside safety filter, just the outside one. Be careful not to poke a hole in the filter, because then the engine can intake dirt, which will cause major problems.

- Drop the belt on the alternator and spin the pulley. Do the same on the starter. If there's a grinding sound, the bearings could be going.
- On older combines, check the injectors, which are the most neglected part on the machine. Tracking pressure should be checked every 1,000 hours. Many times the pump is not set up high enough, so engine power is low. Faulty injection pumps could be losing 10, 15, 20 and even up to 50% of the power.
- On the Deere 20 series, Kuchar says an operator can turn up the high idle to provide additional power, but not more than 5-10 rpm over factory recommendations.

Kuchar says, "I've seen machines where the power has been improved and we've gone from 2.5 to 7 miles per hour, and the operator just didn't believe it." He recommends having a good pump man go through the pump and injectors every 1,000 hours. They can run 2,000 or 2,500 hours, but preventive maintenance at lower hours keeps performance levels high.

"What most people don't understand," Kuchar says, "is that the factory has a window for pump settings, a high and low. About 90 percent of the machines are set on the low end, which provides less horsepower, and less potential for breaking parts on the machine. Many machines are set below the bottom spec level. If they're near the top end of the power range, the machine will operate more efficiently."

Says Kuchar, "If you haven't got power, you haven't got a productive combine. Go over the motor with a fine tooth comb. Figure on putting \$500-\$600 into the injectors and pump every 2-3 years. Poor injectors can kill the power curve. Injectors can wear out in the first year, but most last 2-3 years."

Other Machine Checkpoints

- Make sure the concave is level and always adjust the concave to cylinder. Always use the high bar on the front and the back for adjusting.
- Spring tighteners should be loose, not stuck in an open position. If one sticks, the belt will slip and won't slow down enough for the monitor to pick up the change, but it will cause poor performance.
- Sieves should be taken apart and cleaned every year with air pressure so they adjust easily. If they're dirty, they're hard to set and may be set inaccurately.
- Electronics, computer, monitor and GPS.....never use water to wash these machine components. Use air and blow off the dust. Check wiring harnesses for corrosion. Spray an anti-corrosion product on the wiring connections to make the connections absolute so the ohms are up to spec.
- Top off the radiator fluid and check hoses and connectors. Replace fluid and flush the system after 1,000 hours.
- Clean the air filter before the start of each season. Replace the air filter after 500 hours or once a year.
- Top off transmission fluid and change fluid and filter after 500 hours.

"A lot of farmers don't want to take the time to check and clean and examine a combine before harvest. Doing a good job of checking and lubricating and cleaning can take 3-4 days, and that's the best time a person can spend. Chances are you'll catch things before hand and then replace or correct the problem. Time spent before harvest saves you downtime in the field."

Kuchar says, "I figure that combine downtime can cost anywhere from \$300 to \$400 an hour, depending on the size of your operation. If you save a couple breakdowns by thoroughly going over the machine before harvest, you've saved two to three thousand dollars. That's a lot of money in anyone's pocket."

How To Buy A Great Used Combine

With the high cost of buying a new combine, farmers across the country are looking for ways to rebuild and revamp older machines or purchase used models with low hours. The used market is getting tighter every year because manufacturers aren't building as many new machines and dealer inventories of used machines are down. Buyers often have to search many lots or auctions for a model with the options and/or accessories they want.

Once you find a machine, you can't assume that it's "field ready" just because the dealer or auction bill says so. George Kuchar, who has more than 35 years of combine mechanical experience as a farmer, a custom harvester and most recently as a performance parts supplier, helped us develop a "checklist" of what to look for when you're evaluating a used combine.

Check Hours, Not Acres

The real test of a machine's use isn't the number of acres the machine has harvested, it's the total hours on the engine and the hours on the separator. The total hours show the length of time the engine has run, while the separator hours indicate the actual hours the machine has spent threshing. Kuchar says a high hour machine isn't a problem, as long as the unit has been well maintained. Without proper care, however, even low hour machines can have problems.

George's rule of thumb is that most machines will operate without major repairs for 1,000-1,200 separator hours. Beyond that, an owner can expect to replace the concave, the rasp bars, the chopper knives, and worn belts in the next 1,000 hours. Machines that have 4,000 hours or more may be totally re-built and have 1,500-3,000 more usable hours.

When looking at used machines, thoroughly check the available maintenance records and look for any "red flags" that might indicate repeated problems. If you're not confident in reviewing the records or examining the machine yourself, have an experienced mechanic go over the records and machine with you.

Look For Chaff & Worn Parts

Physical appearance is the first way to judge a machine. If there's evidence that chaff has collected around the bearings, behind the shields and on the frame, and if that chaff looks like it has been matted down and rained in place, that's a sign of poor upkeep. Kuchar says any chaff that stays on a machine over winter collects moisture, even if the machine was shedded. That moisture buildup, says Kuchar, reduces bearing and seal life.

Even if a machine looks clean, Kuchar says to remove or look behind every shield. If wear points show up next to pulleys, that could be a sign the machine wasn't cleaned during harvest.

Another area to check for discolored paint is on the engine and in the engine compartment. If paint on the header covers or underneath the engine hood is discolored or burned, the engine may have been overheated. You may want to seriously inquire about the condition of the engine to determine if it has been overhauled or worked on recently.

Check Lubrication

Examine the lube fittings on shafts and greaseable bearings. If they look dry and unused, perhaps the operator neglected daily and seasonal greasing. If the machine you're examining is on a dealer lot, ask to lube the machine and see if fittings accept grease. Any that don't should be "flagged" and repaired or replaced by the dealer.

Check Fluid Levels

Regular oil and fluid changes should be a part of preventive maintenance, but some of today's fast-paced operators may overlook that job and just top-off the engine oil, the transmission fluid, and the radiator fluid. If the machine you're serious about is on a dealer lot, pull a sample of the engine oil and the transmission fluid. Have an oil analyst check the oil for purity, acid content and small metal or dirt particles. If the oil checks out, the fluids were probably changed at recommended intervals. If it doesn't, the engine and/or transmission may be experiencing irregular wear, a costly problem you may not want to assume. Also check the color of the radiator fluid and be sure that hoses and connections are sound.

Header

- Examine the sickle and wobble box drive for excessive wear.
- Examine the reel, its bearings and teeth for wear.
- Examine auger flighting, fingers and bearings.



Kuchar travels across North America working on combines of all kinds. He says you can find an excellent used combine if you just spend a little time going over it before writing a check.

- Examine the frame and be sure the mounting brackets aren't cracked.
- Examine pulleys, shafts, sprockets, chains and belts for wear.
- Make sure fittings accept grease.
- Check under the head to determine the condition of the wear plates.

Feederhouse

- With the head removed, examine the chain. Check for wear on the bars and in the links.
- Determine if there is wear or damage to the rear sprockets.
- Check the feederhouse floor for wear and determine if it needs to be replaced.
- Examine the drive shaft, gears, bearings, and belts.
- Examine the housing sidewalls for stress fractures.

Harvester

- Gradually roll the cylinder and look for cracks on the drive spiders.
 - If rasp bars appear worn, bent or out of shape they should be replaced.
 - Filler plates should be clean and firmly bolted in place. Any fillers with stress cracks around bolt holes should be replaced.
 - Examine the concave from the front and from inside the machine. Determine how many hours the concave has been used and make a decision on whether or not the concave should be removed and visually checked. If the concave is pulled, examine the ribs and the pins and bushings to make sure they aren't cracked or broken.
- Kuchar says that some machines he works on show stress cracks on the concave mounting bolts. One Deere 9000 machine with only 200 hours had a stress crack on the bolt that the operator hadn't noticed. He tightened the mounting bolt several times, but continued to run the machine, which resulted in a stress fracture on the housing wall. The repair bill was well over \$2,000.

- Examine the beater and check for excessive wear and bent wings.
- Open and close the sieves to check for ease of adjustment.
- Check the fan for stress cracks. On new models with plastic fans, make sure all louvers are in place.
- Examine walkers and bearings for wear and stress cracks.
- Check the exterior housing of the machine for any signs of stress cracks or excessive wear.
- Examine bearings, seals and pulleys. Check the pulley sidewalls because machine operation with poor belts may have caused uneven wear.
- Examine the augers and auger flighting for wear patterns. Bent flighting on the header auger indicates that obstructions such as rocks or stumps have been encountered. It should be straightened. That's also a good indication you need to check the feederhouse chain, the floor of the feederhouse, and the cylinder for possible damage.
- The discharge auger should be rotated into unloading position and run at regular operating speed. Listen and watch the auger to be sure it operates smoothly. Check the base of the auger for stress cracks and check to be sure the drain

- door opens properly and that it isn't plugged.
- Examine the tank frame for stress cracks. Tanks with oversize extensions are susceptible to stress around the support brackets.

Chopper

Check the sheet siding around the bearings on the chopper. If the chopper was operated while out of balance, cracks may be showing on the rear hood. Also look at the hammers for uneven wear.

Belts

Most likely to wear are the beater belt and the variable speed cylinder belt. If they are burned, or if the pulley is burned, that means there was slippage caused by plugging or overloading and not having the belt tight enough. If the belts have a burned spot, they'll have to be replaced.

Power Train

- Examine the engine for oil leaks around the heads and for water leaks around the water pump and hoses.
- Remove the belt from the alternator and roll the pulley by hand. If it's difficult to turn or if there's a grinding sound, the alternator needs replacing.
- Check the radiator liquid for color and clarity.
- Check the battery cable connections, the ground to the machine, and the cable to the starter.
- Start the engine and run it at idle speed until it reaches normal operating temperature. Then run it up to full throttle and back. Check idle speed and listen for unusual sounds around the engine. Start the harvester and observe operation at idle speed and at full throttle. Visually check bearings, belts and shafts. Listen for unusual sounds inside the machine and around the feederhouse and the head.
- Drive the machine in all gears or throughout the range of the variable speed drive. Check the brakes and clutch operation.
- Check the transmission fluid level and look closely at the fluid color. It should be clear and clean.

Cab

- Check all electronic controls, including switches, lights, and gauges.
- Be sure sensors and monitors all work.
- Check that air conditioning, heater and fan all work.
- Check seat and adjustments.
- Turn on lights and hazard lighting.
- Check GPS system.

Kuchar's Operating Tips

Older machines with smaller engines needed to run the cylinder faster. Now the newer machines have more horsepower and they can take material faster. With the faster ground speed, you need to run the cylinder faster, too. If you don't, there will be a bottleneck because the harvester is not moving material away fast enough.

When you run the cylinder faster, you're cracking less grain, because the concave is kept clean. With the slower speed, you can slug the machine and that cracks the grain. You need to have an even flow, and without it you're in trouble.

A combine is made to run full, not at half capacity. It's just like a race car.....they're made to run full throttle to utilize their power.

High Capacity Grass Catcher

"Whenever I picked up leaves or grass with the grass catcher on my riding lawn mower, I was able to make only a couple of passes around our yard before the hopper was full. So I decided to make my own large capacity leaf/grass hopper. All parts are easily accessible, and it holds much more material than commercial models," says Terry Benoit, Orange, Texas.

He used treated lumber for the frame and covered it with see-through window screen. The box rides on a pair of caster wheels and is hinged on back. It has a slide-in plywood tailgate. The front of the catcher bolts rigidly

to the lawn mower and follows directly behind it.

A large PVC pipe leads from the mower deck up into the box. "If the pipe plugs up with wet grass, I can easily unplug it by opening up the middle section of the pipe. I cut an opening in the pipe and installed a piano hinge and a handle for access," says Benoit.

"After the hopper is full, I back up to my mulch pile, raise the tailgate, and tilt the box back to dump the load on the ground."

Contact: FARM SHOW Followup, Terry Benoit, 1077 Bobcat Rd., Orange, Texas 77632



Home-built composter is made out of a 55-gal. drum and has an 18-in. door on one side.

Build-It-Yourself Barrel Composter

Garden catalogs and websites sell rolling barrel composters for \$100 or more. David Golden built his own for just a few dollars using a 55-gal. drum, some metal and wood scraps, and four \$5 lawn mower wheels. The composter works great to turn lawn and garden clippings into compost that plants love.

"I can turn a barrel of waste clipping into compost in one to two months," says Golden. "I try to turn it once a week or so."

Golden's composter is easy to fill. He cut an 18-in. hole in the side for a door, which he then fashioned out of sheet metal. A piano hinge on one edge and a snapspring catch on the other secures the door when the barrel is turning.

Inside the barrel, three baffles made from 1 by 3-in. wood scraps are screwed to the sides. As the barrel turns, the baffles mix the materials inside.

Once the barrel was complete, Golden wanted a way to easily turn it. An H-shaped workbench end support made from 1 by 2-in. steel tubing provided a frame for his barrel cart. All Golden had to do was attach lawn mower wheels and a hitch.

"I cut down an old Volkswagen towbar to fit and hooked the cart to my garden tractor," he says.

The wheels do double duty, holding and turning the barrel. As the cart moves forward, the wheels turn and the barrel spins in the opposite direction.

Golden kept the cart simple and didn't worry about a turning axle. It simply slides around turns.

Contact: FARM SHOW Followup, David Golden, 37 Gopher Lane, Ponderosa, New Mexico 87044 (ph 505 834-0009).

"Claw" Handles Thorny Trees

"My dad and I had to remove a quarter mile of hedge trees from a fence line. The trees have big, sharp thorns so dragging them around by hand isn't much fun," says Carl Walter, Spring Valley, Ill., who made a loader-mounted device to move the trees around.

The "Claw", as they call it, extends about 7 ft. in front of the loader bucket. They started by welding two lengths of 6-in. channel iron together to form a rectangular tube that bolts to the bottom of the bucket. The claw, which is about 1 1/2 ft. long, bolts onto the end of this tube. They used 4-in. channel iron to make two stationary fingers and a single, movable finger that's connected to a hydraulic cylinder. The movable finger rotates on a 1 1/4-in. dia. bolt and is controlled by a lever in the tractor cab.

A length of channel iron bolts on between the tube and one side of the bucket to provide side support. A chain between the claw and the top edge of the bucket provides vertical support.

"It saves a lot of work - we don't even have to touch the trees anymore," says Carl. "We use it with our Case-IH 5240 tractor. My dad drives the tractor and clamps the claw around the tree, then I use a chain saw to cut the tree off. He then lifts the tree up and hauls it to a



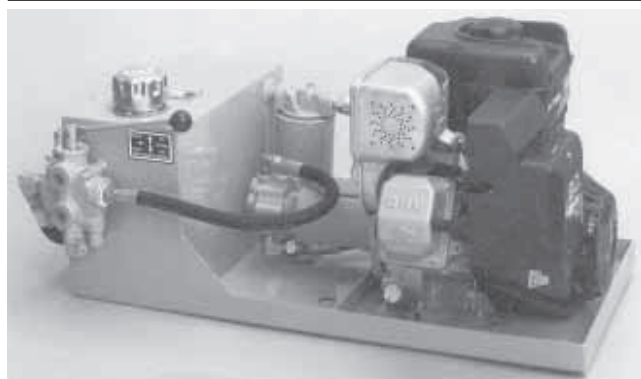
Tractor driver clamps the "claw" around tree while another person uses a chain saw to cut tree off.

wood pile. He doesn't have a good view of the claw so I guide him in and tell him when to stop and when to put pressure on the tree. The claw can grab trees up to 14 in. in diameter, but most of our trees are only 4 to 6 in. in diameter."

Contact: FARM SHOW Followup, Carl Walter, 16458 3100 E. St., Spring Valley, Ill. 61362 (ph 815 894-2813).



"It was cheap to build and holds much more material than commercial models," says Terry Benoit about his leaf/grass hopper.



Hydraulic kit includes a gear-type pump, 3-position control valve, and 6-gal. reser voir.

Self-Contained Hydraulic Power Kit

If you need hydraulics to operate an auger, wood splitter or other stationary equipment but don't want to tie up a tractor, you'll be interested in this new self-contained hydraulic power kit.

The kit includes a gear-type pump, a 3-position, 4-way control valve, and a 6-gal. reservoir. It can be purchased with or without an 8 hp Briggs & Stratton gas engine and is available in three different pump sizes that produce three different flow rates - 6, 7 1/2, and 8.4 gpm.

According to the company, the power units work great for powering hydraulic-driven

water pumps, mixing equipment, shop tools, and so on.

The 4-way control valve is spring-centered but can also be locked into a "held" position.

The kit is shipped unassembled - you put it together before use.

Sells for \$990 plus S&H with the engine; \$640 without. All prices F.O.B. Grand Rapids, Ohio.

Contact: FARM SHOW Followup, Buckeye Hydraulics, Inc., Box 500, 24247 W. Third St., Grand Rapids, Ohio 43522 (ph 419 832-2822 or 419 832-7391; fax 419 832-0255).



"Claw" consists of two stationary fingers and a single, movable finger connected to a hydraulic cylinder.



Unit is bolted to the end of a steel tube and extends about 7 ft. in front of loader bucket.

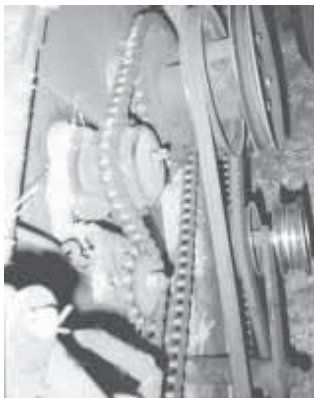


Photo at left shows normal belt operation. When baling short straw, Storch moves belt to add-on pulley and idler, right.

Pulley Change Lets Him Roll Up Short Straw

Baling short small grain straw has been a problem for Edward Storch, Mannville, Alberta, especially the last couple of years when his crops have been stunted by drought.

"We bale straw with a Case IH 8460 big round baler. When the windrows are light and the straw is short, the belts throw the straw back out again and you can't get a bale started," he says.

Storch solved the problem by slowing down the belt speed in relationship to the speed of the baler pickup.

He says making the change wasn't a huge problem. "I bolted on pulleys of a different size to the drive pulleys that run the belts," he says.

He says the hardest part was determining

the size of pulleys he needed in order to slow down the baler belts, while maintaining the proper pickup speed by using a lower pto speed.

Changing the drive belt from one set of pulleys to another takes less than a minute, since the baler has a belt tightener pulley on a spring that can be released with a wrench or even your foot.

"I was able to bale barley straw that was only 5 or 6 in. long after I made the change," he says. "I'd never been able to do that before."

Contact: FARM SHOW Followup, Edward Storch, R.R.4, Mannville, Alberta, Canada T0B 2W0 (ph 780 763-2214; email: storchkn@telusplanet.net).

CB Radio Irrigation Alert System

"It saves me a lot of trips to the field in the middle of the night," says Eldon Ekins, who recently called FARM SHOW to tell us about a CB radio alert system he rigged up that automatically lets him know when one of his flood irrigated fields has enough water.

Ekins notes that the watering time for each field varies with stream size, soil conditions, weather, etc. He wanted to reduce the number of trips he had to make to the field while irrigating.

The CB radio system consists of three components: a CB radio at home; another CB radio in the field; and a float/switch unit that activates the radio in the field. The field radio is powered by a small 12-volt battery. The radio, battery, antennae, and alarm are all housed inside a waterproof container. The battery is wired to the float/switch, which is housed inside a 2-ft. length of 4-in. dia. PVC pipe.

The radio in the field is set to transmit full

time and is without power until water elevates the float to the point where it completes a circuit that supplies power to the radio.

Ekins made the float from a small aluminum rod with a sealed empty pop can affixed to the bottom and guided vertically by two eyelets. He drilled a 1/16-in. dia. hole in the top of the pop can so it fills with water and settles back down, shutting off the radio after a few minutes. "It works as well as I had hoped it would and eliminates the need to keep constant vigil on the field," says Ekins.

"Before I came up with this system I shopped around for electronic gadgetry for the components, but I found that high tech materials would've cost \$1,000 to \$3,000. The total investment for my homemade version was about \$250."

Contact: FARM SHOW Followup, Delta Egg Farm, LLC, 9246 North 4000 South, Delta, Utah 84624 (ph 435 864-4991; fax 435 864-4994).

"No Drill" Spare Tire Carrier

There's no need to crawl under your pickup to get a spare tire with this new spare tire carrier that's designed to stand the tire up against one side of the bed.

No drilling is required to install the unit, which clamps in place along the side of the box. It can be positioned in front or back of the wheel well. "There are other tire carriers designed to hold the tire in the bed, but you have to drill holes in the bed to install them," says inventor Don Brown.

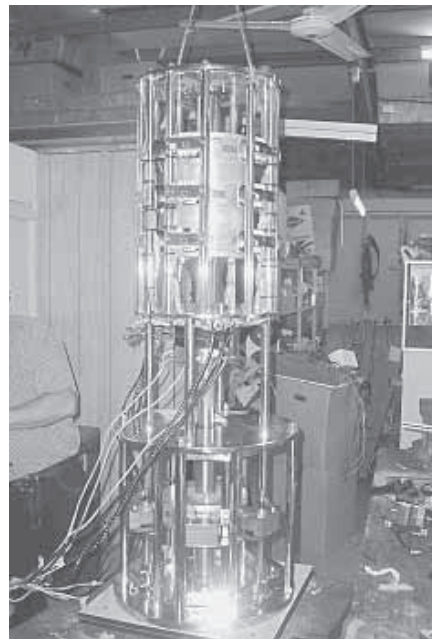
Sells for \$24.95 plus \$7.50 S&H.

Contact: FARM SHOW Followup, Two Hills Limited, 500 4th St., Box 214, Elliott, Iowa 51532 (ph 712 767-2420; email: twohills@netins.net).

Carrier is designed to stand spare tire up against one side of pickup bed.



Revolutionary new Lutec 1000 electrical generating unit is based on a combination of electromagnets and permanent magnets. It reportedly produces about 1,000 watts per hour more than it uses. The power of the permanent magnets and the copper windings are the keys to its efficiency, inventors say.



Make Your Own Electricity For Free?

A couple of Australian inventors are creating an international sensation with a revolutionary new electrical generating unit that they say produces more power than it consumes, something physicists say is not possible but which tests appear to confirm.

Called the Lutec 1000, this is not a Rube Goldberg contraption. Inventors Lou Brits, an electrician, and John Christie, a mechanical engineer, came up with the concept more than six years ago. Based on a combination of electromagnets and permanent magnets, their fifth and latest version of the motor/generator operates continuously, producing about 1,000 watts per hour more than it uses, or 24 kW per day. The power of the permanent magnets and the copper windings are the keys to its efficiency, they say.

The coil magnets use a mild laminated cool core wound with copper in such a way that they become temporary magnets with a like polarity to the permanent magnets at a crucial moment, so allowing the permanent magnet to be repulsed. Therefore they have a natural magnetic attraction and a natural magnetic repulsion. The stator is made of anon-magnetic material. They use 24 permanent magnets and 12 coil magnets. This arrangement allows the magnets to be repelled by the natural magnetic repulsion to generate power.

The magnets create a ping pong effect that allows less energy to be used in producing power. The coil magnets that are pulsed for just a micro second do not allow repulsion with the permanent magnets. The electricity

is produced by induction. There's no heat, harmful emissions or airborne matter involved in the transmission of electricity from the generation system. The magnets have a life of 1,300 years and the small battery pack has a life of about five years.

The Lutec 1000 runs cool, creates no exhaust or other pollution, and the permanent magnets have a life expectancy of more than 1,000 years. Brits and Christie use it to charge a battery pack. DC current from the batteries is converted to AC current with an inverter, so no changes are required to current wiring.

The pair were recently granted patents in the U.S. Their patent is also recognized in most of Asia and Africa. They are now negotiating with a U.S. company to produce and market their machine. Christie reports that if all goes according to plan, the Lutec 1000 should be available in North America within the next year or so.

Brits and Christie, who hail from small towns near Cairns (along Australia's northeast coastal area) figure their generating unit will sell for under \$5,000, making it affordable to most homeowners. Because it will produce more power than most domestic electricity users can consume, they figure Lutec 1000 owners will be able to help pay for their machines by selling electricity back to the power grid.

Contact: FARM SHOW Followup, Lutec 1000, Box 2288, Cairns, Queensland, 4870 Australia (email: info@lutec.com.au; website: www.lutec.com.au).

"How I Keep Birds Out Of My Shed"

"We've had problems with birds in our pole-type machine shed ever since it was built over 20 years ago. At dusk every evening, scads of sparrows would fly in, resulting in layer upon layer of bird droppings on machinery and other stuff stored inside.

"So we were interested in the report in FARM SHOW's Vol. 26, No. 5 about a farmer who started feeding his cat up in the rafters of his machine shed in order to scare birds away.

"We're happy to report that this idea is working in our shed, too. We placed 12-in. wide strips of plywood along the full length of our shed in the upper part of the rafters and a suitable ladder-type scaffold on one end for our cat to easily climb up.

"To get our cats to go up into the rafters, we put meat scraps all along scaffolding that leads up to the top of the rafters. Our two cats soon had the courage to reach the top for more feed.

"Now our two cats are up there every afternoon waiting for dusk when we feed them. Only two or three sparrows ever show up any more and they take off in a hurry. So no more spotted machinery.

"We're now looking for a self-feeder because we have to climb 20 ft. up to fill the feed dish."

Contact: FARM SHOW Followup, L. Little, Box 112, Carrot River, Sask., Canada SOE 0L0.

Karl Oysmueller, Pink Mountain, B.C.: "I made a tool for knocking tire beads off wheel rims when changing or patching tires. It's quite simple. A solid steel rod fits inside a larger pipe. At the bottom of the pipe, there's a short length of rod flattened to form a wedge. This wedge is free to move up and down about 1 1/2 in. on top of a spring that's held in place by two welded-on collars. The flattened end is pushed between the rim and the tire. Holding the pipe with one hand, I use the inside rod to hammer on the bottom piece which forces the bead off the rim. It usually takes just a few blows to knock the bead off. I've used it on everything from car tires to big truck tires."



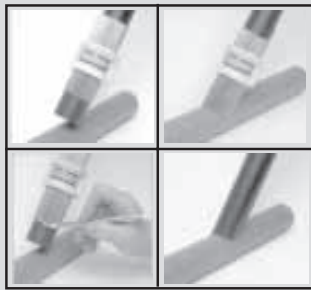
Jackson Webb, Bethune, Colo.: "The top of our Lincoln MIG welder was always cluttered with tools, gloves, helmets, and so forth, making it impossible to raise the side panels and get into the welder to change wire spools."



Also, whenever the welder was rolled across the shop floor the tools would vibrate off. To solve the problem I designed and built a metal tray that mounts on top of the welder. The tray holds the gloves, tools, etc., yet still allows me to raise the welder's side panels without interference. I also made places to hang the helmet and welder leads."

"The tray measures 12 by 18 in. with 4 in. sides. It's welded to a vertical length of 1-in. sq. tubing that bolts onto a bracket that's clamped to the front side of the welder. The tray mounts high enough above the welder that when the side panels are opened up they will clear it."

Profler Inc., Box 12858, Mill Creek, Wash. 98082 ph 360 668-3291; fax 360 668-9533; Welding pipes together at an angle is



an easier job with the company's new "PipeMaster". The pattern-making unit lets you quickly transfer the exact outline of the pipe joint and provides an exact fit for any angle. It's made up of a series of spring tempered stainless steel pins that mount inside an aluminum inner shell and a plastic housing.

You slip the unit over the pipe and push down on it until the pins adjust to fit the contour of the pipe. Then you pull the unit up a ways so you can mark the location of the pins on the pipe so you'll know where to cut it. You're now ready to weld the two pipes together. A wide variety of diameters are available to fit different pipes.

Prices start at \$37 plus S&H for a unit that fits 3/4-in. dia. tubing and goes up to \$700 for a unit that fits 12-in. dia. pipe.

Neil Ohler, Stavely, Alberta: "I recently put up a new shop building and decided to build it with an 11-ft. high vaulted ceiling, which allowed me to put in an 8-ft. door. The shop measures 24 by 32 ft. long. To put an 8-ft. high door in a building this size with a flat ceiling, I'd have needed at least 9-ft. high sidewalls and would have had to cut 1 ft. off 8-ft. sheets of plywood to get the 9-ft. height. I bought the shop package from a local building contractor. It didn't cost much more to build a shop with vaulted rafters than it would have to build it with a flat ceiling and 9-ft. sidewalls. I put up the building by myself."

Jerome Miller, Waucoma, Iowa: "If you have 5-gal. pails that are stuck together, don't throw them away. Instead, run water along the top of the stuck pail. The water will push the pails apart. Another idea: If you have a bar of soap that has dried out, don't throw it away. Use the soap on wood screws to make them start into the wood easier. It'll save a lot of wear and tear on your wrist."

Jack Griffith, Arlington, Texas: "I have a crew cab pickup equipped with a toolbox at the front of the bed. Unfortunately, the toolbox blocks my view of the gooseneck ball. I came up with a simple way to solve



Money-Saving Repairs & Maintenance Shortcuts

Have you come up with any unusual money-saving repair methods for fixing farm equipment? What maintenance shortcuts have you found? Have you had any equipment recalled by the factory? Name a particularly tough mechanical problem you've had with a piece of equipment and how you solved it.

These are a few of the questions we asked randomly selected FARM SHOW readers. If you have a repair tip, maintenance shortcut, or other mechanical experience you'd like to share, send details to: FARM SHOW, P.O. Box 1029, Lakeville, Minn. 55044 or E-mail us at: Editor@farmshow.com.

Mark Newhall, Editor

the problem that makes use of a triangular magnet and a 30-in. length of pipe. I place the magnet on the bed floor and use it to hold the pipe close to the ball. I back up until the pipe is next to the trailer tongue and presto, I'm lined up."



Boyce Equipment & Parts Co., Inc., 226 West 20th St., Ogden, Utah 84401 (ph 801 393-0007; email: orders@boyceequipment.com; website: www.boyceequipment.com); This company offers a complete inventory of military trucks, parts and equip-



ment. Engines, transmissions, axles, transfer cases, winches, etc. They stock a large selection of new and used tires and wheels including like-new 1400 by 20 Michelin XLs steel belt radial tires for \$250 and used Hummer 36 by 12.5 by 16.5 Goodyear Wranglers XT tires for \$75 plus \$25 each UPS. Also on hand are a variety of wheel rims and wheel parts for conversions or replacement. A catalog is available for \$5.



Jeff's Bronco Graveyard, Box 227, S. Lyon, Mich. 48178 (ph 248 437-5060 or 248 486-1760; fax 248 437-9354; website: www.broncograveyard.com); This is said to be the largest seller of classic Bronco parts and accessories in the U.S. Available are 1966 to 1996 Ford Bronco and truck parts includ-

ing front and rear disc brake conversions, 1966 to 1977 302/351 headers and swap kits, long travel suspension systems, sheet metal and weatherstripping, etc. A 300-page online catalog is available.

New Tech International, Box 26198, Fraser, Mich. 48026 ph 800 434-9192; fax 586 758-6549; email: newt924@netscape.net; website: www.newintl.com); Their SealLube seal expander is said to stop any

rubber oil seal leaks in engines, transmissions, power steering and hydraulic systems. Problems it can solve include oil leaks of all kinds, engine wear, cracked blocks, leaky radiators, and transmission slip. It can also help with fuel



efficiency and clogged fuel injectors and carb jets. The product is not designed to be used in brake systems. An 8-oz. bottle treats up to 10 quarts of oil. Small motors, pumps, gearboxes, or other applications where there is only a small volume of liquid, can usually be sealed with just a teaspoon or so, either added to the fluid or painted on the seals on the outside. Sells for \$14.95 plus \$3.85 S&H.

Transfer Flow, Inc., 1444 Fortress St.,



Chico, Calif. 95973 ph 800 442-0056 or 530 893-5209; website: www.transferflow.com); This company offers auxiliary fuel tank systems for pickups designed to transfer fuel automatically to the main tank. Its newest offering is a 70-gal. in-bed tank for diesel pickups. It comes pre-assembled and includes the fuel tank, auxiliary fuel pump, fuel lines, wire harness, mounting hardware, and computer module. The computer module will turn

Bolt Bin Wall Uses Grain Cups

Gord Stein of Barrhead, Alberta, is a bit of a "neat freak" in his farm shop. He says keeping everything organized and easily accessible helps him get his work done faster and more easily. One of his best ideas was a "bolt bin wall," he created by bolting plastic grain leg cups to a wall.

Stein made a deal with a local feed processor to buy 270 cups for 25 cents each if he removed them from the belting, which they wanted back.

The biggest job, according to Stein, was having to clean out the chaff that had become lodged in the cups. He also ground off the edges of the more damaged cups.

He used the same smooth-headed screws that held the cups on the belting to fasten them to the wall.

To make it easy to reach all the bins on the 8 by 12-ft. wall, Stein built and installed a sliding ladder on a 10-ft. section of barn door track.

He says the project took him a week of evenings to complete and his total cost was under \$250.



Gord Stein created this "bolt bin wall" by bolting plastic grain leg cups to a wall.

Contact: FARM SHOW Followup, Gord Stein, R.R.3, Site 2, Box 9, Barrhead, Alberta, Canada T7N 1N4 (ph 780 674-4706).

on the auxiliary pump whenever the fuel level of the main tank drops to about half full. The auxiliary tank will then transfer fuel into the main tank until the stock fuel gauge rises to about 3/4 full. The transferring of fuel at set intervals will keep occurring until the auxiliary tank is empty. Because the transferring of fuel is automatic, there's no need for a toggle switch to flip back and forth between the two tanks.

The system is available for 1990-2003 Dodge, Ford and GM short and longbed diesel pickups. Comes in your choice of bright aluminum diamond plate or black powder-coated aluminized steel.

The company also offers many other auxiliary fuel tank systems for both gas and diesel, including toolbox and fuel tank combos. An installation kit comes with every toolbox and fuel tank combo.

Prices range from \$754.75 to \$2,233.32 depending on model.

Ag Staple Technologies, Hutchinson, Kansas (ph 620 662-4686; website: www.agstapletech.com): This company makes a lightweight fencing tool that holds up to 48 steel fence staples at a time in a car-



tridge. The tool is equipped with a spring-loaded plunger and is designed to be positioned over the fence wire. You hold onto a handle and then strike the spring-loaded plunger with a hammer, which drives the staple into the fence post. The plunger then comes back up and is ready for the next staple.

"It's faster and safer than using just a hammer and keeps you from smashing your fingers," says inventor Ken Byard. "The staples feed into the cartridge like a desk stapler. It works on any kind of fence wire."

Sells for \$119 plus S&H.

A 5-lb. box of staples sells for \$16.45 plus S&H.

David I. Peters, Morden, Manitoba: "I made a 40-in. extension for my shop crane that lets me lift 4 by 8-ft. sheets all the way up to my shop's ceiling. The standard crane



wasn't able to lift the sheets more than 11 ft. high. The crane extension made putting in the sheets a one-man job instead of a two or three-man job.

"I also made an extension for my step ladder by adding wooden 2 by 2's and 2 by 4's to the bottom of the ladder and adding a step. It raised the stepladder about 18 in. and allowed me to get up high enough to do the nailing."

Clifton Lawson, 14760 Eagle Ridge Road, Ferryville, Wis. 54628 ph 608 734-3457: "The oil filter on my tractor was stuck and wouldn't come off with conventional filter remover tools, so I decided to make my own filter remover to do the job. I welded



six pointed metal pins in a circle onto one side of a short section of steel pipe and welded a large bolt onto the other side. A nut was then welded onto the bolt. I place the device against the top end of the filter and use a hammer to pound on the nut so the pins will make marks in the filter. I either drill or punch holes into the filter at the marked locations. Then I insert the pins into the holes and drive the device all the way into the filter. By attaching a long wrench to the nut and turning it, the filter will come off. The pins grip the outside edge of the filter and don't tear the filter up like a single screwdriver might.

"I used a 3/8-in. dia. metal rod to make the pins, which measure about 1 1/2 in. long, and a lathe to make the points. The bolt is about 7/8-in. in diameter. The reason I welded the nut onto the bolt instead of directly onto the pipe section is that it's easier to get a wrench on the nut. The pins are slanted at a slight counterclockwise angle so that as they turn, they tend to dig into the filter and won't come out. The pins are located at the outside edge of the filter and provide a grip all the way around it. I also made a smaller version of this tool for our car."

Dennis Albright, Springfield, S.Dak.: "I got an idea from an old plumber for cleaning out PVC sewer lines with a snake. You can cut a slot in the top of plastic pipes, work the snake in to unplug the pipe, and then use clamps to put a piece of rubber innertube over the hole to seal it back up. Works better than just welding a nut to the bolt."

Ward Bundy, Beaver City, Neb.: "Here's a twist on an old idea for removing broken bolts from castings. If a bolt is broken off flush in a casting, I weld a washer over the end of the broken bolt and weld it in place. Then I weld a nut to the washer. I can usually screw the piece of bolt out. Works very well."

Glen Teel, Hays, Kan.: "I use anti-freeze to kill rats and mice. Just cut a small hole in the side of a plastic 2 liter pop bottle, about the right size for a mouse or rat to enter, and then put a little antifreeze in the bottom of the bottle. Rodents are drawn by the sweet smell and it will kill them when they drink it. Using a bottle keeps pets out.

"Instant mash potato flakes will also kill mice. Put some water in a bowl next to the flakes. The flakes will swell up inside and kill them."

Robert Kuehl, Davenport, Iowa: "I save time by having special purpose tool boxes for electrical, plumbing, brakes, small engines, tires, wood working, etc. There's some duplication of tools between boxes but it's a lot easier than trying to pick all the necessary tools off my pegboard when I head to a job."

Victor E. Jans, Cupar, Sask.: "My grain auger got dented when someone backed into it. The flighting was rubbing on the auger tube. I didn't want to take out the flighting so I came up with another solution. I welded a large nut to the outside of the auger where it was bent and then turned in a long bolt. I pulled out the dent by pulling on the bolt, thus straightening the tube. No need to remove the flighting."

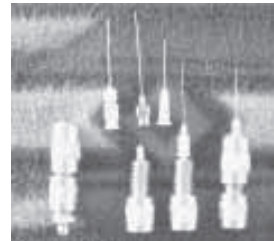
(Continued on next page)

"Vet" Needles Used On Grease Gun

A couple of issues ago FARM SHOW published a story about a tool that holds any standard grease needle firmly in place on a grease gun, making it easy to lubricate bearings (Vol. 26, No. 5). The story prompted Alec Yeager of Hendley, Neb., to tell us about a somewhat similar tool that he thinks works even better. He designed it back in the 1980's and is now offering it for sale. It's called the "Bearing Saver."

The stainless steel tool is tapered at one end to accept veterinarian needles. A cap is then screwed over the needle to hold it in place. A zerker can be screwed into the opposite end of the tool, or the tool can be screwed directly to your grease gun.

"I have yet to find a veterinarian needle that won't work," says Yeager. "I came up with the idea because standard grease needles are expensive and don't last very long when you're trying to force them under bearing seals. Veterinarian needles don't last much longer. However, when you buy veterinarian needles in volume they're quite cheap. I buy

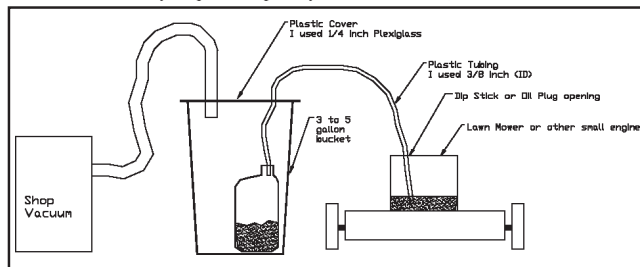


Tool is tapered at one end to accept veterinarian needles. A cap is then screwed over needle to hold it in place.

standard 1-in. 24-ga. veterinarian needles in boxes of 100. Another advantage is that I always have a new sharp, straight needle whenever I need one. The needle can also be used to force glue into cracked furniture."

Sells for \$24.75 plus \$2.25 S&H.

Contact: FARM SHOW Followup, Alec Yeager, Box 504, Hendley, Neb. 68946 (ph 308 265-7466; website: www.kisofroad.com).



A shop vac, 5-gal. bucket, and 1-quart oil bottle were used to make "oil vacuum" that sucks oil out of small engines.

Simple Small Engine "Oil Vac"

Leland Saele, Ft. Worth, Texas, used a shop vac, a 5-gal. bucket, and a 1-quart oil bottle to make a dandy "oil vacuum" for sucking oil out of his Honda lawn mower engine.

"It was cheap to put together and makes changing oil in the mower a much cleaner and easier job," says Saele.

Saele came up with the idea after he bought the mower used and tried to change the oil for the first time. "I assumed the drain plug would be underneath the mower, but when I looked underneath it wasn't there. Instead, it was located at the base of the filler tube, on top of the engine crankcase. To drain the oil, I would've had to tip the mower over which I thought was ridiculous. So I came up with my own solution. I think the same idea could be used with any small engine."

Saele places an empty oil bottle in the bucket, then covers the bucket with a piece of 1/4-in. thick plexiglass with two holes cut in it. One hole is the same size as the shop vac hose and the other is just big enough for a length of 3/8-in. dia. clear plastic tubing. One end of the tubing is inserted into the filler tube on the mower and the other end is inserted through the hole in the plexiglass lid and into the oil bottle. The vacuum hose is inserted through the other hole in the lid.

Saele simply starts the vacuum and watches the oil go through the tubing and into the oil bottle, which has a transparent neck so he can watch it fill. When the oil level is close to the top he shuts off the shop vac and puts in a new container. He repeats the process until all the oil has been removed from the crankcase.

"It's a simple idea but it works good," says Saele. "The plexiglass came from a broken pad that had been used to protect carpet under an office chair. The plexiglass should be



Vacuum pulls oil through the tubing and into the oil bottle, which has a transparent neck so Saele can watch it fill.

slightly larger than the top of the bucket, and it should be thick enough so it doesn't collapse from the vacuum pressure. The tubing has to be pushed all the way down to the bottom of the crankcase in order to remove all the oil.

"Cleanup is simple. I put a plastic cap on each end of the tubing and hang the bucket, with the tubing in it, in my garage until the next time I need to use it. Storage of the bucket isn't a problem since it stays clean and can be used for other purposes," he notes.

Contact: FARM SHOW Followup, Leland Saele, 7853 Colwick Court, Ft. Worth, Texas 76133 (ph 817 346-9819).

(Continued from previous page)

Clifford Krause, Preston, Minn.: When Clifford picked up a bunch of old school lockers, he put them to use for storage in his shop and garage. He says you can use them to store a variety of items and, best of all, they're mouse-proof.

David Millsap, Abingdon, Va.: "To have air for cleaning radiators and filling tires, I installed a ball valve and female air chuck on all our trucks equipped with air brakes. Then I purchased air hoses fitted with male and female chucks to keep in each truck along with blow nozzles and tire chucks. Very handy."

Paul Wadeson, Hancock, N.Y.: "I use a shovel under tires when I change my studded snow tires. I just slip it under the tire and



put a foot on the handle to raise the tire enough to catch the lug nuts. Simple and saves your back."

Charles M. Hord, Kenton, Ohio: "I put used oil in a 1-gal. garden sprayer and use it to lubricate chains and other parts, and also on rusty parts on implements."

Zeke Robinson, Ventura, Calif.: "I've read in FARM SHOW recently about readers having trouble starting small Tecumseh engines with less than 10 hp. I added a cup of wood alcohol or methanol, to each gallon of gas. Engines will start and keep running strong. I think the reason is that moisture gets into the fiber carburetor gaskets and causes trouble. The alcohol pulls out the moisture. I don't know how it would work in cold weather since I live in California."

Charles Poole, Ottawa, Ill.: "If you have a stationary engine that you only use in warm weather and is in a dusty area where keeping the radiator clean is a problem, here's an idea. Take an empty steel drum and weld two fittings onto the drum — one at the bottom and the other towards the top. Connect one fitting to the radiator hose off the top of the engine and the other to the water intake at the bottom of the engine. Then fill the barrel with water. The water will boil as the engine heats up and you'll have to add more now and then. But it'll help keep the engine running cool and there's less danger of running out of fluid and overheating."

James Welch, D.V.M., Clinton, Wis.: "I'm a retired veterinarian who now volunteers at a local conference center. Del Christiansen, the manager of the center, has a unique method of recycling oil from the grinding machines. He places a clean brown paper bag on a rack in a 5-gal. plastic pail. He then pours the oil into the bag. It takes 8 to 12 hrs. for the oil to filter through and become reusable. I tried it on used motor oil and found it also works well with that."

Bob Batteen, Urbana, Iowa: "In a recent FARM SHOW issue there was an article on problems with Super 'M' and Super 'MTA' disc brakes. The problem was they didn't last very long. Maybe this will help. When repairing brakes, be sure to clean all rust, etc. The brake housing butts against the brake drum, which butts against the transmission housing. Make sure these surfaces are super clean. Then apply a thin coat of gasket maker to all these surfaces and reassemble, set brakes according to the owner's manual, and install new boots."

"My Super 'MTA' is a loader tractor and sets outside all year long. The last brakes were installed four years ago."

Portable Welding Shop Mounts On Old Garbage Truck

Brian Esser, Minnesota Lake, Minnesota, operates a portable welding service that serves farmers and truckers, among others.

Over the years, he's put together six different rigs to haul tools and power to welding sites. "I've put them on trailers and smaller trucks, but I never had one that would handle everything I might need. I was always running back to the shop for something," he says.

So for his newest portable welding rig, Esser found a 1981 C70 2-ton Chevrolet truck cab and chassis and went to work. "The truck had been a single axle garbage truck, so it already had a good set of springs under it," he says.

"The first thing I did was to extend the frame, making it 30 ft. long from bumper to bumper," he says.

Then he built a utility bed on it that's only a 20-in. step up between the wheels. "I made shelves and compartments all around it that are accessible from the ground, as is all," he says.

With the exception of one tool cabinet, he made all the cabinets on the truck from aluminum decking. All have hinged, locking doors.

Besides welding tools and supplies, his cabinets hold the equivalent of a small hardware store. "I have large quantities of the most common sizes of screws, bolts, nuts, steel rod, flat steel, angle iron, etc., on the truck," he says. "It's often a 20-mile round trip or more to the closest hardware store, so having the truck stocked saves a lot of time and expense. A trip to the hardware for four or five bolts costs the customer an hour of my time or more."

Most of the welding equipment and storage is centered around a 50-ton iron worker that he uses to cut and shape steel on site.

Then there's an 8,000-watt gasoline engine-powered generator, a 250-amp stick welder and a 250-amp wire feed welder. He mounted oxygen and acetylene tanks on one



Brian Esser extended the frame of a 1981 2-ton Chevrolet truck to 30 ft. before installing his home-built utility bed.

side, with 100 ft. of hose that lets him get his torch into just about any place where he needs it.

The generator provides power for the welders, and several other power shop tools, including a drill press. Tucked into one of the cabinets is 200 ft. of 220-volt power cord, so he can take the welders off the truck if he needs to.

Other components include portable and fixed lighting, so he can work any time of day or night. Some of his portable lighting draws power from the generator. For the truck mounted lights, though, he replaced the stock alternator with a heavy-duty 100 amp model, which keeps the truck battery and a bank of back up batteries well charged.

Tucked into one cabinet is a 220-volt air compressor with 150 ft. of hose. The compressor is plumbed into outlets on both sides of the truck, so he doesn't have to run the hose over or under the truck to get to his work. "I had another smaller compressor on the truck at first, but it didn't put out enough air

for my plasma cutter," he says.

There wasn't room for the plasma cutter on the truck and Esser says he doesn't usually need it. When he does, he takes it along on a pallet that fits into the receiver hitch on back of the truck.

While he spent a lot of time designing the truck, he says he had to make some changes and it took quite a bit of on-the-spot engineering to get it all to fit together. One of the main concerns in the design was that the truck fit inside his shop, which has a 96-in. doorway.

He figures he has more than \$50,000 invested in the portable welding shop, including his small rolling hardware store.

Contact: FARM SHOW Followup, Brian Esser, 53478 250th St., Minnesota Lake, Minn. 56068 (ph 507 462-3651; email: bndesser@bevcomm.com).

"Oil Caddy" Made From Office Chair

Gord Stein likes the fact that he doesn't have to fumble with a funnel or have to lift up his transmission oil or gear oil pails when doing maintenance to his trucks. The Barrhead, Alberta, farmer made a two-pail oil holder using the castor wheels off an old office chair.

Using flat iron, he fashioned a platform for the pails to sit on. This is welded under the castor leg assembly. Strap iron side brackets hold the pails in place.

The 5-gal. pails are fitted with hand pumps and hoses on the lids so that no lifting is required at any time. The rig can be rolled around the shop or out onto the gravel outside, according to Stein. The castors are ex-

remely stable, and the unit is well balanced. It doesn't even tip over when one pail is removed, so varying levels of lubricant in the pails have no effect.

The cost to Stein for the "oil caddy," was negligible, since materials were all salvaged and it took only an afternoon to build.

Contact: FARM SHOW Followup, Gord Stein, R.R.#3, Site 2, Box 9, Barrhead, Alberta, Canada T7N 1N4 (ph 780 674-4706).

Two-pail oil holder was made using the bottom of an old office chair. Pails are fitted with hand pumps so no lifting is required.



Dodge 4-WD Transmission Fix

If you drive a Dodge 4x4 diesel pickup made in 1994 or later equipped with a standard 5-speed transmission, or if you're thinking about buying a used one, you may need to talk with Dan the Gear Man.

The Gear Man, known to his friends as Dan Guarino, says as many as 25 percent of these transmissions will fail due to wear on the fifth gear main shaft.

"The main shaft is 2 in. long, but has splines only on the outer 3/4 in. of the shaft. Under heavy loads, the gear wears into the shaft past the splines," he says. "That lets the shaft work loose and the nut that holds it in

place comes off." Guarino says this usually shows up on trucks with more than 100,000 miles, but notes he's seen it happen as soon as 35,000 miles. It's more likely to show up on trucks that are used extensively for pulling heavy trailers at highway speeds.

Guarino fixes the problem with his own version of the main shaft. "Once the shaft is worn, it's shot and has to be replaced. The dealer fix is to replace it with the stock shaft, so the problem will likely occur again. Our Extreme Duty Mainshaft will fix it permanently," he says.

"Our shaft has splines the full length, so

the gear is always fully supported. This way, it can't work loose and wear out," he explains.

The Gear Man's transmission fix usually costs around \$1,600. "By the time the owner gets it to us, the truck usually has a fair number of miles on it and we have to rebuild the transmission. If it comes in before it's shot, we can fix the transmission for less than that," he says.

Contact: Farm Show Followup, Dan Guarino, Quad 4X4, RR 1, Box 2059, Roberts, Montana 59070 (ph 406 446-2427; website: www.quad4x4.com).

3-Pt. "No Freeze" Fabric Roller

John Dansby, Rocky Mount, Virginia, says covering his large fruit and vegetable plots to protect them from frost used to be a real hassle, but he solved the problem with a tractor-mounted roller.

"I use a strong spun polyester-type synthetic material to cover my strawberries. It protects them from freezing at temperatures as cold as 20 degrees Fahrenheit, but lets air and water pass through.

"The material is 50 ft. wide, folded to a width of about 10 ft. and rolled up on a cardboard spool. Unrolling it out and spreading it out was difficult. Rolling it back up after you'd used it was even worse," he says.

So Dansby sketched what he wanted and took it to a local fabricating shop where they produced it for him.

The roller/unroller mounts on his tractor 3-pt. hitch. "It's a steel frame that's about 12 ft. wide and extends back behind the rear wheels. It looks sort of like a big toilet paper holder," he explains.

Dansby's frame has a 2-in. cradle on both ends. A hand winch operated from the tractor seat allows him to disconnect the top link on the unroller and lower the back end of it to the ground. To load a spool of material onto it, he releases the top link and lowers the unroller. He inserts a 13-ft. length of 3-in. steel pipe through the cardboard tube and sets

the ends in the cradles. He then winches the frame back up and re-attaches the top link.

Rolling the fabric back up is easy, too. "It has a hand crank welded to one end of the steel pipe. The cardboard tubes aren't very sturdy, so we don't reuse them. Instead, we put a 10-ft. length of 3-in. inside dia. PVC pipe over the steel pipe and pin it in place on the roller with a bolt inserted through both the PVC and steel pipes. I fasten the end of the material to the PVC pipe in three or four places with duct tape. Then we just wind it up," he says.

Once the fabric is re-rolled, he covers it with black plastic, fastened on with duct tape and stores it. "It doesn't make as neat a roll as when it was new, but it gets it off the field and in a roll so we can store it and use it again," Dansby says.

He says if the material is wet, he can fasten it to the unroller and pull it off the field to a grassy area to dry before rolling it up again.

"I thought about using a hydraulic cylinder in place of the hand winch, and I may still put a hydraulic motor on the crank to make it easier to pick up the plastic," he says. "But it works great as it is and saves us a lot of time."

Contact: FARM SHOW Followup, John Dansby, 4481 Colonial Turnpike, Rocky Mount, Va. 24151 (ph 540 576-3658).



Tractor-mounted roller makes it easy to roll up wide sheets of plastic covering crop.



Once the plastic is re-rolled, he covers it up to prevent deterioration from sunlight.



By covering these mulched fields of berries, Dansby can prevent freezing at temperatures as cold as 20 degrees.

Portable Sail-Type Windmill

Robert Green doesn't need a tower for his horizontal windmill. He doesn't need a bunch of gears or blades. He doesn't even need much wind.

"It only takes 3 to 5 mph wind to turn it," he says.

Green, a retired mechanical engineer, designed his horizontal windmill using collapsible sails instead of blades. Instead of a tower, the sails ride atop a slender pole. As it turns, it transfers power directly to ground level through an internal rod. The external tube serves as both a vertical support and an anchoring point for guy wires.

The simple design means it can be erected in a matter of minutes wherever it's needed. Green has used it for pumping water and air on site and has even developed a unique, low-load pump to use with it.

"It can be set up by a pond that needs to be aerated or in the center of a flooded field to pump away excess water," says Green.

The novel windmill uses four opposing sails on a wheel and spoke framework atop the pole. As each sail moves into the wind, it opens up like the sail of a sailboat, driving the wheel around the pole. As one sail fills, it pulls against cables on an opposing sail, keeping it tightly closed.

The closed sail, which resembles a wing on an airplane, also captures the power of the wind. Just as the different amounts of air pressure lift the wing of an airplane, the air moving across the closed sail creates lift. It also drives the wheel. As the wheel turns into the wind, the process is repeated by each pair of sails.

"Traditional windmills are drag windmills, while new propeller windmills are lift windmills," explains Green. "This is sort of in between."

He hasn't adapted the device for electrical generation. "I am not an electrical engineer, that's not my field," admits Green, though he is confident the design could work if someone had the expertise.

Green sees his system first and foremost as a ready form of mechanical energy that can be adapted as needed. He doesn't sell the windmill itself, but does market plans and rotor kits. He offers hardware kits for 24- and



Easy-to-use portable windmill uses collapsible sails instead of blades to generate mechanical power.

48-in. rotors at \$59 and \$118 plus shipping.

Green reports selling several hundred packages. Many have gone to Asia, India and other lesser developed countries. In the U.S., they have proven most popular in the West and Southwest.

"What I am offering is a formula for making this kind of windmill," he says. "They can take it from there and make whatever they want from it."

Contact: FARM SHOW Followup, Robert Green, 1222 W. Grand Ave., Chicago, Ill. 60622 (ph 312 226-7584; website: www.greenwindmill.com).

Sens-Alert Tells Growers When Hay Is Ready To Bale

Western hay producers must often wait for dew to dampen alfalfa crops in order to minimize losses during baling.

"My sister owns an alfalfa ranch in Oregon, and she would sleep in her pickup in the field so she'd know when the dew was heavy enough that she could bale," says Martin Lilly, Goleta, California.

Lilly figured his sister and other alfalfa growers could get a decent night's sleep if he could put moisture sensors in their hay fields that would alert them when conditions were right for baling. He happened to work for a company, Dynason, Inc., that makes various electronic sensing devices.

After several years of work, Lilly came up with a product called Sens-Alert, which can reliably detect dewfall and send a message on a mobile radio, cell phone or pager.

Lilly says each of his Sens-Alert systems is custom built for the owner. "In addition to alerting the hay producer that field conditions are right for baling, we can design the system so that the producer can dial up the system on his cell phone and get a report on current field conditions. And we can add a feature that allows him to use his phone to switch on a beacon on the unit, so he can easily find it when he arrives at the field in the middle of the night to begin baling. This one is important because some people have been known to lose track of where they placed the unit," he says.

While Sens-Alert was designed for Western hay growers, Lilly says he can adapt the units to monitor temperatures in fields (needed to track development of certain pest insects), soil moisture conditions, moisture and temperature in stored grain, and more. "We can equip them with motion sensors to detect intruders and then notify farmers or law enforcement officials," he says.

He says a possible application would be to monitor grain moisture in batch drying bins, enabling producers to know exactly when grain can be moved to storage and the bin



Mobile alert system can be adapted to many other uses.

can be refilled.

Another application he's recently worked on is in conjunction with a switch on a gate, so if the gate is opened without authorization, the system calls the farmer and the sheriff's office. "This was designed by a hay grower who was having problems with theft of baled hay," he says.

"I've been approached to design a system that will notify dairymen when their hay has wilted enough to chop for haylage," he says. "I haven't had time to find the right sensors and test them for this, but it is possible."

Price for a Sens-Alert system varies according to the application and the different bells and whistles incorporated into it. However, a system with notification by cell phone usually costs between \$1,500 and \$2,000. A typical system weighs less than 20 lbs.

Contact: FARM SHOW Followup, Martin Lilly, Dynason Inc., 20 Arnold Place, Goleta, Calif. 93117 (ph 805 964-4410; fax 805 967-2824; email: dynasen@concentric.net; website: www.dynasen.com).



Using 3/4-in. plywood and metal sheeting, Ron Newton made a cab for his Ford 8N.

Home-Built Cab For Ford Tractor

Ron Newton, Friend, Nebraska, made a cab for his old Ford 8N so he could work in comfort when clearing snow off in the winter.

He made the body of the cab out of 3/4-inch plywood, and covered each piece over with steel sheeting salvaged from a couple of old camper shells. He cut windows in the sides, front and back, and then had a window manufacturer make glass windows to fit.

To capture engine heat to warm the cab, he used pieces cut from an old garage door to make covers that extend from the front grille, along the hood and back to the cab.

The cab is held together by 2-in. angle iron along all the edges where two pieces of the plywood come together. "I tapped the holes in the angle iron and use 1/2-in. bolts, 2 in. long, to fasten the plywood to the angle iron," he says.

The cab fits over the seat and steering wheel and bolts to an angle iron he mounted in front of the steering wheel and two more along the fenders. He used pieces of old inner tube to seal up any gaps between the tractor and the cab, and along the 3-point arms.



He cut windows in the sides, front and back and had glass windows made to fit.

He made the door in two pieces, so he can operate the tractor with the top part open if he wants. It has a door handle and latch salvaged from an old screen door.

"I take the cab off in the summer. It comes apart in six pieces and I can remove them in just a few minutes," he says.

Contact: FARM SHOW Followup, Ronald Newton, 156 392nd, Friend, Neb. 68359 (ph 402 947-7961).



Biech's home-built cab has a hinged glass windshield that lets him easily check engine fluids. Hinge pins pull out so he can remove windshield.

Cab For IH Garden Tractor

"The cab I built for my IH 782 garden tractor cost only about \$600. Commercial cabs cost much more and don't have the features mine has," says Richard Biech, Baraboo, Wis.

His cab has a hinged glass windshield that allows Biech to easily check engine fluids. The hinge pins pull out so he can remove the windshield completely in the summer heat. The cab's doors mount on drop pin hinges so they can also be easily removed. The door frames were fashioned out of 1-in. tubing, and the cab's side and rear windows were cut from plexiglass. The cab's top is one piece and bolts solid to the rest of the cab body.

"It's built so tight I mounted a small fan in one corner of the windshield to keep it from fogging up," says Biech. "Since I live on a

well-traveled county highway I wanted better lights than the ones already on the tractor. So I mounted a flashing amber light on the roof that has a brush guard around it, as well as two halogen flood lights under the roof on front. I also mounted tail lights and a backup light near the top of the cab," says Biech.

"My friend Duane Knuth, who is a steel fabricator, sheared and bent the sheet metal. We welded the pieces together at home where we could check the fit by putting the pieces right on the tractor. I painted the cab red with authentic-looking stripes."

Contact: FARM SHOW Followup, Richard Biech, E-14068 County Hwy. W., Baraboo, Wis. 53913 (ph 608 356-9159; E-mail: richard.biech@co.columbia.wi.us).

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Reader Letters



trying to get a fire going, just cut a piece of curved copper pipe 4 to 5 ft. long and bend it into a "J" shape at the bottom. You can stand up next to the fire and blow into the pipe to get air into the embers. Works great and is easy to do. (Greg Drummond, Longwood, Fla.)

Thanks for the article in your last issue on our all-wool mattresses and other products. We've heard from many of your readers. They're especially interested in the tremendous health benefits of these revolutionary mattresses. Unfortunately, there was a problem with the phone number in the article. The best number to reach us is at 507 886-2864. (Lloyd Peterson, High Pointe Coverings, Inc., 235 2nd Ave. NW, Box 476, Harmony, Minn. 55939; website: www.natureswool.com)



Just a note to let you know that I'm still getting orders from the original 1998 article you did on our exhaust conversions for Deere articulating 4-WD tractors. We've done nearly 400 conversions for customers in the U.S. and Canada. We move the exhaust over to the side of the tractor to improve visibility. We exhibit at the National Farm Machinery Show in Louisville, Ky., each year. (Ramey Pottinger, Rio Vista Farms, 135 Howardstown Rd., New Haven, Ky. 40051 ph 502 549-3628; www.sidelinesystems.com)

I made a hoe out of a pie-shaped piece cut out of a broken disc. I welded a short piece of pipe to the disc and then fitted it with a wooden handle. Works great and is built to last. (Art Schmidt, 6721 E. Dutch Ave., Walton, Kan. 67151 ph 620 837-5607)

Editor's Note: There was a lot of interest in our story on brewing giant batches of "compost tea" (Vol. 27, No. 2). Unfortunately, we had an error on the name of the fellow working on the idea. Troy Grimes says readers can contact him for more information at: Watts Brothers Fertilizer, Inc., 350 Highway 221, Paterson, Wash. 99435 (ph 509 875-2022; email: tgrimes@wattsbro.com).



We mount a van seat in the back of our Deere Gator for cookouts and pleasure rides. It's a fun way to get around the farm with a group. (Rick Good, 116 W. Main, Zeeland, Iowa 50278)

Here's an idea you'll appreciate every time you have a fire in a wood stove or fireplace. Instead of crawling around on your knees to pump a fireplace bellows



Thanks for your article in the last issue of FARM SHOW on our Automatic Tailgate Control for pickups that puts the tailgate down when you reach a certain speed, or when you're backing up to a gooseneck trailer. One interesting bit of information omitted from the article is that the tailgate only opens a little less than half way, to a "spoiler position" on the highway. We have found this to be the best aerodynamic position. (James Casey, JSC Engineering, Inc., 26500 W. Agoura Rd., Suite 102-503, Calabasas, Calif. 91302 ph 877 707-8245 or 818 878-0578; www.droptail.com)

I've discovered a new way to protect my new fruit trees that I plant in my orchard from girdling by field mice in the winter and careless mowing in the summer. I cut off 1-ft. lengths of 4-in. dia. flexible field tile and make a cut up one side. I slip the tile around the base of the trees. In winter, I drop a couple mothballs down each tube and this discourages field mice.

I've used this idea for 7 years with no more damage by mice in winter. (Joseph deNatale, M.D., Pittsfield, Maine)

We keep two rocks about 1 ft. square by 1 1/2-in. thick on our stove heater so if my wife's feet get cold while she is working on the computer, she removes one rock from the heater, wraps a towel around it and puts it under her desk to place her feet on. Wrapped in a towel, the rock stays warm for several hours. If she works all day she just exchanges rocks. (Daniel V. Owen, Hendersonville, N.C.)

I use a child's plastic snowsled to move a heavy sweep auger across soft grain. Makes it a lot easier to get the motor over to hook up to the sweep. (James L. Akers, 2560 E. County Rd., 1450 N., Newman, Ill. 61942)

This trailer is a combination of the tongue off a Deere 7000 row crop planter and a dump box off an old truck that had a



blown engine. The rear end, box, and dump hoist were in good shape. The long planter tongue gives the dump trailer plenty of maneuvering room behind a tractor. (Dean Nixon, 10544 Piasa Rd., Medora, Ill. 62023 ph 618 729-3865)

After a recent surgery, I was required to



A friend and I have come up with what we call the Pack Rat. It's an electric-powered wagon that's really generating a lot of interest. It rolls on four pneumatic 12-in. turf tires and has an angle iron frame. It has removable sides and measures 2 by 4 ft. Recommended weight capacity is 500 lbs. Power is provided by an electronic-controlled transaxle equipped with a 24-volt smart charger (included). The 12-volt gel cell batteries are wired in series. The unit will charge overnight.

We designed the drive system and control devices ourselves. The drive system is very sophisticated and permits the Pack Rat to start smoothly, ramp up to

wear compression stockings to keep blood pressure up. But it was very difficult to bend over and pull them on. Until I found this nifty "alligator jaw" gadget.



It consists of a plastic "scoop" on the end of a rope. You pull the stocking onto the angled end of the scoop, then drop it to the floor and pull it onto your foot. The serrated edge of the scoop holds the



stocking in place as you pull up on the rope. Works great. Available from Homecraft Compression Stocking Aid, Germantown, Wis. (ph 262 251-7840). (C.F. Marley, Nokomis, Ill.)

Your readers might be interested in our new portable backhoe that makes digging faster, easier and cheaper. It can be towed to a job site and then quickly unhooked and put to work. It's powered by a standard 9 hp. Briggs industrial



motor and rides on balloon tires that are highway-rated. Support legs provide an 8-ft. wide base. Boom arms are laser cut from heavy plate steel. Bucket has replaceable teeth. You can use the bucket to move the unit along when in use.

Four models are available, each priced at under \$5,000. Two of the models can be attached to tractor 3-pts. Booms with



walking speed, and then come to a controlled stop.

To make the wagon go forward or backward the operator simply presses a button and holds it down. The wagon stops automatically when the button is released. The wagon's small width and high capacity make it perfect for use in gardens and along pathways and narrow alleys. Stable owners like the Pack Rat because it's whisper quiet. Three different models are available, selling from \$895 to \$1,250. (Tom Nichol, Neodesha, Kansas ph 620 325-2309 or 620 325-3173; website: www.hedgeapplefarms.com)

9 or 12 ft. reach are available with 8 or 12-in. wide buckets. (Bill Johnson, President, Collins Machinery Engineering, 8600 N.E. Underground Dr., Pillar 104E, Kansas City, Mo. 64161 ph 816 455-5035; website: www.portablebackhoe.com)



I don't know if this will be of help to anyone else but it sure helps me. I have a Deere 400 lawn tractor with a front-end loader. The problem was that I couldn't put any other front-mount equipment on



it when the bucket was on. To solve the problem, I made up a set of extension brackets that moves the mounting point for any front-mount equipment out about 6 in. so the loader can stay in place. All I had to do after the brackets were in place was to make up new hydraulic hoses to reach the couplers. Otherwise, it's easy to hook up the snow blade or snowblower. I just raise the bucket up out of the way, or take the bucket off the lower arms for better visibility. (Arnie Amrhein, 13717 Excelsior Blvd., Minnetonka, Minn. 55345 ph 952 938-8682; email: mjndnut@aol.com)

I've found a way to give pills or small boluses to small calves. It's easy and saves your fingers. Make a 1/2 to 3/4-in. slot in the small end of a used milker inflation. The resulting two flaps hold the pill fairly firmly. You push it into the calf's mouth and then use a small dowel for a plunger to push the pill out when it's over the hump of the tongue. (James L. Welch, DVM, Clinton, Wis.)

(Continued on next page)

(Continued from previous page)

I built my own low-cost ATV-mounted sprayer using the tank off my big field sprayer. The tank rests in a homemade wooden saddle and has a pump on top of it and controls on front. One valve con-



trols the flow to the boom and another one controls the flow to a hand wand that's attached to a 15-ft. hose. The rig has an 8-ft. long boom equipped with seven nozzles, and an off-center flat spray nozzle that's used to spray along fence rows. The nozzle covers a 68-in. wide area so it can spray both sides of the fence in one pass.

I use a wooden spool on our loader tractor's hay forks to roll up high tensile wire that surrounds our pasture. The spool mounts on a 2 by 4 board with notches cut into it (not shown) and is held



secure by a length of chain. The spool can handle up to a half mile of wire at a time. (Dwight Ruhlen, 2591 Halcyondale Rd., Sylvania, Ga. 30467 ph 912 863-4398)

I made this dump trailer by mounting an old World War II-era dump bed on the



frame of a fertilizer spreader equipped with 10-ft. long I-beams. The front part of the bed is raised or lowered by an electric winch mounted in my pickup bed. A cable with eye goes from the dump bed, up over a pulley on an A-frame at the front of the trailer to the winch. (Ben D. Marek, 3885 Indian Road, New Ulm, Texas 78950)

I converted a 1,600-gal. water tank into an ice fishing house that also doubles as



a calf hutch. The water tank fell out of a truck and had several cracks in it which I patched up. Then I used a sawzall to cut out the bottom and also to cut a door into one side. The material was very easy to work with. (Russell Faubion Jr., Rt. 2, Box 69, Blockton, Iowa 50836 ph 641 788-3761 or 712 542-7006)



I thought your readers would like to see this one-of-a-kind 1939 Ford 2-ton, 4-WD truck that I bought used many years ago. With a regular cab and 4-WD, it looks like an Army truck but it's not. Ford built the truck but it wasn't originally equipped with 4-WD. A metal plate on the truck's dash says "Marmon Harrington, Indianapolis, Indiana." That company converted the truck to 4-WD. A local Ford dealer bought the truck new and used it as a tow truck for many years. Then the truck sat outside in a field for a long time. I bought it from a local farmer in the early 1980's.

The truck is powered by a flathead V-8 engine and has a 4-speed transmission. The engine was worn out so last spring I removed it. I plan to overhaul the engine so I can get the truck running again. (Ken Warkentin, General Rural Delivery, Thornhill, Manitoba, Canada R0G 2T0 ph 204 822-3612)



I converted an old Massey 750 combine into a low-cost, self-propelled sprayer equipped with rear wheel drive and front axle steering. The machine drives and steers off the front axle, just like a tractor, so it turns sharp and is easy to maneuver. It has a 60-ft. boom and a pair of 300-gal. tanks and rides on 18.4 by 38 wheels. Its low center of gravity helps keep it stable on sidehills.



I've used my combine sprayer for three years. It costs very little to maintain, and the diesel engine is fuel efficient. I spent about \$5,000 to build it. I saved that much just in one season by not having to hire a custom spraying service. And, I can shop for chemicals and do my own application when I need to without having to wait for someone else to do the job for me.

The machine has enough ground clearance to spray tall soybeans and its overall height is lower than a medium-sized tractor. It'll travel over soft ground without much compaction. It took about three months to build. (Marvin Coufal, 2150 S. Road, Bee, Neb. 68314 ph 402 566-4285)



I modified an old 1,350-bu. grain bin to store wood for my outdoor furnace. I cut out a pair of doors that measure 6 ft. 4 in. wide. I used 2-in. wide, 5/32-in. thick

angle iron to make frame supports on the inside of each door. It was a bit difficult to get ribs on the bin and the doors to match. My total cost was about \$600. (David I. Peters, Rt. 2, Box 230, Morden, Manitoba, Canada R6M 2A1)



Thanks for the story on the motorized pedal tractor that I built for my grand kids (Vol. 24, No. 6). The tractor is built out of a Deere 20 series pedal tractor which I completely restored. A 3 1/2 hp Briggs and Stratton gas engine direct-drives a centrifugal clutch which chain-drives the rear axle.



I've built several implements for the tractor, including a chisel plow anhydrous trailer, moldboard plow, and gravity wagon. The plow raises and lowers with a pair of levers. The land wheel is a lawn mower wheel purchased at a hardware store, the furrow wheel was made for a pedal tractor, and the wheel on back is off a baby stroller. The moldboard bottoms are made out of 16-ga. steel.

The gravity wagon measures about 3 ft. long and is made out of 16-ga. Sheet metal. It has automotive-type steering and a sliding door connected by cable to a wheel that's used to open it. (Frank L. Miller Farms, 307 Iowa Ave., Mott, N. Dak. 58646 ph 701 824-2637)



I designed this homemade mailbox with used farm machinery parts and a bit of imagination. I think of it as abstract art made to look like an old-time tractor.

The large wheel at the bottom is off an old pull-type Case combine, and the horizontal section at the top is the knottor countershaft off an old Massey Harris binder. The eccentric crank that operated the knottor forms the tractor's steering wheel. The pipe that supports the knottor countershaft extends all the way down through the wheel and telescopes inside another pipe that's anchored in cement under the ground. If I need more room when cutting grass, I can grab the wheel and swing the entire mailbox out of the way. (Bryan Morton, RR 3, Brussels, Ontario, Canada N0G 1H0 ph 519 887-6692)

After attending a local tractor pull, I thought it would be fun to build a pulling sled for my 4-wheeler ATV. This is what I came up with. I welded together two riding mower frames end to end. I kept one rear axle on one end and built a skid pan at the other end. Then I mounted a 4



hp engine on back to pull the weight transfer box up the frame, which works via a belt and pulley system. I mounted a seat on one side at the back where I sit while running the engine and operating a lever that controls the weight transfer box. Cement blocks provide the weight.



The whole system works - it has stopped every ATV that has been hooked up to it. (Bryn Trumbull, 380 Youngs Rd., Fort Plain, N.Y. 13339)



Our new attachment for riding mowers lets you lift the discharge chute up out of the way on-the-go for easier trimming and parking in tight areas.

The "Lift-n-Mow" consists of a 24-in. long, 1/4-in. dia. fiberglass rod mounted on a heavy duty spring that bolts to the discharge chute. To raise the chute you simply pull up on the handle.



It's a lot safer than bending down to raise the discharge chute by hand, or removing it entirely. It also makes it easier to mow tall grass without making windrows or plugging up the chute. Many newer riding mowers are equipped with an automatic shutoff switch under the seat, so if you bend down you can accidentally stall the mower.

Sells for \$11.95 plus S&H. (Keith Fischer, KRF Enterprises, Inc., 69732 213th St., Darwin, Minn. 55324 ph 320 275-4483; email: info@liftnmow.com; website: www.liftnmow.com)

He Runs Skid Steer Loader With External Controls

Glen Farmer, Palisade, Colorado, can often be seen walking his Bobcat around his farmstead and even up to the door of his machine shop.

Farmer says his 741 Bobcat skidsteer is one of his most useful tools. "It's really stable and can lift just about anything I need to lift," he says. "The 2-cylinder diesel engine makes a tank of fuel last so long I sometimes forget to fill it up."

Even so, he felt the machine could be improved. "I use it to move machinery and parts to my shop, and often have to use a chain to fasten something to the bucket. I also use it for a portable hoist to hold heavy parts I'm trying to put in place. Since I almost always work alone at the shop, every time I needed to raise or lower the bucket, or move the machine just a little to reposition something, I had to climb in and sit down," he says. "I'm a coward when a bucket is above ground. I avoid going under one."

That often meant climbing into the seat from behind, through the back of the roll cage.

He'd been trying to come up with a way to avoid this hassle and, he says "One morning I woke up with a picture in my mind of just what I needed to do. I got up, went to the shop, and went to work on it."

Farmer's idea was to add external controls for every control on the loader, so he could maneuver and manipulate it without having to crawl in.

He cut a hole through the undercarriage frame on the left side of the loader and ran linkages to the throttle, the hydrostats for the left and right wheels and the hydraulic valves that control the arms and bucket. Later he

added a shaft connected to the parking brake, so he can set or release it. "I added a safety latch to the brake arm, so the vibrations of the machine can't accidentally release it."

He made a throttle lever out of a 12-in. length of 1 1/4 by 1/4-in. strap iron. He used 1/2-in. pipe to make levers for right and left wheel hydraulic lift controls. All of the external controls are located in a bank centered between the wheels on the left side.

"With the external controls, I can do everything from the ground that I can if I'm in the machine. I actually do walk alongside the loader as I'm moving something around."

To those who might worry about the safety of walking along beside a moving, riderless skidsteer, Farmer says, "OSHA probably wouldn't like it. The manufacturer might not, either. I'm aware of the potential danger and I don't let anyone else use the external controls."

"When I move dirt and gravel, dig holes, pull tree stumps, etc., I always ride inside the caged cab, using seat belt fastened. On rough, hilly ground, I use the safety bar across my lap," he says.

"But having the controls actually makes the way I use the machine safer for me," Farmer continues. "It seems safer to me to be able to control it externally than to have to get in and out of it with a load on the raised arms, or try to get on or off the machine with the bucket raised part way."

Contact: FARM SHOW Followup, Glen Farmer, 3611 G. 4/10 Rd., Palisades, Colo. 81528 (ph 970 464-7582; email: xlnfarm@aol.com).



Glen Farmer added external controls for every control on his Bobcat skid loader, so he can maneuver it without having to crawl in (above). He cut a hole through the undercarriage frame on the left side of loader and ran linkages to the throttle, the hydrostats for the left and right wheels, and the hydraulic valves that control the arms and bucket (right).



Bracket-Mounted Post Gripper

Roger Holcomb, Mentor, Minnesota, needed a better fence around his buffalo herd. He decided to build one out of railroad ties, despite the fact that he was recuperating from hernia surgery. He succeeded, thanks to a bucket-mounted post handler he put together in his shop.

Holcomb used 4-in. square steel tubing, an old hydraulic cylinder, some threaded rod, and a small piece of 3/16-in. plate steel.

He started by cutting two 3-ft. lengths of the steel tubing to make "fingers". In one piece, he drilled two 1 1/2-in. holes and put matching holes through the bottom of the old bucket. Then he fastened the tube solid to the bucket, using 1 1/4-in. threaded rod cut to length for bolts.

He set the second section of tube about 8 in. away from the first and fastened it with just one bolt, so it would pivot back and forth. He bolted the steel plate over the top of the square tubes.

On the back end of the pivoting rod, he welded ears to match up with his hydraulic cylinder. The other end of the cylinder fastens in the bottom of the bucket.

"I had my ties all loaded on a wagon. To pick one up, I raised the bucket and tilted it down so the grapple fingers were over the post. Then I grasped it by activating the hy-

draulic cylinder. It worked great after I cut some teeth into the inside of the stationary tube, so the post wouldn't slip out," he says.

"I have an 11-in. post hole auger on the 3-pt. hitch of the tractor. I replaced the pto drive on it with a hydraulic motor. That makes it a lot easier to use. If I hit a rock or get into tough soil, I can back it out of the hole," he says.

"When I'm making fence, I pick up a post with the front-end loader and drive to the place where I'm going to put it. After I dig the hole, I make a U-turn with the tractor and then drop the post into the hole," Holcomb explains. "It really works well and I didn't have to touch one post."

Holcomb says despite the size of the threaded rod he used for bolts, he's broken more than a couple of them, mostly by gripping the post a little too tightly.

"It only takes a couple of minutes to replace one. And since it's fastened to the bucket with bolts, when I'm finished setting posts, I can take it out in less than 10 minutes and have the loader bucket to use for other things."

Contact: FARM SHOW Followup, Roger Holcomb, 30990 140th Ave. SE, Mentor, Minn. 58736 (ph 218 637-8283).



Bucket-mounted post gripper made it easy for Roger Holcomb to build a railroad tie fence by himself.



Two 3-ft. lengths of steel tubing act as grapple "fingers", one of which pivots back and forth (above). Hydraulic cylinder fastens to bottom of bucket.



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Hat Collection Reaches 54,386

When we first met Buckey Legried, back in 1997, his cap collection was already among the world's largest at 24,000. He has since expanded the collection to an incredible 54,386 caps, which makes it by far the largest in the world.

According to a recent report in *Minnesota Farm Guide* (www.minnesotafarmguide.com), Legried has about 2,000 caps on display in his garage and basement. The rest are in storage, 24 caps per box or about 2,000 boxes.

He has caps from Brazil, Denmark, Japan, Korea, Norway, China, Sweden and Venezuela, and many other countries. He has at least one John Deere cap from each state and all of the Canadian provinces except New Foundland. It's not easy to keep up with new Deere caps, says Legried. "Deere comes out with a new cap design many times through-

out the year. They have so many different lines of equipment and operate in so many areas of the world that I don't even try to keep track of every new cap they come out with."

Legried keeps many of his caps on display in his basement, which has shelves on both sides. One side has nothing but Deere caps. The other side has caps with the Deere dealer's name, town and state. Other caps are stored in two 48-ft. semi-trailers.

"A lot of people know about my collection and I still get phone calls from people who want to give me caps," says Legried. He recently sent in his application to Guinness World Records for the world's largest cap collection."

Contact: FARM SHOW Followup, Buckey Legried, 45394 20th St., Frost, Minn. 56033 (ph 507 878-3315; fax 507 878-3125).



Legried keeps some caps on display in his basement. Others are stored in a pair of 48-ft. semi-trailers.



First you inject gas into underground tunnel or den (left). Then you use remote detonator to ignite gas (right). The resulting explosion kills by concussion.



Remote-Controlled "Blaster" Kills Underground Pests

The idea of blasting gophers and other underground pests with an explosion of propane has been around for many years. But the possible danger of the procedure has kept some people away.

A new underground blaster called Safekrush is said to eliminate any risk of blasting yourself. Like other units on the market, it has a wand that you use to inject propane and oxygen into underground tunnels. But instead of a detonator that fits on the end of the wand, it has a remote-controlled electronic detonator that you activate with a wireless remote from a safe distance away.

The manufacturer says the new system appeals to farm women who don't normally like setting traps, using poison bait, or standing right over a tunnel while it's blown up. "Our new system works great on nearly any underground pest including gophers, moles, muskrats, ground squirrels, prairie dogs, badgers, and woodchucks," says company representative John Rogers. He notes that a full foot of the flame-proof wand can be inserted into the den for improved ignition of the gasses. "The injection unit is much lighter than other systems and you get additional equipment for about half the price. In addition, Safekrush comes with helpful aids, such as the Wind Guard and a flameproof tarp for treating Voles, which is normally a very difficult rodent to control."

The patent pending system includes an injection wand, the remote control detonation device, two pressure control valves, and a mobile cart for pulling it around. It sells for \$1,170 plus \$25 S&H.

Oxygen and propane are mixed as they're injected into the underground tunnels. The gasses rapidly spread throughout the tunnel complex and then expand at a rate of 5,000 ft. per second after detonation, killing all animals at once by concussion. Unlike traps, which kill one at a time, you can wipe out an entire colony in minutes, notes Rogers.

Any size oxygen and propane tanks can be used with the system.

Contact: FARM SHOW Followup, Occidental Nuisance Wildlife Control Company, P.O. Box 920, Forestville, Calif. 95436 (ph 707 824-0903; www.safekrush.com).



Westendorf's new "auto dump" loaders quick-tach to any brand ATV, garden tractor, or lawn tractor up to 20 hp.

"Auto Dump" Bucket For ATV's, Garden Tractors

Putting a loader on an ATV or garden tractor, or lawn tractor is an idea whose time has come, says Westendorf Mfg.

The "auto dump" loaders quick-tach to any brand or model ATV, garden tractor, or lawn tractor up to 20 hp, with or without a 3-pt. hitch. The bucket mounts on front of an ATV or lawn tractor and can be either front or rear-mounted on garden tractors. Models are available to raise the bucket 3, 4, or 5 ft. high.

The bucket operates off the machine's battery and bolts to its frame. A single switch is used to raise, dump, and reset the bucket.

A "clam shell" bucket for hauling grass clippings and leaves is also available.

"We offer a wide variety of attachments for the bucket," says Matt Westendorf. "It can be removed in less than five minutes by removing three pins. The bucket's mounting brackets don't interfere with belly-mounted

mowers, so you don't have to remove the mower in order to use the bucket."

The company has also introduced a new forklift, blade, and boom designed for its add-on 3-pt. hitch called the Power Point Converter. "The blade hinges in the middle so you can use it as a flat blade or a V-plow," says Westendorf. "The forklift can be used to move pallets and boxes, etc. The boom can be used to move engines, etc. We also offer extended lift poles that can be used to move picnic tables and garbage bins, etc.," he notes.

The auto-dump bucket and mounting brackets sell for about \$500. The Power Point Converter sells for about \$600.

Contact: FARM SHOW Followup, Westendorf Mfg. Co. Inc., Box 29, Onawa, Iowa 51041 (ph 712 423-2762; fax 712 423-1460; website: www.westendorfmfg.com).

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