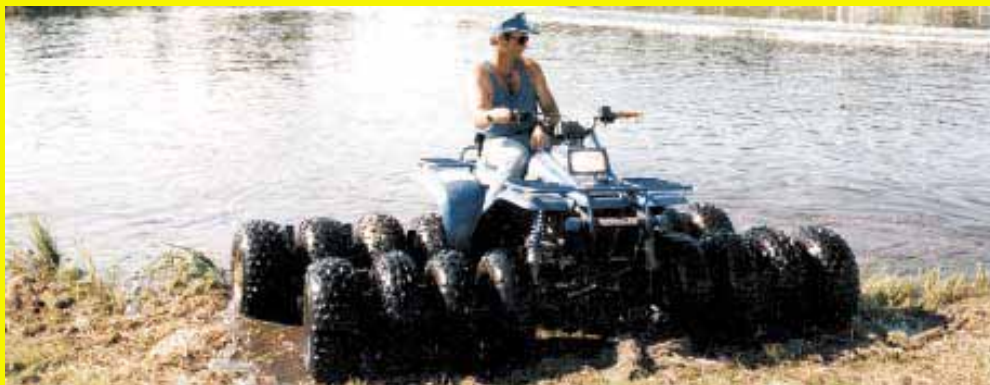


Look What They're Doing With ATV's!



16-Wheel ATV Runs Through Water - Gene Riddlestine didn't like the fact that he had to stop at the edge of the water with his ATV. So he added 12 wheels to the bike, more than enough to float it in water. To help propel the bike, he fitted small paddles to the steel spacers between each set of wheels. See story on page 2.



Diesel-Powered ATV - An Illinois company recently started importing diesel-powered ATV's from England. Besides running cheaper, the heavy-duty utility vehicles are geared for farm chores. See story on page 2.



Amphibious ATV Fitted With Floats - Mike Dick welded steel drums together to make big floats for the front and back of his ATV. He wanted to be able to cross rivers and lakes when hunting or trail riding. See story on page 2.

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A local metal shop built spacers from rolled pieces of steel to hold wheels on ATV. Riddlestine hauls the big rig sideways on a snowmobile trailer.

“Go Anywhere” 16-Wheel ATV Runs Through Water

Gene Riddlestine's Polaris 250 is more than an “all terrain vehicle”. He calls it an “all anywhere vehicle”. When he adds 12 wheels to the four wheeler, there isn't much that can stop him, including lakes and ponds. The idea came to him when a former employer, a local Polaris dealer, asked him to help pull snowmobiles out of the water during a summer “water skipping” contest.

“The beach was real sandy, and I put duals on my 250,” recalls Riddlestine. “Someone asked if it would float, but it didn't. Two years later, when I was asked to help out again, I decided to try fours instead of duals. I drove



All eyes are on Riddlestine when he takes to the water.

down to the beach and out into the lake about 400 to 500 feet.”

The first year, Riddlestine simply put spacer drums on each wheel and the 16-wheeler crawled across the lake at about 1/4 mph. The second year, he turned the ATV into a paddle wheeler by welding four steel paddles onto the spacer drums. This brought his water speed up to about one mph.



The Diablo, shown above, is powered by a 2-cyl. water-cooled diesel engine.

Diesel-Powered 4-WD ATV's “Run Cheap”

Visitors to the recent National Farm Machinery Show in Louisville, Ky., crowded around a new diesel-powered ATV on display.

Panorama, Inc., of Gibson City, Ill., recently began importing 2-WD diesel-powered ATV's from England. The heavy duty Diablo is powered by a Lombardini 2-cyl., water-cooled engine and is designed for on-farm chore work. The Scorpion is powered by the same engine but is built much lighter for transportation and recreational use. Both models have automatic transmissions.

“As far as we know they're the first ATV's

in North America equipped with a true diesel engine, not just a reworked gas engine,” says John Smith of Panorama.

The Diablo is available in red, green or yellow colors while the Scorpion is available in red, green, or blue. The Scorpion sells for about \$6,000 and the Diablo for about \$9,000.

Contact: FARM SHOW Followup, Panorama, Inc., Box 415, 523 South Sangamon Ave., Gibson City, Ill. 60936 (ph 800 392-2386; fax 217 784-8792; Website: www.panoramafarmequipment.com).

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March-April, 2000

Amphibious ATV Fitted With Front And Rear Floats

Michael Dick of Humboldt, Iowa, can drive his ATV right across deep rivers and lakes. That's because he equipped it to float on front and rear-mounted pontoons.

He welded two pairs of 17-gal. steel drums together and mounted them on front and back of his Honda 450.

“I came up with the idea because I live on one side of a river and wanted to go trail riding on the other side,” says Dick.

He made a steel mounting bracket for the front drum which U-bolts to the ATV's front bumper. On back he bolted steel mounting brackets to the ATV's rear axle and welded other brackets to the luggage rack.

A length of steel pipe clamped onto the exhaust muffler on back serves as a “snorkel”. Muffler tubing was used to make another “snorkel” for the air intake (not shown). “Even when I don't have the pontoons on, the snorkels allow me to still go in fairly deep water,” says Dick.

“It makes quite a sight because when I go in deep water all you can see of the ATV is the handlebars. With the engine below the water line I can't even hear the engine running, but I can feel it vibrating on the handlebars. I only go about 1 mph. The deeper the tread on the tires, the faster you will go. The front wheels are still used to steer.

“The bracket that supports the drum on front has a series of holes in it, so that by



A length of pipe clamps onto exhaust muffler to serve as a “snorkel”. Another snorkel fits the air intake (not shown). The snorkel allows water to wash over ATV.

pulling a pin I can adjust the height of the drums. I can also raise or lower the rear-mounted drums. Whenever I'm on land I raise the drums so they don't catch on tree stumps, rocks, etc. To keep from “bottoming out” when approaching the water's edge I simply pick out a spot that's not too steep so I can go in gradually. If I ever do get stuck I can use an electric winch on front of the ATV to pull myself out. And the front-mounted drums can be swung out of the way by simply pulling a pin.

“The drums stick out about 6 inches on each side of the ATV, which makes it a little harder to get between trees. I think hunters in the wilderness could haul the drums on a cart behind the ATV and mount them whenever they have to cross deep water. Once they're across they could leave the drums there until they come back.”

Contact: FARM SHOW Followup, Mike Dick, 1998 215th St., Humboldt, Iowa 50548 (ph 515 332-3550; fax 3770).

He Saved Thousands Building Hopper Bottom Trailer From Kit

Steve Reinhardt, a Russell, Kansas grain and cattle farmer, was having trouble moving grain away from his combines with his three old tandem axle straight trucks. Steve plants about 1,100 acres of dryland wheat and milo.

"My trucks were old and hard to drive, and it was hard to keep them running. I found a used semi-tractor in good shape for a good price, and decided to buy that and pull a hopper bottom trailer behind it," Steve says.

"Then I priced trailers. Even the used ones I could locate were out of my price range. But I had seen a trailer I liked, built by MCM Co. in Kingman, Kan."

Steve called Myrna Carson who, with her husband Jim, owns MCM Co. He asked if she'd sell him just the pieces of a trailer not yet welded together. Myrna agreed and Steve got his trailer in pieces, at a savings of several thousand dollars off the price of a finished trailer.

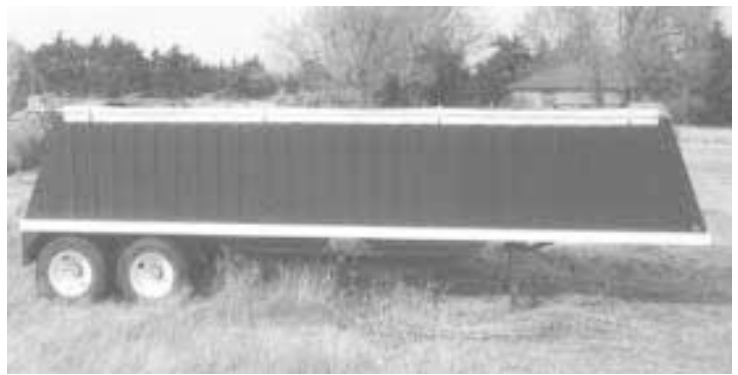
About the first thing he did then was to get a new wire welder. He found axles from an old oil tanker trailer and rebuilt them. Then he went to work on the trailer. "We worked on it all last winter when we weren't feeding cattle or taking care of new calves. By spring, it was ready to roll."

"Since selling the trailer in pieces to Steve worked well for MCM, the company has been selling trailer kits for the past three or four months. "All we put into the kit is parts for the box itself - no dolly legs, no axles,

nothing but the box. We've had a lot of interest in this. Farmers and truckers who can assemble it themselves can save a lot of money. We're already putting together as many trailers as we can, so this adds to our volume, too," Myrna says.

Kit prices vary with the size and design of the trailer.

Contact: FARM SHOW Followup, Steve Reinhardt, 18032 Fairfield Road, Russell, Kan. 67665 (E-mail: rreinhardt@hotmail.com). Or contact FARM SHOW Followup, Myrna or Jim Carson, MCM Co., 600 Kansas Ave., Kingman, Kan. 67068 (ph 316 532-5466 or 5209).



Steve Reinhardt bought pieces of a hopper bottom trailer and welded them together himself, saving thousands of dollars off the price of a finished trailer. Note hopper bottom (right).



Trailer mounts on axles from an old oil tanker trailer, which Reinhardt rebuilt. He uses a semi tractor to pull the unit.



Add-On 3-Pt. Hitch Equips Hummer For Field Work

If you want to get the attention of your neighbors, just head to the field this spring with a Hummer truck pulling a five-bottom plow.

Tom Kendle thinks Hummers, which are commercial versions of military Hummers, make perfect farm utility vehicles, especially when equipped with a 3-pt. hitch and pto. In fact, he developed his own patented design for a 3-pt hitch that can be easily bolted to any Hummer.

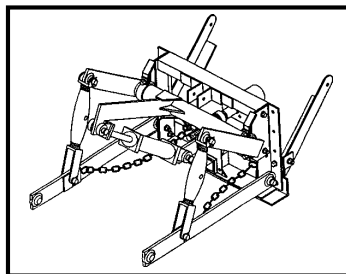
"One outstanding feature of the Hummer is that you can have torque on all four wheels even if a wheel is in the air," says Kendle, an employee of the A.M.G. plant in Mishawaka, Ind., where Hummers are built. "With true 4-WD final reduction at the wheels and a naturally aspirated diesel, it puts 10,000 lbs. of torque on the ground. With the turbocharged option, that goes even higher."

The first time Kendle drove a Hummer, he knew it had farm potential. He thinks it makes sense to buy one in place of a pickup because it'll do everything a pickup can do plus work in the field. Although new ones sell for \$55,000 stripped down, used ones can be found for \$25,000.

One of the options available for the Hummer is a 12,000-lb. winch which can be attached either front or back. Kendle uses the winch plates to mount his add-on 3-pt. hitch.

"I can carry a 1,500-lb. bale around on a spike without any extra weights on the Hummer," says Kendle. He has also used the truck to pull a 24-ft. drag across the field at 10 mph using 0.39 gal of fuel per acre. "That's twice the speed and half the fuel of a tractor."

To make the unit even more versatile, he adds a hydraulic motor with a pto shaft mounted to the hitch. He uses an 8, 16, or 24 hp hydraulic pump to produce the power for



Kendle developed his own patented design for a 3-pt. hitch that can be easily bolted to any Hummer, and also used on front of farm tractors.

the unit. The advantage of a separate power unit is constant pto speed regardless of what is being done with the truck.

Kendle has also mounted his 3-pt. hitch to the front end of conventional tractors, and he built a smaller one just for garden tractors.

He has also mounted his 3-pt. hitches on the front of a '78 Ford 250 truck equipped with a snowplow bracket. Kendle sells his medium duty 3-pt. hitch for \$1,385 with electric hydraulic assembly for another \$545. The garden tractor unit will soon be available for \$600. The pto unit with the 16 hp generator, shaft, motor and hoses sells for \$5,743. His dozer blade sells for \$1,080. All prices are FOB.

For those who would like to see the units in action, Kendle sells a video for \$14.95 plus \$3.00 for shipping. He also has a booklet of pictures of his units in use.

Contact: FARM SHOW Followup, Tom Kendle, 26179 May Street, Edwardsburg, Mich. (ph 616 663-8997).



Tom Kendle thinks Hummers make perfect farm utility vehicles, especially when equipped with his 3-pt. hitch and pto. Here he's using it to pull a five-bottom plow.



He also uses a Hummer to operate a snowblower, and to drive to town.



Gerry Peterson's "GP General" is powered by a Deere 2-cyl. LUC engine. The "GP" stands for his own initials.

Home-Built Tractor Great For Utility Work

"My wife encouraged me to build this chore tractor. It took countless hours but once I was done, I had a hard-working machine that gets a lot done," says Gerry Peterson, Regina, Sask.

"I first bought the back end of an Avery tractor from the 1940's. It had a chipped tooth in the second gear, which I repaired while doing a general rebuild.

"Next, I bought a Deere 2-cylinder LUC engine from a friend. The engine needed an overhaul and was started with a hand crank. I did the overhaul and installed a Wisconsin V4 ring gear and an Allis-Chalmers starter to replace the hand crank.

"The front axle came off a friend's 428 Cockshutt combine. The original tractor transmission had only three gears so I installed an IH truck 3-speed transmission as well, for a total of 9 speeds. The engine is joined to the IH transmission by a chain coupler and to the back end input shaft with a short driveshaft I made.

"The input shaft on the Avery tractor was obsolete so I cut it off with my lathe and installed a GM truck spline. A hydraulic pump from a 7720 Deere combine is coupled

to the crankshaft pulley at the front for live hydraulics. I have one hydraulic outlet at the back for an external cylinder.

"The power steering motor came off a Massey Ferguson 510 combine. The steering column came out of a Volvo highway tractor. It tilts and telescopes. The steering wheel is from a Plymouth Arrow and the alternator from a 1966 Chevy.

"I installed a relay to make a conventional ignition switch work with a magneto. The light switch also uses a relay. I installed three main gauges plus an hour meter, tach, and a hydraulic pressure gauge on the dash.

"I made the hood, grill, seat and 3-pt. hitch from scratch.

"The finished tractor works very well. I have made a snowblower and blade as well as a buzzsaw for cutting firewood. The saw mounts on the 3-pt. hitch. I also made a 3-pt. mounted sprayer.

"I call the tractor the GP General, using my own initials. It's painted Deere green and yellow."

Contact: FARM SHOW Followup, Gerry Peterson, 188 McDougall Crescent, Regina, Sask. S4S 5M7 Canada (ph 306 584-1263).

"Best Snow Mover I've Ever Used"

If you've ever tried moving snow with a skid steer loader, you know a regular bucket is not the best snow handler around.

Jerry Shrum, a farm mechanics teacher in Whiteland, Ind., also does commercial snow plowing on the side. He bought a plate from his dealer that mounts on the loader in place of the bucket. It's designed to hold small implements. Shrum simply fitted it with a Western snowplow, designed for use on a pickup truck.

"I bought the mounting plate for less than \$100. A lot of people have a snow blade around - the kind with a couple of cylinders on it that angle and lift it. I bought a used one for \$50. Since the skidsteer has remote hydraulic outlets, I didn't need the hydraulic pump and motor you'd need on a pickup," he says.

The hydraulics on the skidsteer are faster and more responsive than with the pump that came with the blade, too. And, Shrum says, with the blade mounted in place of the bucket, you can put down-pressure on the blade so it will do a good job of removing

frozen snow and ice, too.

The mounting plate was a little light so he reinforced it along the edges and across the center by welding channel iron on the back. "It only took about three hours to reinforce the plate and get the plow mounted on it. It's something anyone can do.

"It takes only 30 seconds to switch from the blade to the bucket or back again, so when I'm clearing snow I take both along. The cylinders on the blade allow me to angle it left or right. With the skidsteer controls, I can tilt the blade so I can push snow up. I can pile it about 9 ft. high with the blade alone. Then I can put on the bucket and pile it higher," he says. When clearing a parking lot, that means less space wasted.

"It'll push a lot more snow than with the bucket alone. It's faster than pushing with a pickup, and it's the most maneuverable snow plow I've ever had," he says.

Contact: FARM SHOW Followup, Jerry Shrum, Shrum Mowing, 5632 N. 300 E., Whiteland, Ind. 46184 (ph 317 535-7609).



"It lets us go fast and reduces compaction," says Dennis Hess, who converted a "Terra Truck" floater sprayer to pull a big liquid manure tank equipped with injectors.

Floater Truck Converted To Pull 5,500-Gal. Liquid Manure Tank

"We have a custom manure hauling business and this rig lets us go fast both in the field and on the road. It also reduces compaction," says Dennis Hess, Fonda, Iowa, who converted a self-propelled "Terra Truck" floater sprayer to pull a big liquid manure tank equipped with injectors.

He started with an Ag Chem "Terra Truck" 1604 floater. He removed the truck's 1,600-gal. spray tank and boom. He mounted a pintle hitch between the rear wheels and added live hydraulics. He then bought a Van Dale 5,500-gal., tandem axle liquid manure tank originally designed to be pulled by a tractor. He removed the original hitch and replaced it with a gooseneck hitch that he built out of 15-in. steel I-beams. He also moved the tandem axles back toward the rear of the wagon to put more of the weight on the Terra Truck. The tank's vacuum pump and slinger are operated by the truck's live hydraulics.

To inject manure he mounted Vittetoe disc injectors on a 4 by 4 home-built toolbar that bolts onto the back of the tank.

Hess custom hauls about 40 million gallons of hog manure every year. "We can go down the road with a full load at 25 to 30

mph and inject manure in the field at 7 mph. Both the Terra Truck and the tank are equipped with big flotation tires so it has a smooth ride even when we go fast over rough ground.

"We remove the toolbar and injectors during the winter. If we ever want to pull it with a tractor again, we can put the hitch back on and move the wheels ahead in only a couple of hours.

"We paid about \$15,000 for the Terra Truck which we bought at an auction. It was in good condition and has about 200 hp. We bought the tank new.

"We mounted a hydraulic reservoir on one side of the truck and mounted an oil cooler fan behind the cab. We can vacuum manure into the side of the tank or top fill it. The tank originally came with a fill hole at the top on back. However, we wanted to be able to see the fill hole from the cab as we're loading the tank so we plugged up the hole on back and made a new one on front. A custom-made hatch and hydraulic-opened lid was then made to fit the hole."

Contact: FARM SHOW Followup, Dennis Hess, 16526 620th St., Fonda, Iowa 50540 (ph 712 288-6282).



Shrum mounted a plate on skid steer loader in place of bucket, then fitted it with a snowplow designed for a pickup.



Cylinders on the blade allow it to be angled left or right.



He reinforced mounting plate along the edges and across the center by welding channel iron on back.

Editor's Notebook



Mark Newhall
Editor &
Publisher

Self-Steering "Robot" Tractors

Two companies at the California Farm Equipment Show this winter introduced new add-on "robot" systems designed to steer tractors automatically.

Trimble Navigation Ltd., Overland Park, Kan. (800-865-7438 or www.trimble.com) says its new autopilot system connects to your tractor's power steering and becomes a tireless assistant, controlling the tractor hour after hour with a consistency that few tractor operators can match. The system uses "real time kinematic" GPS, which controls the tractor to within inches.

To install, you plumb the system into the tractor's power steering and mount a small terminal in the cab.



Tractor fitted with Trimble system.

Beeline Navigator, Inc., of Fresno, Calif. (559-256-2333 or www.beelinenavigator.com) exhibited what it calls "cruise control for your tractor's steering". They say it allows all tractor drivers to consistently do the job of the best drivers, and also makes night farming much easier. Beeline also uses



Beeline's cab-mounted control unit.

GPS equipment, monitoring tractor position to within 3/4 in. at any time. Beeline has been automating various aspects of tractor operations for six years and claims to have more field experience than any other company.

Ag engineers are also working on "driverless" tractors. Here are a few reports we've seen recently:

- A Stanford University research team, backed by Deere & Co., has developed a satellite-based driverless tractor system. They say it's more accurate than human operators, with control to within less than an inch in the field.

- The National Agriculture Research Center in Tsukuba, Japan, has been working on an unmanned tractor. Researchers have successfully performed all kinds of fieldwork with no driver on board. "No tractor driver could run as accurately as our automated GPS tractors," says a spokesman at the research center.

- French ag engineers at the CEMAGREF institute for agricultural machinery have created a "driverless" Renault tractor. A driver makes one pass to engage the tractor's satellite system, then lets the tractor do the rest. The tractor's controller can record a sequence of events for a field – speed, depth, etc. – and then be able to reproduce the same sequence a month or year later, as needed. Researchers say they're a couple years away from commercial introduction.

- At the Agritechnica farm show in Germany last fall, a company called Geo Tec Electronics introduced an auto navigation system that combines GPS with radar to operate tractors or other self-propelled machines with no assistance from an operator.

Other research projects into "robot" tractors, swathers and

other equipment are going on at Purdue University, the University of Illinois, Cornell University, and, of course, at every tractor manufacturer's engineering lab.

Deere Owners Respond: "We Like New Rotary Combine"

We had a lot of response to a piece in our last issue entitled "Deere Rotaries – A Few Months Later". Some Deere owners – and officials at Deere & Co. itself – objected to the fact that we quoted a Wisconsin reader who did not himself own a new STS rotary. He was simply passing along what he had heard about the new machine from other farmers.

Loyal Deere owners told us – in no uncertain terms – that they wished we had talked to guys who had actually run one of the new rotaries. So we tracked down a few operators who ran a Deere rotary last fall. Here's what they told us:

Randy Rogers, Sargeant, Iowa: Randy used a new 9650 STS Deere rotary last fall alongside a conventional 9610 Deere. "It's a very good, quiet machine with considerably more capacity than the 9610. We ran it with a new Deere 30-ft. flex head which has the new-style auger with retractable fingers across the width of the machine. This is a tremendous improvement. It feeds crop material through much better and lets us start 30 to 45 min. earlier in the morning because it handles the crop so much better. Setting this machine was a bit different than a conventional machine. We felt like we were starting over, but it was real user friendly. We found that we could get a better sample when we kept the machine full. Our only real concern with the machine is the straw chopper. Both the chaff and straw run through the chopper and it didn't seem to spread as well as the 9610. We run all no-till so it's important to us to get a wide, even spread. After harvest, Deere sent out an update team that went through the combine, making a few improvements. Great service from Deere."

Ryan Young, Young Farms, Underwood, Iowa: "I was fortunate enough to put about 75 hours on a Deere 9650 STS combine last fall. Contrary to what you stated in your article, you don't have to change the concaves on an STS combine when switching between corn and beans. And the rock trap is even better than on previous machines because the beater forces stones down into the rock trap.

"I had no problems last fall with the STS combine that wouldn't come with any other totally new combine. I ran it in tough soybeans infested with waterhemp and it worked great. Grain quality was excellent and we didn't plug the machine once. The new Deere flex platforms are very good. The extra fingers on the cross auger do a great job pulling in crop material."

Bruce Johnson, Hader Farms, Zumbrota, Minn.: Hader Farms has 15,000 acres of cropland and own four Deere 9610 combines. Last fall workers field-tested a Deere 9750 rotary, equipped with a 12-row header, in 170 bu. per acre corn. "We only got to use the rotary for 8 to 10 hours but we were very pleased with it. It appears to be a great corn machine, with tremendous capacity. We found it more user friendly than the Caterpillar Lexion 485 that we tested at the same time. We're interested in the rotary concept mainly because it's supposed to do a better job cleaning with less dockage."

100 Years Of Tractor Manufacturing

In 1902, Charles Hart and Charles Parr opened a tractor factory in the aptly named town of Charles City, Iowa. Within four years, 10 other companies had joined them to build and sell 600 tractors in the U.S. Four years after that, in 1910, 15 firms built and sold 4,000 tractors.

As competition among manufacturers increased, tractor prices fell 40 percent between 1910 and 1917, making the radical technology affordable to many farmers. By 1920, 166 companies produced 203,000 tractors, 140,000 of which were sold that year to U.S. farmers.

Now, 80 years later, we're down to just a handful of tractor manufacturers worldwide. (Excerpted from a column by Alan Guebert)

A 65-year-old today got all the way through school before the hot lunch program started. He got to 12 before penicillin was discovered, 26 before the polio vaccine, 36 before Medicare, 39 before seat belts, and 40 before the Surgeon General discovered cigarettes were bad for him!

Can You Imagine Working For This "Company"?

It has a little more than 500 employees with the following statistics:

- 29 have been accused of spousal abuse
- 7 have been arrested for fraud
- 19 have been accused of writing bad checks
- 117 have bankrupted at least two businesses
- 3 have been arrested for assault
- 71 cannot get a credit card due to bad credit
- 14 have been arrested on drug-related charges
- 8 have been arrested for shoplifting
- 21 are current defendants in lawsuits
- 84 were stopped for drunk driving in 1998 alone

Can you guess which organization this is? Give up? It's the 535 members of the U.S. Congress! (Agri-News, Montana)

How To Find A Lawyer

There's certainly no shortage of lawyers around but if you've ever needed to find one to apply for a patent, defend yourself in a lawsuit, or any other reason, you know the process of finding the right lawyer can be both difficult and intimidating.

A new on-line service called CaseMatch is designed to make the process easier. It lists 480,000 attorneys nationwide and attempts to match you up with a lawyer who has the skills you need. You remain totally anonymous until you actually contact a lawyer. "Choosing an attorney can be very intimidating. We've received hundreds of e-mails from people who say CaseMatch made the search process less painful," says Michael Custode, head of the new service. For more information, just go to www.casematch.com.

Vanishing Farmland A Myth?

The idea that increasing amounts of farmland are being gobbled up by suburban development is a myth, says Samuel Staley, author of "The Vanishing Farmland Myth".

Staley claims in his book that the rate of farmland loss has slowed considerably in the past 30 years, from a height of 7.3 million acres per year in the 1960's to a loss rate of 2.7 million acres in the 1990's.

And despite losses of farmland, Staley says the amount of land devoted to raising crops has remained constant over the past three decades.

Urbanization is not the main cause of cropland loss, which accounts for only 26 percent of the loss. The rest is from parks, recreational land, and forests.

Staley, who works as an analyst at a libertarian think tank in California, says urbanization is not jeopardizing prime farmland. Only 1 percent of prime farmland was converted to urban uses between 1982 and 1992.

Don't Quit

*When things go wrong, as they sometimes will,
When the road you're taking seems all up hill,
And you want to smile, but you have to sigh,
When care is pressing you down a bit,
Rest if you must, but don't you quit!*

*Life is queer with its twists and turns,
As every one of us sometimes learns,
And many a failure turns out,
When he might have won had he stuck it out.
Don't give up though the pace seems slow,
You may succeed with another blow.*

*Success is failure turned inside out,
The silver tint of the clouds of doubt,
And you never can tell how close you are,
It may be near when it seems so far.
So stick to the fight when you're hardest hit,
It's when things seem worse, that you must not quit.*
Anonymous

Bits & Pieces

- My mind not only wanders, sometimes it leaves completely.
- The trouble with doing something right the first time is that nobody appreciates how difficult it was.
- Ford Motor Company pays twice as much per car for health insurance coverage for its employees than it does for the steel that goes into each car.
- If people from Poland are called "Poles", why aren't people from Holland called "Holes"?



"Air Probe" mounts on a 2-wheeled trailer and is equipped with a large turntable that holds 20 small containers. Power is supplied by a small air compressor.

Air-Powered Soil Sampler Makes Quick Work Of Job

A new air-powered fully automatic soil sampler takes hundreds of samples an hour and is designed to make a tedious job easy. One push of a button takes each sample.

The "Air-Probe" was introduced at the recent National Farm Machinery Show in Louisville, Ky. Most interest is expected from co-ops and custom operators, but some large farmers will be able to justify it. A farmer could use it on his own land and do custom sampling for others, the manufacturer notes.

The unit is designed to be used for grid sampling. It mounts on a 2-wheeled trailer and is equipped with a large turntable that holds 20 small containers. Power is supplied by a small air compressor, and the controls are mounted on an ATV or pickup that pulls the trailer.

When activated, a small rake first removes residue underneath the probe. An air cylinder then forces the probe down to an exact depth. Once the sample has been taken, a tilt cylinder pivots the probe over into one of the containers, and another cylinder ejects the soil core into the container. After one grid has been completed, the turntable is rotated to the next container.

The unit eliminates sampling depth



Soil cores are ejected into each container. After one grid has been completed, turntable is rotated to next container.

variation and encourages higher accuracy by making it easy to gather more samples per acre, says the company. It takes only about 15 seconds to collect one core sample or about 240 soil cores per hour. A water dripping system lubricates the probe to eliminate plugging. A spotlight allows 24-hour operation. The probe will penetrate up to 1 1/2 inches of frost, and uses Oakfield replaceable tips.

Sells for \$9,800 plus S&H.

Contact: FARM SHOW Followup, Furrer FAB Designs, 2358W 50N, Reynolds, Ind. 47980 (ph 219 984-6505; fax 6464; E-mail: furregj@furrerfabdesigns.com).

Twin-Row Corn And Bean Planter

Dennis Wallace, St. Bernard, Quebec, wanted the benefits of narrow rows but he didn't want to switch to 15-in. rows because it would have required switching to narrower tires on his tractor and sprayer and buying a different corn head for his combine.

To solve the problem he built a twin-row planter out of two Case-IH 800 6-row air planters, one ahead of the other. He replaced the double disc openers on the Case-IH row units with single disc openers off a Flexi-Coil air seeder. The result is a rig that plants six sets of twin rows spaced 8 in. apart, with 22 in. between each set of rows.

"It gives me the yield benefits of soybeans in 15-in. rows, without having to buy a new planter and spend time and money modifying my tractors and other equipment," says Wallace.

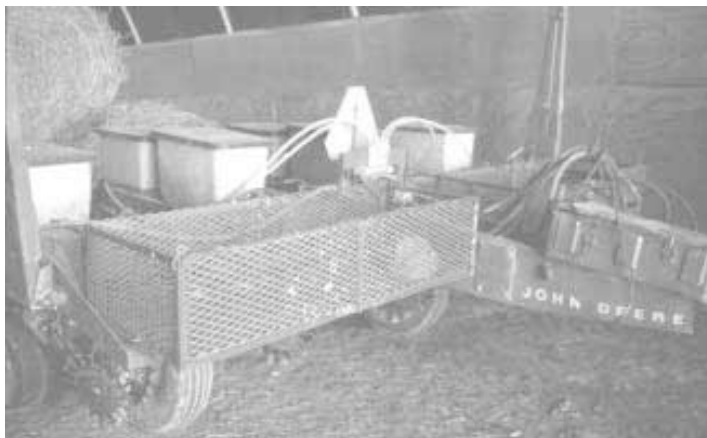
He bought the two pull-type Case-IH 800 6-row planters at a junkyard. The two planters are connected by a pair of hinged steel beams. The back planter is supported by a pair of dolly wheels. He stripped off the original row units and mounted Flexi-Coil single disc fertilizer and seed openers on each planter. The air modules deliver seed to the Flexi-Coil units.

"I built it 1 1/2 years ago and used it last

year to plant all my soybeans and about 40 acres of corn. I was able to drive all my equipment between the rows with no problems. My soybeans averaged about 56 bu. per acre, compared to the 50 bu. per acre I'd been getting with drilled beans. My corn yields were comparable to the rest of my corn which I planted in 30-in. rows," says Wallace.

"A lot of corn growers have switched from 30-in. rows to 20 or 15-in. rows without knowing for sure that it'll pay off. A 3-year University of Ontario trial shows that twin corn rows usually yield better on poor land. However, on better land there's not a big yield increase. If I ever decide to plant soybeans in 15-in. rows, I can just loosen the brackets on the row units and move them over.

"However, planting soybeans in twin rows has several advantages. It saves me about \$10 per acre on soybean seed costs compared to planting with a drill. I get better control of white mold disease because there's more air movement between the rows. I planted some Roundup Ready beans and some conventional. Where I sprayed with an herbicide other than Roundup there were weeds between the sets of twin rows, but no weeds inside them due to a dense canopy.



Kubik used expanded metal and angle iron to make a pair of boxes that mount across front of Deere planter.

See-Through Storage Boxes Fit Front Of Planter

Here's a simple idea that makes things easier at planting time.

Jim Kubik at Iowa State University's research farm made a pair of boxes to mount across the front of the farm's Deere planter. The boxes are made out of expanded metal and angle iron.

The boxes are strong yet you can see inside

them at a glance to see what they're carrying. Kubik uses the boxes for seed, chemicals, tools, and other supplies. One box mounts on each side of the toolbar, on its front side.

Contact: FARM SHOW Followup, Jim Kubik, Iowa State University Research Farm, 1079 320th St., Rhodes, Iowa 50234 (ph 515 493-2738).

Handy Rock Box Dumps Out The Bottom

Jack Gogerty, Zeating, Iowa, made his own heavy-duty rock box which mounts on his Oliver 2255 tractor.

"The bottom side of the box is hinged on the back side. All I do to dump the rocks out is pull a lever mounted on front of the box," says Gogerty. Gogerty bought the tractor already equipped with the box. It measures 2 ft. square and is bolted to the front of the tractor at two different places. "It's as handy for carrying tools as it is for hauling rocks," notes Gogerty.

Contact: FARM SHOW Followup, Jack Gogerty, 71095 105th St., Zeating, Iowa 50278 (ph 515 487-7489).

Rock box mounts on Gogerty's Oliver 2255 tractor. To dump rocks out all he does is pull a lever mounted on front of box.



Wallace's twin-row planter is built out of two Case-IH 800 6-row air planters. It plants six sets of twin rows spaced 8 in. apart, with 22 in. between each set of rows.

"The single disc openers penetrate the ground much easier than double disc openers and make it easier to control seed depth. I farm a lot of different soil types, from muck soils with 30 percent organic matter to clay with only 5 percent organic matter in the same field. I always had trouble getting double disc openers to penetrate the clay soil.

"In corn I place a single band of dry fertilizer between each set of twin rows. If I

planted in 15-in. rows I'd need twice as many fertilizer openers which would make the planter much heavier and much more expensive.

"Each hopper holds 15 bu. I can plant 25 to 28 acres of beans at a time per fill-up."

Contact: FARM SHOW Followup, Dennis Wallace, 243 Roxham Rd., St. Bernard, Quebec, Canada J0J 1V0 (ph 450 247-2469; E-mail: denkat@videotron.ca).

“Aquacide” System Kills Weeds Without Chemicals

Imagine going to the field to spray weeds and getting almost complete control, with no worry about getting an applicator's license, no drift, and nothing but water in the sprayer.

It's already being done on a smaller scale and it's only a matter of time before you'll be able to do it on the farm.

E.C.O. Systems Inc., Burlington, Ontario, has developed a hot water weed-killing system that's now being used by municipalities and private companies to clear away unwanted vegetation.

Called Aquacide™, the system heats water to 280 degrees F and then sprays it out under less than 40 psi of pressure through a typical sprayer nozzle.

“What we've developed is similar to flame-type weeders except that it's much safer,” says Patrick Kehoe of E.C.O. Systems. “The extreme heat of the water immediately destroys the cellular structure in the vegetation, killing the plant on contact.”

Because of the heat, stainless steel or brass nozzles are used. “The weeds need to be within 6 in. of the nozzle in order for it to work, since heat dissipates quickly into the air,” Kehoe notes.

Aquacide is being used in a number of different ways. It's used to mark lines on sports fields by killing narrow strips of turf. Cities are using it to control weeds on right-of-ways, around signs and buildings, and in sidewalks and parking lots. Kehoe says a number of organic growers are using it, since it does an excellent job of controlling weeds without chemicals. Most of the growers using it produce higher value crops on small acreages.

One advantage of the system is that it can



System heats water to 280 degrees F and then sprays it out through a nozzle.

be used around the house, shop, livestock buildings, or even wells without fear of environmental damage. “And woody plants aren't generally affected by Aquacide, although it will burn their leaves off if they're exposed to the hot water,” Kehoe says.

The Aquacide system heats the water on demand. A typical application requires about 2 gal. of water per foot of boom per minute of operation. The smaller the vegetation, the less water is required so the machine can be operated faster.

What that means is, if you went to the field with a 1,000 gal. tank of water and a 40-ft. boom, you'd need 80 gal. of water a minute and your tank would last roughly 12 1/2 minutes. Obviously, the amount of water required may prohibit use for large acreage commercial farmers.

Contact: FARM SHOW Followup, E.C.O. Systems Inc., 2349 Fairview Street, Suite 323, Burlington, Ontario, Canada L7R 2E3 (ph 905 639-6502; fax 905 681-8925; E-mail: mail@beaudrygroup.com; Website: www.beaudrygroup.com/eco)



Extreme heat of water immediately destroys the cellular structure in vegetation, killing the plant.



Weeds need to be within 6 in. of nozzle in order to be killed, since heat dissipates quickly into the air.

He Built His Own Pickup “Shock Hitch”

The cost of a commercial pickup shock hitch prompted Marshall Litchfield, Macomb, Ill., to design and build one himself for his Chevy 3/4-ton pickup.

“I used mostly scrap metal which kept my total cost to under \$100. Commercial shock hitches sell for up to \$500,” says Litchfield.

He used 2- and 3-in. sq. tubing and 3-in. channel iron to build the main frame. A leaf spring off a pickup mounts on edge at the back of the frame. The back end of a commercial 2-in. receiver hitch bolts to the center of the leaf spring. It cushions the forward and backward movement of the hitch. To adjust the amount of cushion the spring provides, Litchfield designed a bracket connected to two steel rods that he can move to change the mechanical advantage of the spring.

A pair of latches can be released, allowing the receiver hitch to slide out and back and forth for hooking up.

“I built it last winter after I bought a pickup that was equipped with a utility body but not

with a hitch,” says Litchfield. “I used it last year to pull my anhydrous wagons and seed-hauling trailers, as well as a 20-ft. tandem axle utility trailer. It'll support a lot of weight. My pickup isn't very high so I cut a hole in the bumper and mounted the cushion hitch inside it, instead of mounting it below the bumper.

“Most commercial pickup shock hitches use a coil spring. The leaf spring makes the hitch more compact. The way I adjust the amount of cushion – by changing the mechanical advantage of a spring – is unique. On commercial models you adjust the amount of cushion by tightening or loosening the coil spring, which isn't an easy job.”

Litchfield also rigged up a large rear view mirror that makes it easier to hook up implements to the hitch. The mirror is bolted to a pair of strap irons that are clamped to the pickup's tailgate.

Contact: FARM SHOW Followup, Marshall Litchfield, 15340 N 700 Rd., Macomb, Ill. 61455 (ph 301 254-3481).



Back end of a commercial 2-in. receiver hitch bolts to center of leaf spring, cushioning the forward and backward movement of hitch.



Hitch slides back and forth for easy hookups. Locks in place at center for towing.



Equipment “Rail” Makes Hookups Easy

“I have a 1960's Ford 801 tractor and several 3-pt. implements for it. I got tired of the constant struggle to get them aligned and hooked up,” says Bob Hudspeth, Era, Texas.

“I came up with what I call an ‘equipment rail’. Each implement is suspended by chain from a metal frame, making it easy to back up close and hook up in seconds. When the implements are

swinging from chains, it's easy to line them up with no lifting or prying.

“I laid a strip of carpet under the rail to keep weeds down, using 6-in. aluminum nails to secure it to the ground.

“I wish I had thought of this idea years ago when I first bought this tractor.”

Contact: FARM SHOW Followup, Bob Hudspeth, P.O. Box 51, Era, Texas 76238 (ph 940 665-5942).



Calf "bottle holder" is designed to hold 2-qt. milk bottles.

"Bolt-On" Milk Bottle Holder For Calves Attaches To Hog, Cattle Fence Panels

"It's a great time saver when you have to feed milk to several calves at a time. All you do is put the bottle in the holder and let the calf drink from it," says Ferguson Feemster, Springfield, Mo., about his calf "bottle holder" that's designed to bolt onto hog or cattle fence panels or even a wood 2 by 4.

The bottle holder is designed to hold 2-qt. milk bottles. It consists of a 14-ga. galvanized steel bracket that has back and side flaps to keep the bottle secure. Two 1/4-in. carriage bolts are used to attach the unit to the fence panel at an angle.

"We've used them for several years with no problems," says Feemster. "We came up with the idea because we sometimes have to feed 25 to 40 calves at a time, and it's hard to hold the bottle up individually for that many calves. The bottom part of the bracket has several bolt holes in it so the unit can be



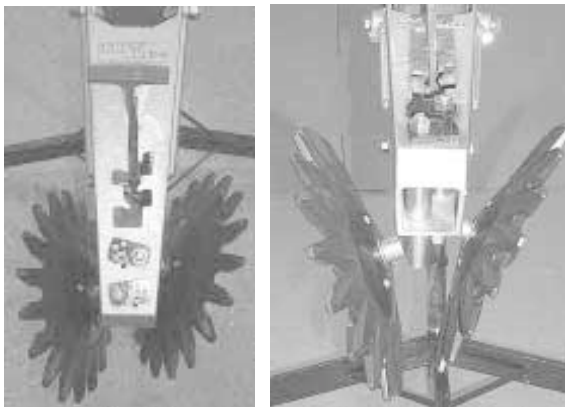
Steel bracket has back and side flaps to keep bottle secure.

bolted to panels even if they're placed upside down. It can also be bolted to 4 or 5-in. wide boards using longer 1/4-in. carriage bolts."

Sells for \$6.50 plus S&H.

Contact: FARM SHOW Followup, Feemster Dairy Farm, 2171 E. Farm Rd. 94, Springfield, Mo. 65803 (ph 417 833-3164).

Closing wheel arm lets you adjust angle of closing wheel by up to eight degrees. There are two sets of adjustment tabs, one for each side of the row.



Adjustable Closing Wheel Arm For Deere, Kinze Planters

"Our new adjustable closing wheel arm for Deere and Kinze planters lets you adjust the angle of the closing wheel by up to eight degrees so you can vary the amount of soil put over the seed when closing the trench to match soil conditions," says Pat Reinhart, May-Wes Mfg., Hutchinson, Minn.

The closing wheel arm replaces the planter's original arm and is equipped with two sets of adjustment tabs, one for each side of the row. Each set of tabs offers 4 different positions at 2-degree intervals, allowing the angle of each wheel to be adjusted up to a total of 8 degrees. To change the angle of the wheel you simply loosen a nut on a spindle and tab and pull it out, then insert the bolt in another hole and tighten the nut.

"It works great in no-till, minimum, and conventional till," says Reinhart. "A sharper angle shatters sidewall compaction and drags more loose or fine dirt gently over the top, helping to eliminate air pockets which harden

the ground and inhibit seed growth. Today's farmers sometimes have to plant in wet field conditions. The angle of conventional fixed closing wheel arms can cause heavier soils to slab over the trench, putting a lot of down pressure on the seed. Seed growth slows and reduces yields. You can often solve the problem simply by adjusting the angle of the closing wheels.

"The closing wheel arm is equipped with a spring adjustment bracket and with our Perma Fix ultra-wear greasable bushings, which provide more than seven times the wear surface of factory bushings."

The closing wheel arm can be used with or without the company's poly closing wheels. It sells for \$225 plus S&H without the wheels and \$339 plus S&H with them.

Contact: FARM SHOW Followup, May-Wes Mfg., Inc., Box 519, Hutchinson, Minn. 55350 (ph 320 587-2322; fax 6112; Website: www.may-wes.com)

"Made It Myself" Inventions From Britain

Every year the top British farm magazine, *Farmer's Weekly*, runs an inventor's contest. Here, courtesy of the magazine, are a few of this year's winners that caught our eye:

Spiral Pipe Cutter

Alan Hughes designed this simple tool to cut plastic water pipe in a spiral pattern so he can use it as a protective wrap around hydraulic pipe, electric cables, etc.

The tool consists of a 4-in. long piece of metal tubing that's slightly larger in dia. than the pipe to be cut. A cutter blade, made from a sharpened piece of hacksaw blade, is fitted to a plunger inside the handle. The blade extends out through a slot angled at 65 degrees, giving it the correct cutting angle.

To use it, you simply feed pipe into one end of the tube and rotate the tool around using the handle. It makes a spiral cut and



Alan Hughes and his spiral pipe cutter. "walks" the tool along the pipe. When you've cut enough pipe, you just withdraw the blade and slip the tool off. (Alan Hughes, Home Farm, Berwick, Shrewsbury, Shropshire, England)

Walk-Through Farm Gate

Conventional farm gates are great for keeping livestock in but they're not so convenient for humans. That's what prompted Robert Jeffery to come up with this new design that lets people walk through without opening the gate.

Jeffery designed a triangular-shaped opening into one side of the gate that's big enough for a person to walk through but will keep out everything from sheep to cows.

There has been so much interest in the gate that Jeffery has put it on the market.



New-style gate lets people walk through without opening the gate.

(Robert Jeffery, Jeffery & Son, Aston House, Sudbury, Ashbourne, Derbyshire DE6 5AG ph 011 44 1283585410)

Slurry Warning System

Walter Wright's invention is designed to solve the problem of trying to tell how much room is left in a big slurry tank without having to climb up and take a look.

He simply fitted a 9-in. dia. ballcock (like you find in a toilet tank) on a rod attached to a pivot point. A large red-colored "lollipop" shaped disc attaches to the other side of the pivot. The boyant ballcock rises as the slurry nears the top, raising the lollipop alarm high into the air. It's easily visible, even from a nearby farm road. (Walter Wright, Greenfield Farm, Straneraer, Wigtownshire, Engloand)



Wright fitted a 9-in. dia. ballcock on a rod attached to a pivot point. Ballcock rises as slurry nears the top, raising "lollipop-shaped" disc into the air.

"Mechanical Recorder" Measures Engine's Actual Working Time

Keeping track of actual work time, as opposed to time spent idle, is possible with this new "mechanical time recorder" which is imported from Australia by R & B Mfg., Inc., Riverside, Mo.

"Custom combiners can use it to show their customers the exact amount of time spent harvesting crops. It also helps with preventative maintenance by telling you how many hours the engine has actually been working as opposed to idling," notes R & B's Richard Hedgecock.

The recorder consists of a weatherproof clock that simply bolts onto the frame of the vehicle. A circular piece of chart paper slips into the back of the clock. A sapphire stylus attached to a freely oscillating pendulum picks up the vibration of the machine and etches the chart, recording running and idle or stop times. All stoppages are clearly recorded according to time, duration and frequency.

Two different models are available - one with a recording period of 24 hours and the



Recorder helps with preventative maintenance by telling you how many hours the engine has actually been working as opposed to idling.

other with a recording period of 8 days. Both models are accurate to within two minutes. No recording can be erased or altered undetected. The unit is equipped with a safety lock and a key.

Sells for \$598 plus S&H.

Contact: FARM SHOW Followup, R & B Mfg., Inc., 4948 NW High Drive, Riverside, Mo. 64150 (ph 816 587-9814; fax 4294).

Old Barn Converted Into Beautiful Country Home

Bob and Marge McKinnon, Dent, Minn., turned a dilapidated gambrel-roofed barn into a beautiful modern home. It's complete with a big window on one end where the hayloft opening used to be, an asphalt roof with two big cupolas on top of it, and a wood deck on both sides.

The McKinnon's barn home sits only 100 ft. off a lake, with large windows looking out over the lake. The house has three levels, including a 28 by 32-ft. "great room" with a loft above one end of it. One side of the room is covered with aspen paneling. There are five bedrooms and five bathrooms.

They removed everything from inside the barn except for the main support beams, tearing out the stanchions, concrete feed bunks, gutter system, and floor. They also removed the original cedar roof and galvanized tin siding.

"It turned out nice although we did put quite a bit of money into it," says Bob. "People love the barn look and came by to watch us work while I was building it. Now they drive by in boats on the lake during the summer and on snowmobiles during the winter just to get a better look at it.

"The wood used to make the barn, which was built in 1928, was cut on this property. The barn was in use until 1975. After we bought the property, we lived in a house on



The McKinnon's turned this dilapidated gambrel-roofed barn into a beautiful modern home.

the property until we were ready to move into the barn. The person we hired to put on the new roof discovered during the project that it was his grandfather who had actually built the barn. Once he found that out he wanted to do a lot more, such as the major interior work.

"It's a big barn so we hired an architect to help us get the most out of the available space. My wife fought tooth and nail to keep the cupolas. There's a silo still standing on the lake side of the barn which we plan to convert into a 40-ft. high gazebo."

Contact: FARM SHOW Followup, Bob McKinnon, Rt. 2, Box 160, Dent, Minn. 56528 (ph 218 758-2393).

22 BY 44-FT. BARN SERVES AS A "GREAT ROOM" PRESERVES FAMILY'S HISTORY

They Put A Barn Inside Their House

Some people fix up old barns and live in them. Others cut lumber from old barns into pieces and incorporate them into their homes.

But Cameron and Jackie Raether, Good Thunder, Minn., took a different approach. They completely disassembled an old barn piece by piece and then put it up again at a new location where they built a big house around it.

The 22 by 44-ft. barn - which stands 25 ft. high - now serves as the central "great room" of the house. The hayloft was converted into a catwalk that connects the bedrooms on the second floor. The house has 7,500 sq. ft. with a white vinyl exterior with a green roof. From the outside it looks like an older Victorian farm house with a large wrap-around porch on all four sides. It has a cupola with a flying pig weather vane on it.

"From the outside you would have no clue that there's a barn inside," says Raether. "Some people thought we were crazy. They couldn't understand how we planned to build the barn into the house. We took this approach because we wanted to preserve the barn. It's a piece of our family history."

The 115-year-old barn was built by Cameron's great-grandfather, William Raether, a German immigrant farmer. The original farmstead is no longer in the Raether family, but Cameron was able to buy the barn from the current property owner and none too soon. "He was going to burn it down," says Raether.

About four years ago the Raethers enlisted the help of Richard Jeffries, who salvages old barns. Jeffries carefully deconstructed the barn right down to the wooden pegs that held many of the barn's joints together. Some 400 metal identification tags were affixed to the building's timbers. Then all the pieces were put into storage.

About two years ago the Raethers purchased 60 acres of land and began looking for an architect. They took their project to three architects before they found one who came back with a plan that used the barn to their approval.

The next job was to find someone who could put the barn back up. They contacted 10 builders over a five-state area who specialized in timber frame construction. "No one wanted to work with a frame that was more than 100 years old. They all wanted to build from new," says Raether. "Many of the beams in the barn were cut with an axe and still had the bark on them. Some of them were as much as 4 or 5 inches out of square. Some beams had to be recut in order to make a square frame that fit the design of the new house."

Finally, they found Mark Sandros of the Buffalo Ridge Beamery Co. in Hendricks, Minn., 200 miles away. His company specializes in reconstructing timber structures. Cameron and Jackie trucked the barn timbers to Sandros's shop where they were recut to fit the home. A local carpenter was then



House has a big window on one end, an asphalt roof with two big cupolas on top of it, and a walk-out deck on both sides. The silo that stood next to the barn is still there.



This photo was taken after the original cedar roof and galvanized tin siding had been removed.



Aerial view of the Raether's house was taken last October. The largest, center part of the house is the barn.

hired to build the house around the barn.

"We incorporated many unusual features into the barn such as a sliding barn door across an 8-ft. opening that leads to one of the bedrooms. The door rides on tracks from an old granary," says Raether.

They replaced the barn's original plank ceiling with 4,000 board feet of unfinished oak. "We installed the oak boards as tight as we could and let them shrink with no finish. By the time the boards were done shrinking they were about 1/2 in. apart so they look like they're from an old barn," notes Cameron.

Contact: FARM SHOW Followup, Cameron and Jackie Raether, 57240 Juniper Road, Good Thunder, Minn. 56037 (ph 507 278-3488).

A catwalk - which is part of the old hayloft - connects the two upstairs bedrooms.





Holborn has successfully dried a line of bales 150 ft. long. Tarp is only needed as protection from rain.

In-Field Bale-Drying System

There are a lot of benefits to big square bales but one drawback is that they're packed so tight that hay must be really dry to make quality bales, says custom operator Bob Holborn, Palmerston, Ontario, who worked together with a farm equipment manufacturer to come up with a new in-field drying system that lets him bale at moisture contents of up to 30 percent.

Holborn started experimenting with the idea several years ago but it wasn't until last summer, when a customer had problems with heat buildup in high-moisture bales, that he put the idea to the test. It worked so well on problem bales, he used the system the rest of the summer.

The idea is to stack big square bales into "stooks" of the kind sometimes used for small square bales. He stands the stooks tightly together, side by side so there's an open tunnel underneath. Then he puts a standard grain drying fan at one end of the tunnel and blocks off the other end with a couple extra bales. Air (unheated) blows through the tunnel and is forced up through the bales.

Holborn says a 100 to 150-ft. line of bales needs to be aerated periodically for about three weeks, depending on the initial moisture level.

He worked with Oscar Frey at Horst

Welding in Listowel, Ontario, to develop a "stooker" to handle the bales. It makes a stook of five bales so that the stack only touches the ground along the edges of the two bottom bales. The unit attaches to a tractor 3-pt. or can be towed behind by a pickup or tractor. It has two support wheels on back. Hydraulic cylinders drop the side arms to the ground. Bumper bars pack bales tightly end to end as each stack is added to the line of bales. Bales are placed on the stooker by a front-end loader. Horst Welding plans to build a limited number of units this year. They sell for \$3,500 (Canadian).

Holborn notes that he has used both electric and pto-powered dryer fans. He says you can also use a silage blower to create the air flow. He recommends keeping tarps handy in case of rain. Otherwise, the bales do not have to be covered.

This year Holborn and Frey plan to do additional testing of the system to identify what moisture contents work best, how long it takes to dry a certain number of bales, what length of stack works best, etc.

Contact: FARM SHOW Followup, Oscar Frey, Horst Welding, RR3, Listowel, Ontario N4W 3G8 Canada (ph 519 291-4162; fax 519 291-53880; E-mail: sales@horstwelding.com).



A grain drying fan or silage blower is used to blow air through the tunnel under the bales.



A front-end loader is used to place bales on this "stooker". Side arms lower hydraulically to the ground to unload.

Dryer Boosts Profits For Commercial Hay Growers

The old saying says, "Make hay when the sun shines," but two Barrhead, Alberta brothers with a commercial hay operation decided they didn't want to wait for perfect weather any more.

Ken and Arnold Assenheimer have 600 acres of hay, 400 of which are used to grow timothy for the export market. Last year they designed and built their own hay dryer, devoting 1,000 man hours to the project.

After one season using their home-built hay dryer, the Assenheimers say they're pleased with the results of their \$100,000 investment. They expect the coming season to be even more successful.

"The gross return on export timothy is up to \$370 per acre, which we think is better than anything else you can do on the farm," Ken explains. "We're paid up to \$190 per ton which works out to \$5.25 for a 60-lb. bale."

The brothers' drying system is housed in a 40 by 60-ft. metal building with a concrete floor inset with metal grates made from oilfield pipe. They based their design on another dryer they went to look at near Toronto, Ontario, but made some of their own modifications. In addition to farming, Arnold is an engineer.

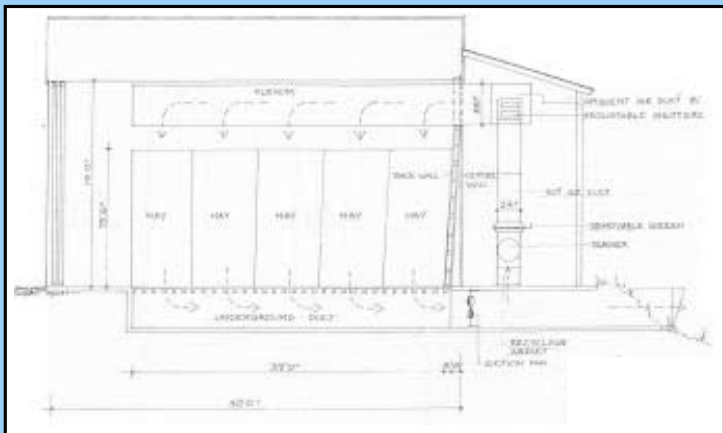
The building houses twin dryers capable of simultaneously drying 800 bales each (a total of 10 160-bale wagon loads). It's also



Building houses twin dryers capable of simultaneously drying 800 bales each.

possible to operate only one dryer at a time.

A bale wagon unloads the stacks onto the floor grates, and when the unit is filled to capacity, tarps are lowered along the sides of the stacks. A vacuum is created by a 15 hp axial fan in the pit below each of the 800-bale stacks and this pulls the tarps tightly against the stack. A 3 hp axial fan and a 1.2 million BTU natural gas heater are turned on to supply 140 degree F air to the plenum above the stack. Heated air is drawn down



Vacuum is created by a 15 hp axial fan in pit below each 800-bale stack. A 3 hp axial fan and 1.2 million BTU natural gas heater supply heated air to plenum above stack.

through the nine-layer stack, effectively drying it at a cost of \$10 to \$12 per ton.

"Depending on the ambient air temperature, we can bring hay that was at 20 percent moisture down to 12 percent in 16 to 20 hours of drying," explains Ken. "Then we turn the heat off and blow ambient air through for a one to two hour cooling down period. At this rate, the dryer can be filled every day, effectively drying 40 tons of 20 percent moisture hay each day."

The Assenheimers say the dryer allows them to produce a larger amount of consistently high quality hay.

tently high quality hay.

"In the world of export timothy, color is everything and by using the dryer, we have less sun bleaching, plus the hay is dust-free. The dryer allows us to increase the amount of premium hay we produce from 35 percent of our production to 60 percent," Ken says.

Contact: FARM SHOW Followup, Ken Assenheimer, Frontier Forage, Site 3, Box 52, R.R. 3, Barrhead, Alberta, Canada T7N 1N, (ph 780 674-4317; fax 780 674-5178; E-mail: arnolda@telusplanet.net)



Forage is put into top compartment and then works its way gradually down through lower compartments until it reaches the bottom, dry and ready for storage.

Hay Dryer Speeds Harvest And Improves Feed Value

Depending on Mother Nature to get hay dry enough to store safely often means leaving much of the nutritional value of a crop in the field.

Tom Schechinger, a Sioux City, Iowa, farmer and entrepreneur, thinks he's come up with a reasonable way to dry hay economically while maintaining feed value.

"Imagine five railroad box cars, each stacked on top of each other," he says. Inside the top four cars are several rollers with fingers on them along the bottom of each floor. Material bridges up on these as it falls in, so you can fill one compartment at a time. The bottom-most compartment has a perforated floor and sits over an air duct and a fan, just like a bin grain dryer. "You size the fan and air flow just as you would for corn. If your dryer held 5000 bu. of corn - 28,000 lbs. - you could use the same size fan to dry 28,000 lbs. of hay," he explains.

Here's how it works. Forage is brought in from the field wilted but still wet enough that leaves don't shatter. It's conveyed into the top-most compartment and air is blown up from the bottom to dry it gently. After it's dried a little, the rollers in the bottom of the compartment are turned, and the fingers move the material into the next lower compartment. Once dry hay has been moved down, the top compartment can be refilled. This process is continued until hay reaches the bottom and is dry enough to be stored. As it comes out of the dryer, it can be baled or compressed for transportation, if needed.

Tom says the dryer could be used for all types of bulky materials. He and his brother John have a built a 2 by 7 by 15-ft. working model of the dryer and they hope to build production models soon. It's owned in part by a group of farmers and investors that own Biomass Agri Products, LLC. Biomass Agri Products collects, harvests and stores bulky biomass materials for other companies. "We also do some of the simple processes for companies such as grinding and plant material separation. Each part of the plant - the pith, the fiber, the leaf, etc. - has its own market," Tom explains.



Schechinger and his brother John have built a 2 by 7 by 15-ft. working model of the dryer and hope to build production models soon.



After forage is dried a little, finger rollers at the bottom of the compartment move the material to the next lower compartment.

Contact: FARM SHOW Followup, Tom Schechinger, Iron Horse Farms, Inc., 816 Ironwood Rd., Harlan, Iowa 51537 (ph 712 744-3296).



Kamps can dry up to 38 3 by 8-ft. bales at a time inside this 30 by 60-ft. building. A 38-in. dia. fan powered by a 5 hp electric motor is housed in a separate shelter alongside shed.

Big Square Bale Dryer

A Wisconsin commercial hay grower who dries big square bales inside a specially-constructed drying shed says he can bale at a higher moisture content, which saves leaves and results in higher quality.

Dan Kamps' 30 by 60-ft. building has a concrete floor with inset metal grates. Two 50-ft. long, 7-ft. wide tunnels beneath the floor bring in warm air. As many as 38 3 by 8-ft. bales can be dried at a time.

A 38-in. dia. fan powered by a 15 hp electric motor is housed inside a lean-to alongside the shed, along with a liquid propane gas burner. The fan blows hot air into the two tunnels.

He also dries bales in a second shed equipped with a single 66-ft. long drying floor. It can dry 25 bales at a time.

"It lets me bale at 35 percent moisture and dry them down to about 20 percent moisture, which increases my production and also increases hay quality," says Kamps. "The wet hay stays nice and green and still has all the leaves attached to the stems. I sell the hay at a premium to local horse and goat owners as well as dairy operators.

"I built the hay drying setup about six years ago. At first I used it to dry small square bales

but then I switched to big square bales to reduce the labor."

Kamps places the bales in a single layer across each of the grates. The 8-ft. bales cover the entire width of the grates, which keeps air from leaking out. The tunnels under the grates are 3 ft. deep so he can crawl inside them to sweep out leaves.

He used steel slats from a hog confinement building to make the grates. He added extra steel grating on top to provide enough support for his tractor. He salvaged the LP burner from an old grain bin and modified it so that it doesn't run quite as hot. The burner raises the air temperature inside the tunnels 20 to 30 degrees and is controlled by thermostats at either end of the drying floor.

"It costs about \$20 per ton to dry the bales which, considering that I get a premium for my high quality hay, is worth it," says Kamps. "The main disadvantage is that drying hay is a slow process. It takes 2 1/2 to 3 days to dry one batch of hay whereas on a good day in the field I can make 70 bales in just one hour."

Contact: FARM SHOW Followup, Dan Kamps, 12058 Pleasant View Road, Darlington, Wis. 53530 (ph 608 762-5882).



Building has a concrete floor with inset metal grates. Two 50-ft. long, 7-ft. wide tunnels beneath floor bring in warm air delivered by fan.



Bed-mounted canopy designed for the Gator 4 by 2 is made from lightweight, rigid fiberglass. No drilling of holes is required.

New Add-On Canopies For Deere Gators

An Arizona company says its new line of lightweight, easy-on and off canopies make the popular Deere Gator an even more useful farm workhorse.

Firebird Fiberglass Products of Glendale, Az, introduced the canopies at the recent California Farm Equipment Show near Tulare.

A bed-mounted model designed for the Gator 4 by 2 mounts directly to the bed with no need to drill any holes in it. It's made from lightweight, rigid, fiberglass. A second model mounts on two steel uprights which clamp to the frame. No drilling required. Fits both 4 by 2 and 6 by 4 Gators.

Also available is the Bimini Top, which is made from marine grade vinyl supported by a lightweight aluminum frame.

"We plan to soon offer a soft sided weather enclosure, windshield, dash with cupholders, and many other accessories," says company representative Matt Wiedmann.

All canopies are available in Deere green or in Army green and black colors that match Deere's Trail Gator.

The bed-mounted "FastBack" sells for \$495 plus S&H. The post-mounted "Two Post" model sells for \$550 plus S&H. The Bimini Top sells for \$175 plus S&H.

Also available is a canopy custom designed to look like a real alligator. It sells for \$750 plus S&H.

The company also sells a marine grade vinyl storage cover for the Gator. It sells for \$200 plus S&H.

Contact: FARM SHOW Followup,



"Bimini Top" is made from marine grade vinyl supported by a lightweight aluminum frame.



This custom canopy is designed to look like an alligator.

Firebird Fiberglass Products, Inc., Box 1123, Glendale, Az 85311 (ph 800 726-8677 or 623 934-9340; fax 9904; Website: www.firebirdfiberglass.com).

Enclosed Cabs Fit Any Gator

Femco offers a new hard door cab designed for the Deere 6 by 4 and 4 by 4 Gator. The cab can be used with or without the company's Roll-Over Protective Structure (ROPS). The doors are made from ABS plastic/steel and can be easily removed. The company also makes a soft side cab that fits both the Gator 6 by 4 and 4 by 4 models.

"The cab provides year around protection and is very functional," says the company.

All models feature hand operated wiper, removable doors, large tempered glass windshield, and baked enamel finish. Seat belts are provided with the ROPS for both occupants. A back screen eliminates finger pinch points and protects the operator from load transfer. Options include an electric wiper motor, liquid heater, work lights, flashing beacon, and blade adaptor.

The hard door cab sells for \$1695 plus S&H. The soft side cab sells for \$767.75 plus



Femco, Inc., offers this soft side cab that fits both the Gator 6 by 4 and 4 by 4 models. The company also makes a hard door cab for the Gator.

S&H, not including the rollbar and canopy. The rollbar sells for 666.58 plus S&H.

Contact: FARM SHOW Followup, Femco, Inc., 500 North 81 By-Pass, McPherson, Kan. 67460 (ph 800 677-0898 or 316 241-3513; fax 3532).



Homemade steel wheels measure 5 ft. high on back and 3 ft. high on front. Wheels make V-shaped, 4 to 6-in. deep ditches that drain water out of fields.

Steel-Wheeled Tractor Makes Field Drainage Easy

"It's a simple, fast way to drain water out of fields. I just drive my tractor back and forth across the field and watch the water flow into the furrows made by the wheels," says Larry Easley, Garland City, Ark., who mounted homemade steel wheels on his Deere 870 MFWD tractor.

His homemade wheels measure 5 ft. high on back and 3 ft. high on front. Each wheel is 12 in. wide at the center but tapers out to only a 2 1/2-in. width at the rim. The wheels make V-shaped, 4 to 6-in. deep ditches that disturb very little soil, allowing Easley to use the tractor right after seeding without doing significant damage to crops.

"The beauty of this system is that all I have to do is drive my tractor. There's no implement to pull and nothing to repair," says Easley. "It works better than pto-driven ditchers because the ground doesn't have to be dry. My soil is mostly heavy clay but I can drive across it no matter how wet it is with no problems."

He used 3/8-in. thick reinforced steel plate to make the wheels, which are hollow with spokes welded on between the rim and hub in order to keep the rim from bending. A 10-in. dia. steel pipe serves as the hub. A local machine shop roll 2-in. wide strips of 1/2-in. thick steel for the rims. He then welded short pieces of 1/2-in. steel rod to the wheel every 5 in. apart for traction.

"It works so well my neighbors want to borrow it all the time. It's amazing what the wheels can go through," says Easley. "I can go into a field right after a heavy rain and



A 10-in. dia. steel pipe serves as the hub for each wheel. Easley used 3/8-in. thick reinforced steel plate to make the wheels.

drive through ponded water with no problem. It's neat watching the water follow my wheel ruts out of the field. The big wheels give the tractor a lot of clearance so even if I bottom out the front wheels I can usually still keep on going. However, I have got stuck a couple of times. Because of the narrow footprint I can even make ditches after the crops are up without damaging a lot of crop. My total cost was less than \$500.

"I don't drive the tractor on roads but instead haul it on a trailer."

Contact: FARM SHOW Followup, Larry Easley, Box 87, Garland City, Ark. 71839 (ph 870 683-2247).

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 web site at www.farmshow.com.

Mark Newhall, Editor

FARM
SHOW®

"Made
It
Myself"



"Dyna-Master" lets you subsoil and finish fields in a single pass, reducing compaction and maintaining residue at the same time.

New Tillage Tool Combines Subsoiler Shanks With Ground-Driven Dyna-Drive

A new tillage tool that combines subsoiler shanks and the ground-driven Dyna-Drive lets you subsoil and finish fields in a single pass, reducing compaction and maintaining residue at the same time.

Until now, the Dyna-Drive – which originated in Europe – has always been used as a stand-alone unit. It consists of a series of ground-driven, rotating steel paddles that work plowed ground into a fine seedbed.

The "Dyna-Master" was introduced by M & W Gear, Gibson City, Ill., at the National Farm Machinery Show in Louisville. It's equipped with coulters and five shanks on front. The coulters cut residue to prevent plugging in heavy residue. The 3-pt. mounted, ground-driven Dyna-Drive follows, leveling the ground, breaking clods, and mixing residue into the soil surface.

The Dyna-Master's shanks go to a maximum depth of 16 in., while the Dyna-Drive tills from 1 to 6 in. deep.

"Depending on your soil types and field conditions, a single pass with the Dyna-Master may be the only tillage you need to prepare your fields for planting," says the company. "If a final leveling pass is needed in the spring before planting, you can simply



Here's a closeup of the ground-driven Dyna-Drive which is incorporated into M&W's new tillage tool.

drop the Dyna-Drive off the back of the unit and use it as a 'stand-alone' unit to level ridges and create the seedbed."

The rig has two sets of hydraulic cylinders – one to raise and lower the 3-pt. mounted Dyna-Drive and the other to raise and lower the rig's main axle.

Only one model is offered. It has a working width of 13 ft., with five shanks on 30-in. spacing. The rig requires a tractor with a minimum of 265 hp.

Sells for about \$32,000.

Contact: FARM SHOW Followup, M & W Gear, 1020 South Sangamon, Gibson City, Ill. 60936 (ph 800 221-2855; fax 800 782-0126).



Skid house can be towed from place to place and will handle up to 400 chickens.

"Free Range" System Helps Net \$5 Per Chicken

If you're looking for sideline income, Ohio farmer Herman Beck-Chenoweth says you can net as much as \$5 per chicken by setting up a free-range poultry system and then selling to local residents and restaurants.

Beck-Chenoweth has produced a video touting the system. The video was funded in part by a grant from the USDA. It shows in detail how to set up a free range system as well as how to handle on-farm commercial slaughter and how to market.

Free-range is different than the pasture method with rolling poultry pens that has received a lot of coverage in the last few years. In free-range, chickens are free to wander in a field but come to an open shel-

ter for protection and feed.

Beck-Chenoweth favors a new-style skid house which can be towed from place to place. It'll handle up to 400 chickens.

If you live in an area where people are willing to pay more for what they view as "healthier" eggs and poultry, you can use the free-range method as your marketing tool.

The broadcast-quality video is available for \$27.50 postpaid. A companion production manual is also available for \$44. You can buy both together for \$55.

Contact: FARM SHOW Followup, Herman Beck-Chenoweth, Back Forty Books, 26328 Locust Grove Rd., Creola, Ohio 45622 (ph 740 596-4379).



Maxfield stripped off the back of a Ford van and fitted it with a Farmhand F11 loader.

Stripped-Down Van Fitted With Bale Loader

John Maxfield, Admire, Kan., converted a 1978 Ford van with 351 cu. in. engine and auto transmission into a maneuverable, comfortable handling rig.

Maxfield built the rig for less than \$1,000 out-of-pocket. He stripped off the back of the van and fitted it with a Farmhand F11 loader. He welded the loader to a frame that straddles the van frame and is bolted in place.

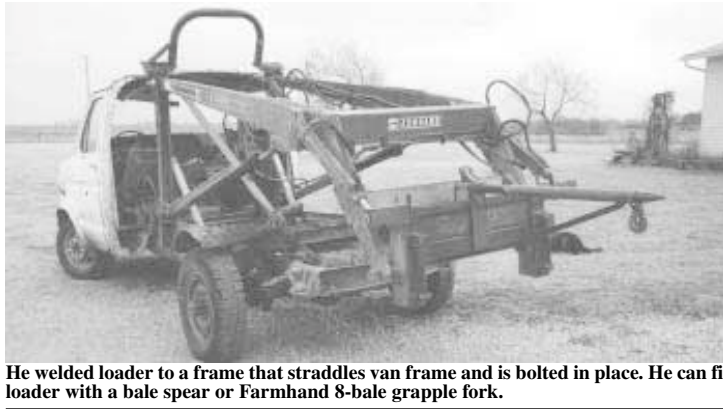
Hydraulics are provided by a 16-gal. vane pump. He raised the radiator and installed

two electric cooling fans for extra cooling.

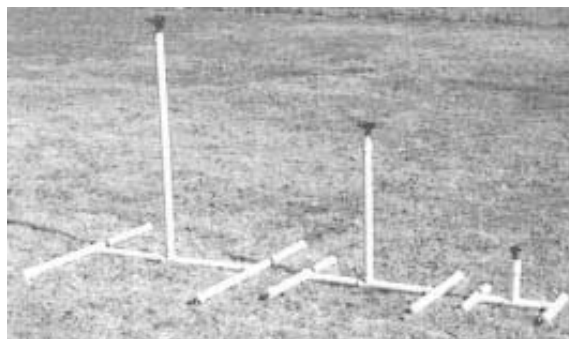
He can fit the loader with a bale spear to haul big round bales, or equip it with a Farmhand 8-bale grapple fork.

"Because it rides so smooth, I can make a round trip with 8 bales from the far corner of a moderately rough 1/2 section of land to the barn on the other corner in less than 5 min.," says Maxfield.

Contact: FARM SHOW Followup, John Maxfield, Lucky 7 Ranch, 1407 Road 280, Admire, Kan. 66830 (ph 316 528-3476).



He welded loader to a frame that straddles van frame and is bolted in place. He can fit loader with a bale spear or Farmhand 8-bale grapple fork.



Stands are made from PVC pipe. They fill with water which holds them in place.

Easy-To-Build Sprinkler Stands

Marland Old has irrigated several acres of vegetables for years. He pulls water out of a farm pond.

"I've always used sprinkler stands made out of automobile or truck rims for the bases and steel pipe for the sprinkler head stand-offs. Recently my son came up with the idea of using PVC pipe to make stands in order to reduce weight and increase longevity," says Old.

"When you're ready to use a stand, water is fed into them for weight via a quick-con-

nect hose fitting in one end of the 'H' base. The entire stand fills with water, making it stable. When you're ready to move the stand, just unhook the hose and the stand rapidly drains, allowing it to be easily moved.

"The stands shown in the photo are made out of 2-in. pipe but you could make them out of small diameter pipe as well."

Contact: FARM SHOW Followup, Marland Old, Rt. 1, Box 144B, New Boston, Tex. 75570 (E-mail: m.old@att.net).

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
Associate Editor

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**

David Cornea, Morse, Sask.: David's very disappointed with his 1997 **General Motors C-60** (Topkick) semi truck equipped with a **Caterpillar** 3116 diesel engine. He received the truck in April, 1999, over a year after ordering it. “After I got it, everything worked okay until winter arrived. Then the engine ran terrible, with enough blueish-white smoke to make my eyes water. The truck's acceleration was very poor. As the engine warmed up the problem disappeared which made it hard to diagnose. The GM dealer told me to go to the nearest Caterpillar dealer.

“The Caterpillar dealer replaced a thermostat, replaced fuel filters, and pressures were tested. I thought my problem was solved, but the worst was yet to come. A belly tarp was suggested by the factory and cardboard was put in front of the radiator. The mechanics rotated the air filter housing assembly to draw warmer air closer from the radiator. Numerous seemingly inconclusive tests were made to the engine. Another new thermostat was put in. The fuel injector was replaced and adjustments were made to the timing. Exhaust temperature tests were made. Cat wanted me to purchase, for \$2,200, an exhaust brake to load the engine so I could maintain warmth to the engine in the city, for example.

Kodiak 400cc 4-wheeler ATV. It won't start in cool or cold weather, even with a new battery. The front end is on its third set of bearings, even though I rarely drive it in mud. All I use it for is to check fences. It was supposed to have sealed brakes, but I've lost count of how many brake shoes I've had to replace. The front and rear differential came from the factory full of steel shavings. I'll never buy another Yamaha product.”

Terry Spezia, Davison, Mich.: “I'm well pleased with my 1996 **Gleaner R52** combine. Its design allows me to shell corn on side hills without the grain shifting to one side, and without having to pay for the added cost of a regular side hill combine.”

Russell E. Beach, Montoursville, Pa.: “I like my 1999 **Deere 709** pull-type rotary mower. It does everything well and works great on headlands and pastures. It has a great power train and clutch and is well designed.”

Victor G. Barrick, Carlisle, Pa.: “My 1998 **New Holland 8360** front wheel assist tractor handles nice for a mid size tractor and is easy to service.

“I also like my **Meyer** rear-unload forage wagons. They unload fast and are built rugged.”

Jesse R. Houseknecht, Muncy, Pa.: “My best buy is **SAFE.T.FLUE** chimney cleaner. I've tried other products but this one works the best. It's made by Worcester Brush, Worcester, Ma. 01609.”

John E. Gehman, Port Trevorton, Pa.: “My 1990 **Pontiac Bonneville** car is the best car I've ever owned. It has 190,000 miles on it but still runs like new and has no rust. It has a lot of power and doesn't use any oil. No major problems.”

Roger W. Hadley, Woodburn, Ind.: “I've used my ‘best buy’ **Deere 345** mower for two years. I'm well satisfied with it.

“I've had my 2000 **Chevrolet 1500** pickup only for a couple of months, but so far I like it a lot.”

Sidney Smetzer, Bellevue, Ohio: “I use my **Kongsilde** grain blower to move grain from my grain dryer to my storage bins. It works well and all the pipes are on the ground so I can work on them if I have to, instead of being 50 ft. or so up in the air.”

Steve Weisbrod, Canastota, N.Y.: “It's built extremely heavy and works great in hard soil and in rocky conditions,” reports Steve, impressed with his 1997 **Rawson** zone till cart which he mounts ahead of his **Deere 6-row planter** (Unverferth Mfg., Box 35, Kalida, Ohio 45853 ph 419 532-3121; Website: www.unverferth.com). “It has three wavy coulters per row which provides excellent tillage and germination. It allows true one-pass planting.

“My **Clean Burn** waste oil furnace burns clean and runs trouble-free. It's better than free heat because you don't have to pay for oil disposal.”

Charles Crossman, Ortonville, Mich.: Charles likes his 1998 **Dodge Ram 2500 4-WD** pickup which has an 8,800-lb. gross vehicle weight and is equipped with a 360 cu. in. gas engine. “The engine performs great. It always starts even on the coldest mornings, and it pulls wagons loaded with 200 bales of hay like they weren't even there.

“My worst buy is my **Weight-All** gauge for front-end loaders. I paid almost \$300 for it. It's supposed to tell me the weight of whatever's in the bucket. However, the gauge readings are all over the place.”

Richard Mason, Rising Sun, Md.: “I've had good luck with my **Case 1370** tractor of which I'm the third owner. Only a few things on it have had to be fixed including the air

“In my case, CAT made what I term ‘band aid’ solutions. I can accept that a company makes a lemon every so often. The difference is in how they handle the problems. My best experience with this truck was when I sold it last November.

“I was lucky, because this vehicle was not used as my primary source of income. I can't help but think what would have happened if it had been a Caterpillar tractor or combine. Heaven help anyone with a \$350,000 combine and a lemon engine.”

David Swartz, Edinburg, Va.: “Our best buy is a 1975 **Ford 3600** tractor equipped with a diesel engine. I bought it used in 1991 with about 700 hours on it. We use it for custom garden plowing, tilling, Bush Hogging, and chores on our small farm. No major problems. It now has more than 2,300 hours on it.”

Wes Suddarth, Lebanon, Tenn.: Wes is impressed with his 1999 **Deere 702 8-wheel rake**. “It rakes clean and cuts my raking time in half. In good hay it'll stay ahead of two round balers. It makes even, fluffy windrows with minimal leaf loss and doesn't twist and ‘beat’ the hay as much as a rollbar rake does.”

De Bo Jacks, Mountville, S.C.: “My best buys over the years have been my **Massey Ferguson** tractors. I've owned 1105, 1085, 285, 175, 275, and 265 models. All of them have been reliable and fuel efficient. None has ever failed to start in cold weather even though I don't use starting aids.

“My worst buy is my 1994 **Yamaha**

Farmers Nominate Best & Worst Buys

conditioner, fuel gauge sending unit, and 3-pt. lift cable. It's hard to believe, but the **DEKA** batteries in this tractor have been there since 1988."

Byron Ruge, Valparaiso, Ind.: Byron nominates his **Classic** outdoor woodburning stove (Central Boiler, Greenbush, Minn.), as his "best buy." "This is the third heating season I've used it and I'm still impressed with how efficient it is. The company hasn't overrated this stove at all. I have to fill it with wood only once every two days. I use it to heat an old 1,200 sq. ft. farm house with very

"The company hasn't overrated this stove at all."

little insulation. It also heats all my hot water. I just finished building a 40 by 70 by 14-ft. workshop and I intend to heat this building with the same stove.

"My **Rawson** 6-row coulters cart for zone-till planting is a best buy. I've been zone-tilling for 11 years now. I don't want to think about all the money and time that I spent on equipment and fuel prior to zone-tilling. I feel that if you approach this system with the right management ideas and commit to making it work, you'll succeed. I have not suffered any net income loss with this system. I may sacrifice a couple of bushels of yield, but I'm much farther ahead income-wise."

Harry O. Tinsley, Radiant, Va.: Harry's the happy owner of a 1999 **Chevrolet** S-10 pickup equipped with a 5-speed transmission with overdrive. "It gets 28 to 30 mpg and has required only routine maintenance. I always change the oil every 3,000 to 4,000 miles. It has 11,000 miles on it."

Richard MacDonald, North Manchester, Ind.: Richard installed a 4-step **SureGrip** non-slip step made by **K&M Mfg.** on his International 1486 tractor. "Along with the hand rail they're adjustable for your step height. Makes it much easier and safer to get in and out of the cab. I also installed a new Case-IH air ride seat, which is very comfortable and adjustable and makes the tractor ride much smoother. I fitted it with **Goodyear** DynaTorque radial tires. They're excellent."

Leo Shinholt, Corriganville, Md.: "Leo's 1989 **Ford** F-250 pickup, equipped with a 7.3-liter International diesel engine and a 5-speed transmission, has about 250,000 miles on it and is still going strong. "It's a wonderful pickup. I use it hard and often pull a gooseneck trailer. I've changed the oil on it every 3,500 to 4,000 miles. Everything on it is original except for the tires, three sets of brakes, one water pump, a fuel pump, and a power steering pump."

On the minus side, he lists his 1999 **Ford** F-250 pickup equipped with a 7.3-liter International turbocharged diesel engine. "The engine works great and the truck is well-designed. However, the 6-speed transmission leaves something to be desired. It's very noisy. The company says these transmissions are just noisy and there's no cure. Not a very satisfying answer."

Claude W. Winters, Eglon, W. Va.: "Our 1997 **Chevrolet** Cheyenne 3/4-ton pickup equipped with a Vortex V-8 engine has been a dream. No problems after 3,700 miles. It can easily pull a low boy trailer loaded with equipment."

"My 1992 **Deere** Gator is one of the great-

est labor savers on the farm. I use it for checking, mending, and building fence, taking tools to the field for repairs, and just for getting around our West Virginia hills. It's also a wonderful toy for our grand kids."

Michael N. Bailey, Lancaster, S.C.: Michael owns a "best buy" **Husqvarna** 672 chain saw equipped with a 20-in. bar. "This is the first saw of this size that I've owned. It has a lot of power which works great for cutting large trees. Overall, I've been pleased with all the Husqvarna equipment I've owned which includes three other saws and a leaf blower."

"I'm not happy with the 7.3-liter International Navistar engine in my 1990 **Ford** F-250 heavy duty pickup. Five months after the warranty expired a head gasket blew, and the same thing happened the next year almost to the day. One year later there was trouble again. This time cracks developed in one of the heads and about half the valve guides were worn out. We thought we fixed it, but right on cue this January the engine started running hot again and with a compression leak into the cooling system. That's four years in a row with a repair bill each time of about \$1,200. All routine oil, filter, and other maintenance has been done by the dealer on schedule. The pickup only has about 82,000 miles on it. I bought this engine because I believed it would be fuel efficient. I learned last year from reading **FARM SHOW** that the engine was a converted gas engine. If I had known this I would never have purchased it. I'd buy another **Ford** pickup, but not one equipped with one of these diesel engines."

Lee Sudman, St. Marys, Ohio: "My **Deere** 345 garden tractor equipped with a trailer/bagger is my best buy. I love the handling ease, quiet running water-cooled engine, and reduced mowing time."

"My 1998 **Deere** 6400 tractor equipped with a cab has a very low noise level in the cab and is equipped with handy, easy-to-use controls. I like some of the little features it has such as step placement, grab bars, etc. My wife says a woman must have had a hand in its design."

Timothy D. Clites, Berlin, Pa.: "My **Gehl** 4625 skid steer loader does everything that I expected it to when I bought it. Very comfortable with responsive controls. It's definitely a best buy."

Galen R. Wenger, Lititz, Pa.: "Our best buy is a 1999 **Deere** 6210 2-WD tractor equipped with a Power Quad transmission. It starts great in cold weather, has a lot of traction, and has plenty of power to get through tough spots."

"Our 1974 **Deere** 4430 tractor is also a best buy. It has more than 8,200 hours on it but just keeps running. Like they say, 'Nothing runs like a **Deere**.'"

D.L. Williamson, Philippi, W. Va.: "I like my 1998 **Deere** 6400 4-WD tractor equipped with a Power Quad shuttle shift transmission, 640 front-end loader, and cab. "It's an excellent loader tractor. I use it mostly to pull a discbine and a baler and to feed my livestock. It has about 1,000 hours and the only problem was a fitting that blew off a hydraulic line. The dealer promptly replaced it. The loader has quick-tach brackets that let me change from one piece of equipment to another in five minutes or less. I use a bale grabber, bale forks, pallet forks, post driver and bucket on the loader. The transmission has a park setting, which I really like."

Jimmy Stephens, Wingo, Ky.: "We've used this tractor for five years with no problems," says Jimmy, pleased with his **Ford New Holland** 8670 front wheel assist tractor. "It has the best transmission of any tractor on the market and is user friendly."

"Our 1997 **Chevrolet** 1500 4-WD pickup is equipped with a 350 cu. in. engine. It has a lot of power and is very fuel efficient."

William Corson, Jr., Newark Valley, N.Y.: William says his 1998 **Honda** Fourtrax 400 ATV is his "best buy". "It's real handy and a good workhorse. We use it on our farm almost every day. It saves a lot of walking."

"Our **Gehl** 1475 round baler makes nice, tight bales."

"Our **Melroe** Bobcat 751 skid steer loader works great and has a grapple fork that works slick on round bales."

Keith E. Haynes, Enoree, S.C.: "Recently there have been 'worst buy' reports in **FARM SHOW** about **Red Wing** shoes. I've always had outstanding service from these shoes. They last about three times longer than the cheaper brand I had been using. The only problem is that they're high priced."

Ray Mabry, Tutwiler, Miss.: Ray's worst buys are his two 1996 **Deere** 8200 tractors. "We had transmission problems from day one and they continued. No one could fix the tractors. Because of the transmission problems we almost lost a crop last year."

Harold R. Stoudt, Hamburg, Pa.: "It's a reliable tractor that's easy to operate and well built," says Harold, happy with his **Kubota** 3350 4-WD tractor equipped with a diesel engine, shuttle shift transmission, and front-end loader. He bought it used. "The diesel engine starts well even in cold weather. The only problem is that the front wheel assist seals leak fluid."

On the negative side, "I purchased my **Ryobi** leaf blower to blow dust out of radiators on tractors, hay balers, etc., as well as to use in the yard. After several hours of use it refused to start. It required ignition work. Disassembling it is a terrible job. Now the carburetor has problems. It needs new parts but they're not available locally."

Harold Harris, Huntington, Ind.: Harold's happy with his 1996 **Deere** 6300

"It needs new parts but they're not available locally."

MFWD tractor equipped with a 640 front-end loader. "The cab is easy to get in and out of and keeps me warm during snow removal. It's a good loader tractor."

"My 1997 **Deere** 717 stalk cutter works good for mowing weeds and road sides."

Rick Wineinger, Salem, Ind.: "My **Zetor** 2-WD 65 hp tractor is my best buy. It's really fuel efficient. Working in hay (mowing, raking and moving round bales), it uses only about one gallon per hour. It has about 600 hours on it. So far, so good."

Perry Hathaway, Claypool, Ind.: "My best buy are **Welty** hay panels which I use to feed round bales to my cattle (**Welty Enterprises**, 911 East Waterford St., Wakarusa, Ind. 46573 ph 800 628-4728). The panels are available in various lengths and can be tied together at the corners to make a square or rectangle. I used two 16-ft. long panels and one 8-ft. long panel and put them together in

a rectangle shape, with one end open at the fence line. The design eliminates the need for a loader tractor. I simply drive my pickup or truck up to the fence line and roll the bale off. Cows eat from the sides, with very little waste. The panels are well made."

Donald E. Swank, Rossburg, Ohio: "We like our 1996 **Deere** 345 hydrostatic drive garden tractor equipped with a mower and power steering. Before we bought it I often had to ask my wife to help me mow the yard. Now she wants to mow it even when it doesn't need mowing."

Dannie Morris, Hartford City, Ind.: "Our 1996 **Ford** 8870 tractor performs well. It's a best buy."

Tom Small, Walton, Ind.: Tom's impressed with his 1998 **Gleaner** R-72 combine. "Last year I ran an 8-row, 30-in. corn head and a 500 series bean head, and it was the easiest, most trouble-free harvest I've ever experienced. It always produced a good threshing sample. The biggest challenge is being able to use the machine to its full capacity. The cab has great comfort and visibility."

On the "worst buy" side, he lists his 1997 **White** hopper bottom grain trailer. "The axles aren't aligned correctly so the trailer pulls off center. The door openers require a lot of effort, and the wiring on it wasn't standard. Also, the brakes are very sensitive to adjustment. I guess you get what you pay for."

Van Meek, Birmingham, Iowa: "My best buy is an 8-bale trailer built by **A-1 Agri Sales & Service** (1140 Gillan Road & Hwy. 63 South, Moberly, Mo. 65270 ph 660 263-0390). The frame is built of heavy steel pipe and rides on a semi trailer axle with dual 10.00 by 20 wheels. It's nearly indestructible. I can use either a drop pin hitch or a pintle hitch. The 3-pt. bale spear on my tractor has a hook on it. I just back up the tractor and hook onto the hitch, then pick up the trailer and go."

Jim Haines, Bremen, Ind.: Jim likes his 2000 **Toyota** Tundra pickup equipped with a V-8 engine. "This is the third Toyota pickup I've owned. This one rides as well as my Cadillac Deville car and has a lot of power. I couldn't be happier."

"I use my **Deere** 6 by 4 Gator every day on our farm and hunting preserve. It's the most used piece of machinery on our place. We just love it."

Ted Watson, Eriksdale, Manitoba: Ted's the satisfied owner of a 1993 **New Holland** 116 14-ft. Haybine. "It's an all-around terrific haying machine. I've had to replace only two drive chains. I use it to cut all my wild hay as well as my alfalfa."

Phillip Knight, Louisville, Ky.: "My worst buy ever is my **Deere** 5400 tractor which I bought used in 1996 with 125 hours on it. At 922 hours the B range shaft seized to the pinion shaft, and I couldn't get the tractor out of gear. A company representative said there were problems with some of these tractors because they weren't assembled properly at the factory, but wouldn't recall them because there weren't enough complaints. My total cost for repairs was \$4,450. The company agreed to pay only one fourth of the cost."

Michael B. McCormick, Malta, Ohio: "Other than a few minor problems that were taken care of by the dealer, it has been trouble-free," reports Michael about his 1997

(Continued on next page)

Farmers Nominate Best & Worst Buys

(Continued from previous page)

Ford F-250 Supercab 4-WD pickup. "It has a 460 cu. in. engine and a 4:10 rear end which gives it plenty of power. I really like the extended cab. It has plenty of room for our two small children as well as my wife. The only negatives are that it's not too easy to get into the rear seat, a problem that has been taken care of on the new series models. Also, it could be more fuel efficient. It gets only about 10 mpg. Overall I'm well pleased with it. I'd definitely buy another one, especially the new series. I like them very much."

Curt Varney, Prophetstown, Ill.: "My 1995 **Woods 3-pt. finishing mower** is my best buy. It makes a 6-ft. cut and does a fine job. I use it to cut large areas around our farmstead and it cut along each side of our lane. It has three blades and caster wheels on all four corners. I use it on my Ford 960 narrow front tricycle-type tractor, which is highly maneuverable."

Carl Zismer, Maquoketa, Iowa: "My worst buy is the 1997 **Cummins** diesel engine in our **Gleaner R52 combine**. It has 180 hours on it. The problem is that it leaks oil - I scooped several shovels full of greasy dirt out of the engine compartment. The dirt even gets into the combine's cleaning shoe. There's a puddle of oil at the blowby pipe, too. I don't know how this problem will be resolved. It's still under warranty."

Mel Friesen, Newton, Kan.: "It does everything I expected it to," says Mel, pleased with his 1994 **Grasshopper** riding mower equipped with a 48-in. front-mount deck. "The front-mount deck works great for mowing under trees. I really like the hydrostatic controls. I can raise and lower deck with ease at any time."

Sandra Livesay, Mountain Home, Ark.: "Our best buy is our 1998 25-hp. **Grasshopper** mower with a Kubota engine and 61-in. deck. This is the second Grasshopper we have owned and they've both been flawless. When my husband first brought one home, I was skeptical because it looked so strange, with the deck on the front. But after driving it, I'd never cut grass any other way. We have a 6 1/2-acre yard and we normally cut grass from early March till November, so the machines get a workout."

"I had problems with a recent car purchase and I think my experience might help others avoid a problem in the future. What happened is that I bought a 1999 Toyota Camry LE. Our previous 1992 Camry had lumbar seats so I asked the salesman if this one did too. He said yes so we went ahead and bought it. After we got it, we found out it did not have lumbar seats and that they only come on the model with leather seats. We've been talking to the sales manager but all they do is give us the name of a shop where we can pay to have the lumbar added. My suggestion to other car buyers is to not take the word of sales people when making such a substantial purchase. Either check it out yourself, or get it in writing."

Jim Merriman, Deckerville, Mich.: "We're pleased with our **Deere 425** all-wheel steering riding mower. We have about 3 acres to mow and there are at least 150 trees of various sizes to work around. Before we bought this mower, we spent as much time trimming as we did mowing. Now we do nearly all of it in one pass. I'm amazed at how well this machine maneuvers and how easy it is for new drivers to learn to drive it. Maintenance has been virtually non-existent,

some of which is because we keep the blades sharp and the underside of the deck clean."

George Schneider, Oakland, Calif.: "In a recent report, Merdith Ewing said this about his Volkswagen pickup: 'I'll probably never own a pickup as good as this one again.' I'd like to say he can if he wants to do some work."

"There is a pickup that Toyota makes in South Africa that's built to get 300,000 miles. They are **Toyota Landcruiser** pickups and all you have to do is figure out how to get one into the U.S. I've talked to Toyota representatives about it and they won't talk about it. They say they already sell everything they can make as fast as they can make it. I recently talked to a dealer in Zimbabwe and he said, 'If you figure out how to get it into the U.S., I'll get you one.'"

"The 4-WD Landcruiser pickup has a solid front axle, a standard cab, a full-size long bed, and a 4.6 liter 6-cyl. Diesel engine. Gas



engines are also available. The body and bed are made of sheet metal four times heavier than any U.S.-built trucks."

"Best of all, the truck sells for \$25,250 U.S. for the loaded version."

"If anyone figures out how to get these out of Africa, please let me know."

Alan Maclean, Kingston, Ontario: "Our best buys are both **General Electric** products. We have a vertical fire GE LA20 oil furnace that's been in service since 1947. That's 52 winters. We also have a GE 180 amp AC welder that we bought in 1952. It's still in use nearly every day."

Paul & Calvin Dentz, Iroquois, Ont.: "Our **Massey Ferguson 285** tractor, bought in 1983, has been split so many times I think it should have been built with a quick-disconnect system at the transmission. It's about as dependable as a scud missile and only slightly less costly. Major repairs have included replacing the rear planetaries, the pto clutch and splines, one front and two rear transmission bearings, and the 3-pt. internal lift cylinder. We also rebuilt the fuel injection pump and fixed the pto brake four times. That's about \$13,000 worth of repairs on a \$24,500 tractor along with endless downtime. All we've ever gotten from Agco is a 'You bought it, it's your problem' attitude."

George A. Wojnar, Cream Ridge, N.J.: "One of my best buys is my **Ford 8N** tractor. It runs as good as new and looks like new, too. This 8N could easily work day after day, but it doesn't have to. Just owning it brings back memories of old machinery, old ways of doing things, and people that were good to me when I was growing up. I feel lucky to own this 8N."

Jared W. Jamison, Quinter, Kan.: "I like my 1998 **DR trimmer/mower** equipped with a 5 1/2 hp Kawasaki engine. We use it to mow around buildings, calf hutches, etc., where there might be junk steel or large rocks that could damage conventional mower blades. It does a good job of cutting 2 to 3-ft. high weeds and grass."

"We've had a lot of trouble with our 1990 **Polaris 350 4-wheeler** ATV. It fouls out spark

plugs quite often. It's powered by a 2-cycle liquid-cooled engine and is chain-driven. We don't like that combination. There are much better 4-wheelers on the market."

Doug Garvin, Fairview, Pa.: Doug nominates the book "**Design of Weldments**" as his "best buy" (The Lincoln Electric Co., 22801 St. Clair Ave., Cleveland, Ohio 44117 fax 216 361-5901). It sells for \$10. "Anyone who welds should have a copy. The subjects covered and the presentation of the material is unique. You don't have to be an engineer to learn from this book. It's better than any other welding textbook I've seen."

Dwayne King, Hanley, Sask.: Dwayne's disappointed with his **Bourgault 2115** air seeder cart. "I purchased this machine new and have never been able to seed canola with it. It's impossible to calibrate the planting rate on it. It jumps from 6 lbs. to 12 lbs. to 2 lbs., etc. I've made several calls to the dealer and the manufacturer with no response. The manufacturer says they can't update every machine out there."

David Martin, Hamlin, N.Y.: "My 1998 **Sunflower 5-shank subsoiler** does a good job loosening hardpan at a 15 to 16-in. depth on our clay loam soil. It works best when the ground is dry for maximum shattering effect. We use a **Deere 8870** tractor to pull it."

Andy Mroczek, Honeoye Falls, N.Y.: "Our **Case-IH** double drill hitch lets us pull two 10-ft. grain drills at once. When we were looking to upgrade our grain planting equipment, our neighbor mentioned how ridiculous it is to use a 80 to 100 hp tractor to pull just one grain drill. The hitch lets us cover 20 ft. in each pass so the acres go by a lot faster. By simply flipping a hydraulic lever we can fold the drills in place behind the tractor for transport, one behind the other, so they're no wider than one drill."

"We really like the **Unverferth** residue cleaners that we mounted on our **Deere** corn planter. They not only clean in front of the row units for more accurate seed placement, but they also push rocks away from the gauge wheels. They've saved us many hours of labor by preventing damage to the wheels. Also, the seed boxes no longer seem to jump

"They've saved us many hours of labor by preventing damage to the gauge wheels."

up and down as much which means the seed is being placed at the proper depth."

"Our **Farm Aid** feed mixer is a best buy (Corsica, S. Dak.). We've used it for six years to feed total mixed rations twice a day to our 115 cows with almost no down time. The only parts we've had to replace were the feed-out chain and a couple of bearings on the feed-out conveyor. The mixer is made with simple and common parts."

On the negative side, "We had to install new packer rollers on our **Kewanee** culti-mulcher after the old ones wore out. The manufacturer was bought out by **Bush Hog**, which would not help us when we had a problem with the new rollers. The rollers have notches that are designed to mesh and lock the wheels together so that they all turn at once. The problem is that when the rollers were cast, the notches were made thinner which allows them to climb over each other.

That causes the rollers to wobble and push off the snap-ring that holds the stack on the shaft."

"Our dealer couldn't get the **Bush Hog** rep to take a look at our problem. The next purchase we make, we'll be sure to find out if anything on it comes from a **Bush Hog** company and, if it does, we'll have to rethink our options."

Stephan Janos, Somerville, Ohio: Stephan likes low pressure **Turbo Drop XL** venturi nozzles made by **Greenleaf Technologies**. He used them last year for the first time. "I bought them because they're supposed to reduce spray drift. I was very happy with them. I had to spray on some windy days, but the spray didn't drift. Weed control was good, but not great because it was very dry here last year. I think these nozzles will pay for themselves in a very short time."

"I bought a gas-powered **Weed Eater** leaf blower to keep my combine clean and blow trash off the radiator. It works great - in fact I wish I'd bought it years ago. A lot of my ground is a long way from an air compressor, but I don't need one to operate this unit. I also use it to blow trash off the radiator. It's priced under \$125. My only wish is that it weighed less."

Raymond Swenson, Brooks, Minn.: Raymond's impressed with his 1997 **Volkswagen** **Passat** car equipped with a diesel engine. "It handles excellent, accelerates well, has fantastic fuel efficiency, and runs quiet considering it has a diesel engine. We also own a 1981 diesel-powered **Volkswagen** which has more than 420,000 miles on it but still runs good. It still has the original rod, main bearings and pistons. New rings were put in it once."

Joe D. Hostetler, Fredericksburg, Ohio: "We're well pleased with our two **Chevrolet 3/4-ton 4-WD** pickups, which are both equipped with 6.2-liter diesel engines. One's a 1982 model and the other a 1992 model. They're dependable and durable work trucks, yet they handle and ride well on the open road. The 1982 model has 210,000 miles on it and the 1992 model about 136,000 miles. We've always used **Amsoil** synthetic oil in these trucks which we think provides extra protection."

Chris Lynch, Sabina, Ohio: "My **Deere 9100 4-WD** tractor has worked perfect for 1 1/2 years. I'm impressed with its power and torque. It replaced an old **Steiger**. The **Deere** model uses only half as much fuel and is much more comfortable to drive."

O. Douglas Holland, Bedford, Va.: "I like my 1972 **Massey Ferguson 1130 D** tractor equipped with a multi power transmission. No problems after all these years. It's easy on fuel, steers easy, and has a lot of hydraulic capacity."

"My worst buy is my 1979 **Massey Ferguson 2745** tractor equipped with a V-8 diesel engine and 24-speed transmission. I had to replace the fuel injection pump and injectors and lines, as well as the clutch and pto bearing. The transmission had to be repaired twice. The tractor is hard to steer whenever I drive slow or back up to hook up to equipment. If I shift from low to high range on-the-go, the transmission locks in neutral. It's a big problem to fix."

Jack L. Rarig, Catawissa, Pa.: Jack's "worst buys" are his two 1995 **Deere 5400** tractors. "The first one was returned to the factory for evaluation of the transmission only three weeks after I got it and with only

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19 hours on it. The hydro reverser transmission went from 10th forward to 9th reverse one day as we returned home from baling hay. The dealer told me he had never heard of anything like that before, but then two days later he told me about another Deere 5400 with the same problem. Both tractors were sent back to the factory for repairs.

"When I asked the dealer how long the repairs would take, he said several months. Parts had to be manufactured in Japan and then shipped to Waterloo. I traded this tractor in on another new 5400 which was delivered in August of 1995. Five minutes after it was off-loaded I noticed the first of many defects. With the engine stopped, the 3-pt. lift arms dropped visibly from full-up to full-down in less than a minute. With the engine running, the lift arms would raise to full height and bounce around. After a few seconds, the lift arms would drop a couple of inches, then bounce back up. When an implement was attached to the 3-pt., the bouncing was bad enough to raise the front wheels off the ground which made steering difficult, especially on hard surfaces.

"With less than 100 hours on the tractor more problems showed up. An air induction hose between the turbocharger and air intake became saturated with oil. The horn won't blow. The engine produces white smoke up to 1,200 rpm's whether it's hot or cold, and it uses about a quart of lube oil every 10 hours. The brakes chatter and clank and both rear axle seals leak. Both ends of the steering cylinder leak, there's no breather in the front axle, at times I can't shift into any gear, anti freeze pushes out of the over flow, and the fuel gauge doesn't work. The link between the third remote valve and lever snapped off at the press fit end.

"This tractor has now spent more hours on back of a truck than it has in my fields. Every time they return the tractor after warranty repair work there are loose and miss-

"This tractor has spent more hours on back of a truck than it has in my fields."

ing nuts and bolts, missing parts, and numerous nicks and scratches in the paint."

Stanley Davis, Live Oak, Fla.: A 1998 Mazda B4000 extended cab pickup rates as Stanley's "best buy". "I've owned several Mazda vehicles, all with good results. This one's equipped with a 6-cyl. engine and automatic transmission. It has a lot of power, is fuel efficient and a pleasure to drive. I use it to tow a gooseneck trailer on which I haul our Allis Chalmers show tractor and an old gas engine."

Carl E. Knuckles, South Whitley, Ind.: "We bought a Yamaha Kodiak 4-wheeler ATV with a blade on front. It's our best buy. No problems. It has about 1,500 miles on it. "FARM SHOW is also a best buy."

William and Kathy Earley, Beloit, Ohio: "We like our Lincoln 1160 air-operated grease gun. Just press the trigger and it'll empty a tube of grease. It costs only about \$60. It takes regular size cartridges which helps keep things clean."

Ray Grabber, Lincoln, Neb.: "My dealer put new tires on my snowblower but I discovered that although they were marked the same, one was taller than the other, causing

the blower to run in a circle. I called the Carlisle Factory in Aiken, S.C., and they said that someone made a mistake pairing them up together.

"He volunteered to send me a new pair of better tires called Snow Hogs. I asked what they would cost, and he said, 'You've had enough trouble, so these are on us - no charge.' Five days later they came prepaid. Now my snowblower runs straight."

Henry E. Haley, Templeton, Ma.: "My best buy is my 1947 Ford 2N tractor. It has served me well for 53 years and is still going strong."

Bruce A. Fultz, Logansport, Ind.: Bruce likes his 1999 Ford F-450 4-WD dually pickup equipped with a 7.3-liter Power Stroke engine and automatic transmission. "The company I work for purchased this pickup five months ago and it works great. It starts at 10 degrees below zero without being plugged into a heater and works great in the snow. It's the best pickup I've ever seen. It's built Ford tough."

John McGreevy, Jr., Fawn Grove, Pa.: John likes his New Holland 1620 HTS 4-WD tractor equipped with a front-end loader. "It's reasonably priced and easy to use. The loader has a lot of reach and speed.

"My all-time best buy is my 1983 Deere 2350 4-WD tractor. It has about 7,500 hours but is ready for more work. I use it to mow about 4,000 miles of highway roadsides every year. In winter I mount a blade on front and a snowblower on back."

Thomas E. Jackson, Jr., Bowling Green, S.C.: "I bought my Miller wire welder two years ago and it's my best buy. It's a 250-amp vintage model. I've used it both to repair equipment and to fabricate parts. It works good at either low or high settings. Miller makes quality products.

"My worst buys are recent General Motors products. I've owned more than 12 new or used GM vehicles during the last 35 years and they were all built with quality. However, in the last few years the company has lowered its standards. GM vehicles and parts now are sub-standard, in my opinion. Another problem is that you can't always order them according to your needs and specifications."

Steve Korver, New Oxford, Penn.: "We like our 1995 New Holland 795 manure spreader which we bought used. It's equipped with a tailgate and pan that works great for spreading poultry and dairy manure and also keeps it off roads. One problem was that the bolts that secure the box to the hitch broke through. It had to be reinforced.

"We use our 1989 Knight 2300 Reel Auggie to feed about 100 head of dairy animals a day. It's easy to operate. We put some hay in it which mixed up well. It fluffs up the ration and doesn't pack it like our old auger mixer did. Also, our old auger mixer couldn't handle hay. It doesn't take much horsepower to run, even when mixing hay.

"My 1990 Zetor 55 manure spreader is my worst buy. The spreader's apron is made from log chain which has to be kept tight in order to keep it from rolling off the sprockets. The adjustment mechanism for tightening the chain is poor. The sprockets have points that fit into the chain links, and one of the points broke off. Unfortunately the sprockets are welded onto a steel shaft so I had to order an entire new shaft. It took four months to get it. One good thing is that the spinners spread poultry manure evenly."



Warren Harris, Williamsburg, Ind.:

"After reading in FARM SHOW about a do-it-yourself backhoe built by John Mikulas, I bought a set of Cadplans from him to build one myself (Cadplans - ph 800 817-5267). I put it together without much problem. The photo shows it in test phase. I have since painted it yellow.

"It took me about 1 1/2 years to build

James B. Brooks, Siler City, N.C.: "My New Holland 1411 discbine is the best mower I've ever used. It'll mow anything - the thicker the crop, the better it mows. The ground speed doesn't have any affect on its mowing ability. It cuts clean at high speeds."

George Steuart, Fayetteville, Tenn.: George says his 1981 International 800 4-row plate planter equipped with Martin row cleaners is his "best buy". "It has never failed to get a stand in any soil conditions. However, using Pioneer PDR sized seed I did have trouble getting a stand of corn. In fact in some places there was no corn at all.

"My three 30 by 90-ft. Cover All shelters have performed even better than I expected. I use them as hog barns. They're durable, keep the hogs comfortable, and have reduced my labor requirements."

Arden Walizer, Loganton, Pa.: "My best buy is my New Holland 255 3-pt. mounted rake tedder. It teds hay and rakes perfect. No complaints.

"My Tanco 5505 self loading bale wrapper is a best buy. It works great provided you have a tractor with adequate hydraulics. I use a 1941 Massey Harris 101 Junior tractor to operate it. The tractor didn't have hydraulics so I installed live hydraulics off a Massey 35 self-propelled combine. It works great."

Dave and Dale Kroft, Wabash, Ind.: "Last May we purchased a 1999 Ford F-350 2-WD pickup equipped with a 7.2-liter diesel engine and a 9-ft. long flatbed. It has more than enough power to pull our livestock trailer. Our 1987 Ford F-250 pickup equipped with a 460 cu. in. gas engine sometimes didn't have enough power to pull heavy loads. The new model starts good in cold weather and even though it isn't 4-WD it handles good on snowy roads. The flatbed makes it easy to haul large items. One problem is that the ride isn't as comfortable as we'd like. It gets about 12 mpg pulling a load compared to 5 mpg for the 1987 model."

Noah N. Zimmerman, Lancaster, Pa.: "My best buy is my 1998 Howard Price 360Z zero turn mower which we use to mow a 17-acre cemetery. I liked the mower so much I became a dealer for the company, which is headquartered at 18155 Edison Ave, Chesterfield, Mo. 63005 (ph 314 532-7000). We can mow up close to the stones so less

trimming is needed later. I really like the zero turning feature. It greatly reduces our mowing time."

Tom Boatright, Lockhart, Texas: A 1998 Koyker Raptor utility vehicle rates as Tom's "best buy". "It's unbelievable how much walking it saves us. We use it every day to feed small square bales to our 35 beef cows, check cattle, go from shop to house, etc."

Dale Neidhardt, New Salem, North Dakota: "We've had tremendous problems with our bi-directional New Holland TV 140 tractor, which we bought new. When it was delivered in November, 1998, one door handle was on backwards, the mirrors were loose, the air conditioning didn't work, and there was water in the cab that had leaked in. Later, cab windows started shattering. It even happened while the tractor was parked in the shed.

"But we've had much worse problems. The transmission housing cracked because a shift cylinder inside kept hitting against the inside of the housing. It was in the shop for three weeks. We had to rent another one to replace it. You don't plan to spend money like that when you just bought a new tractor.

"Later, a hydraulic line broke while driving in the field and pumped out all the hydraulic fluid.

"One of the worst things that happened was that a pin that holds the drawbar to the tractor fell out while I was pulling my sprayer. It was a pin under the tractor that holds the entire drawbar assembly in place - not the drawbar pin. When it came off the hydraulic couplers did not release the way they are supposed to. Instead, they tore the pump off the sprayer, which cost us an extra \$1,000 for a new pump - but more importantly, delayed our spraying by two days.

"Last summer another hydraulic line broke in the field. Now the differential lock doesn't work and there's an oil leak on the side of the engine by the injection pump.

"New Holland says it's not responsible for extra expenses caused by the failure of its tractor. But I say, who would ever expect the transmission cover to break or the drawbar to fall off a new tractor? We're frustrated from dealing with the company because they do not seem to want to recognize that this tractor has big problems."



Anhydrous system allows the Harms to evenly apply anhydrous across the width of applicator. Anhydrous is kept in liquid form right down to the knives.

New Way To Monitor Anhydrous Application

Loren and Larry Harms, Lexington, Ill., apply strip-till anhydrous ammonia on their corn ground. Last year they checked yields across the rows and found 15 bu. per acre higher yields in four out of each 12 rows of their applicator.

They blamed the inconsistency on their NH₃ applicator and the fact that there was no way to monitor each row during application.

Now the two men are working with Lauren Kiest, a chemical engineer based in Denver, Colo., who also owns farmland in Illinois. He has developed a new anhydrous monitoring system that makes use of a Red Ball monitor.

The key to the system is designing it so the NH₃ is handled as a liquid right down to the knives. To do that, you have to have back pressure from the nozzles that keeps the NH₃ from vaporizing. To do that, they had to control the orifices as close to the knives as possible. They were able to apply ammonia at between 100 and 180 psi.

With the NH₃ in liquid form, Kiest was able to plumb in a Red Ball monitor which consists of clear plastic tubes with balls floating in them. They tell you at a glance how each row is operating.

Kiest says that after running the system last year, he's convinced it's possible to evenly apply anhydrous across the width of an applicator, boosting yields by preventing over or under application. Now that he has made the basic idea work, he says he needs



System makes use of a Red Ball monitor which consists of clear plastic tubes with balls floating in them. They tell you at a glance how each row is operating.

to develop specific equipment for the system before he can bring it to market. For example, Red Ball monitors are not made to handle high-pressure NH₃.

"We plan to talk to the Red Ball people about making a version geared to ammonia," Kiest says. Another problem to be worked out is developing a way to release ammonia if it gets trapped in the lines going back to the knives. He needs a way to bleed the lines safely. And as the system is currently set up, there are clouds of NH₃ that develop when making turns, the result of fluid being held in a liquid state until the applicator is lifted to make turns.

Contact: FARM SHOW Followup, Lauren Kiest, Denver, Colo. 80259 (ph 303 331-9696).

Make Your Own Seed Tapes

"You can make your own seed tapes using scotch tape and toilet paper. I make these on the kitchen table during the winter. Planting them is a lot easier on my knees and it saves a lot of thinning," says George Handel, Ohio, in *Countryside Magazine*.

To make them, just stick an inch or so of one end of the tape to a flat work surface. Stretch out about 2 ft. of tape, sticky side up

and stick the loose end to the table. Place seeds on the tape at the desired spacing. Then lay a strip of toilet paper over the tape.

At planting time, just make a trench as deep as required by the seeds, lay the tape in the trench, cover and tamp. The plants will come up normally. Works especially well with small-seeded crops like carrots or flowers.

How To Reach Us

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Marker mounts on rear corner of air seeders and cultivators. It swings forward and telescopes to the desired length and leaves a groove of about 2 in. in the ground.

"Side Slide" Marker For Field Cultivators, Air Seeders

Concerns about overlapping passes with seed, fertilizer, or chemicals when pulling air seeders and field cultivators prompted Bernie Toews and his son Dean to develop the Side Slide Field Marker.

The marker swings forward and telescopes to the desired length and leaves a groove of usually about 2 inches in the ground. Since measurements are based on marking to the center of the tractor, the operator simply has to drive over the center of the groove to eliminate overlap.

The marker mounts on the rear corner of air seeders and cultivators so it can be close to the packing wheels and walking axles. Toews says this provides better weight distribution of the big marker.

A hydraulic cylinder swings the arm out as a motor extends the slide arm. It has adjustable stops, which allows you to adapt easily to different equipment. The disc angle is adjustable for different field conditions.

"The compact design doesn't interfere with turning at the end of the field or folding the implement for transport," explained Toews.

The marker is shear bolt protected so if you hit an obstruction in the field, the entire

marker swings back.

Toews says it was simple economics which convinced him that such a field marker would attract the attention of other farmers. For example, he notes that a quarter section typically takes about 80 passes to seed. Just 1 ft. of overlap would leave an 80-ft. strip not seeded.

"With a 33-ft. implement, this would require three additional passes to finish seeding the field. Three more passes will increase your input costs by four per cent. If you allow \$70 per acre for seed, fertilizer, chemical and seeding equipment, this one foot overlap will cost you \$2.10 per acre seeded," notes Toews. For a farmer seeding 2,000 acres, the additional costs could be as high as \$4,200.

Toews produces the Side Slide Field Marker through his company, Triple Star Manufacturing Ltd. It's available to fit cultivators in widths from 24 to 64 ft., including five folding units.

Contact: FARM SHOW Followup, Bernie Toews, Triple Star Manufacturing Ltd., Box 149, MacGregor, Manitoba, Canada R0H 0R0 (ph 204 685-2045).

"Double Plastic" Bale Wrap Kit

"It lets you wrap twice as fast and is three times as puncture-resistant as plastic put on one layer at a time," says Oscar Frey of Horst Welding about the company's new double plastic bale wrap system.

Horst Welding makes the Tube-Line bale wrapper which wraps long lines of round or square bales. Until now, bales have been wrapped with single layers of plastic that are overlapped to apply multiple layers of plastic.

The new system "laminates" two layers of plastic together as it's wrapped around the bale. The two rolls mount together. A set of knurled aluminum rollers stretch the plastic tightly together as it comes off the rolls. The plastic sticks tightly together, forming one heavy layer which Frey says is stronger than simply wrapping two layers around a bale.

"You can't separate the two layers of plastic with your fingers. They bond together, forming a much stronger barrier that's harder to penetrate," notes Frey. You can wrap faster because you only have to overlap half as much and the plastic goes further so you don't have to reload rolls of plastic as often.

Frey says the concept of laminating two layers of plastic together would work on any



Two rolls of plastic are unrolled at once. As they're pulled, they bond tightly together forming a laminated double layer of plastic that's much more resistant to puncturing, says Horst Welding.

bale wrapper. He sells a kit to fit his Tube-Line bale wrapper for \$225 (Canadian).

Contact: FARM SHOW Followup, Oscar Frey, Horst Welding, RR3, Listowel, Ontario N4W 3G8 Canada (ph 519 291-4162; fax 519 291-5388; E-mail: tubeline@horstwelding.com).



Three-piece toolbar uses one crossbar just ahead of the 3-pt. to support two other bars, which extend forward to clamp onto cultivator toolbar.

Add-On Tractor Bracket Lets You Front-Mount Any Row Crop Cultivator

You get a better view of a row crop cultivator when it's mounted up front. The problem is, there's no easy way to mount a conventional cultivator on a front 3-pt. hitch.

Laforge Systems says it has come up with a simple solution: a toolbar system that clamps onto any existing cultivator.

"It's a very simple but flexible solution that fits almost any cultivator equipped with a 7 by 7 or 5 by 7 toolbar. The row spacing doesn't matter," says Lars Paulsson of LaForge. "We came up with the idea because we see a lot of growers struggling to find a good way to front-mount their cultivators. Turning the row units around and pushing them ahead of the toolbar doesn't work because the row unit parallel linkage isn't designed to work 'backward'. As far as we know no one else offers a commercial bracket that lets you front-mount an existing cultivator.

"The only limitation is the weight of the cultivator, which is more important than the number of rows. We recommend using a 4-



Bracket fits almost any cultivator equipped with a 7 by 7 or 5 by 7 toolbar.

WD or front wheel assist tractor."

The system consists of a 3-piece toolbar with one crossbar just ahead of the 3-pt. that supports two bars that extend forward to clamp to the cultivator toolbar.

Sells for \$1,725 plus S&H. Laforge also sells add-on 3-pt. hitches.

Contact: FARM SHOW Followup, Laforge System, Inc., 4425 C Treat Blvd., Suite 230, Concord, Cal. 94521 (ph 800 422-5636 or 925 827-2010; fax 925 689-7198; Website: www.fronthitch.com).



"Grain Station 2000" measures 12 ft. wide and 36 1/2 ft. long. Fully loaded, it holds 61 tons and has 50 percent more capacity than a conventional semi truck.

PROVIDES IN-FIELD STORAGE FOR LOADING SEMI TRUCKS

2,000-Bu. "Grain Station"

Bob West has spent the past three years chasing a dream. Now it's reality – a grain handler with a whopping 2,000-bu. capacity.

The "Grain Station 2000" looks somewhat like a giant liquid manure tank but has a 16-in. dia., hydraulic-powered unloading auger on front. It measures 12 ft. wide and 36 1/2 ft. long and rides on four axles, each equipped with dual wheels. Grain is loaded into an 8-ft. long opening on top and is delivered forward to the front unloading auger via a 22-in. wide drag conveyor. The unit also has three slide gates at the bottom.

Fully loaded, the unit holds 61 tons and has 50 percent more capacity than a conventional semi truck. With that kind of capacity you might think it's the world's biggest grain cart. After all, the next largest grain cart on the market has a capacity of "only" 1,100 bu.

However, it's not a grain cart at all, says West, of Vulcan, Alberta. "It's designed to provide in-field storage. The idea is to pull the empty Grain Station to the end of the field, park it, and unload grain from the combine or a grain cart into it. Then you use the Grain Station to quickly load the semi trucks that haul grain directly to an inland terminal or other location."

West has built one prototype unit. He's willing to custom build units for about \$50,000 (Canadian). The rig can pay for itself, he says, by making it possible to hire truckers to haul grain to market direct from the field.



Grain is loaded into an 8-ft. long opening on top and is delivered forward to front unloading auger via a 22-in. wide drag conveyor.

The rig can also be used after harvest to speed up loading out of bins. "You can unload grain from bins into the Grain Station and then load it from there into semi trucks. With an unloading capacity of 150 bu. per minute, the Grain Station can load trucks faster than they can be loaded out of bins. Truckers don't want to spend time waiting at the farm to get loaded. This way they can just pull in, load and go."

West says the Grain Station could also be powder coated to be used with fertilizer during the spring. "The fertilizer supplier would fill the Grain Station at the end of the field, and the farmer would then load up from there."

Contact: FARM SHOW Followup, R.A. West International, Inc., 285 Service Road, Vulcan, Alberta, Canada T0L 2B0 (ph 403 485-1998 or 888 972-9378; Website: www.rawest.com).



"It has really cut down the time it takes to clean leaves out of our yard," says Pete Lamp about the leaf blower he made out of a pto-driven silage blower.

Super Leaf Blower Built From Silage Blower

"My super leaf blower was made from a Kools pto-driven silage blower," says Pete Lamp, Waterloo, Ind.

"I removed the infeed mechanism and took the rest to a local welding shop. They removed the tongue and installed a 3-pt. hitch hookup. They also modified the frame so the air outlet would blow along the ground.

"This leaf blower works even better than I expected. We live in the woods and have tons of leaves in the fall. This machine has really cut down the time it takes to clean them out of the yard.

"I pull it behind my 45 hp tractor, but I think any tractor with 20 or more horsepower would work fine.

"Total cost was \$525 - \$80 for the blower and the rest to the welding shop for fabrication work. New commercial leaf blowers with similar capacity sell for about \$800 but are not built as heavy as mine."

Contact: FARM SHOW Followup, Pete Lamp, 3438 CR 24, Waterloo, Ind. 46793 (ph 219 837-4775; E-mail: lampballoon@netscape.net).



Silage blower's frame was modified so that the air outlet would blow along the ground.



Using his 12-ft. Sunflower chisel plow as a base, DeShaw built a 17 1/2-ft. folding, self-leveling plow.

Home-Built Chisel Plow “Works Better Than New”

There was nothing on the market that looked quite like the chisel plow Richard DeShaw wanted, so he just built his own.

“I had a 12-ft. Sunflower with disk openers on it,” he says. “It worked fine, but I wanted something bigger.”

So DeShaw paid \$650 for an older model IH 15-ft. chisel plow for parts. Using the Sunflower chisel as a base, he built a 17 1/2-ft. folding, self-leveling plow.

He started with an 8 1/2-ft. section from the Sunflower. Then he cut a 54-in. section from each end of the IH bar with lift wheels attached. He mounted the smaller bars on each end of the Sunflower bar with hinges from a folding anhydrous toolbar that he bought for \$50. Finally, he moved the transport/gauge wheels from the Sunflower plow forward 15 in. for more trash clearance. This also allows him to raise the plow higher.

He slid the chisels out to 15 in. spacing, so he had plenty of shanks for his new plow from the two old ones. “Originally, I was just going to buy square steel tubing and new shanks to extend the Sunflower plow, but I found I could buy the old IH chisel for quite a bit less,” he says.

DeShaw used extra steel from the old chisel to reinforce the extended toolbar and wheels. “I didn’t have any of that old bar to throw away when I was done,” he says.

He liked the swiveling coulters in front of the chisel shanks on the Sunflower plow. Since the IH plow didn’t have similar swivels, he went looking for more. When he found he couldn’t buy the swivel mounts separately, he made his own.

Since each of the end sections has its own lift wheels, they float independently of the



End sections fold up and over to rest in saddle brackets on the center bar. Folded, the chisel plow is only about 10 ft. wide.

center bar. The wheels can be raised or lowered hydraulically. In order to control all the lift wheels with one hydraulic lever, he had to make some changes in the hydraulic lines on the plow. He cut the return line from the two-way main cylinder on the center bar and installed a T. Then he ran lines to each of the end cylinders, also 2-way cylinders. The return lines from these cylinders run back to a T, which returns back to the tractor.

DeShaw pulls the chisel with a 2670 Case-IH 4-WD tractor. “It’s the best chisel plow I’ve ever pulled. We have terraces and contour strips, and it’s very maneuverable. I was worried those floating end sections might not go into the ground or would bounce out. But it has plenty of suction. It goes into the ground and stays there. It’s great for breaking up compaction in end rows in the fall. It goes through corn stalks as well as any new plow I’ve seen.”

Contact: FARM SHOW Followup, Richard DeShaw, 10082 Slabtown Road, Bloomington, Wis. 53804 (ph 608 994-2656).



“It’s built heavy and has infinite depth control from 0 to 8 in. deep, thanks to its unique depth control wheels,” says Karl Plesums about his home-built cultivator.

Farmer-Designed Cultivator Built To Handle Rocks

Farming rocky ground can be a frustrating experience if your equipment is not built to handle it. After years of repairing conventional cultivators, Karl Plesums, Spooner, Wis., decided to build a cultivator that could walk through his rockiest fields without a problem.

The result is a heavy-built machine with features not found on any other machine. He uses conventional Deere chisel shanks fitted with 24-in. wide shovels. Everything else on the machine he built himself. He uses it primarily for row crop cultivating but he also strip-tilled with it last fall at 6 in. deep. In addition, he can put chisel points on to use it as a chisel plow.

Plesums spent \$2,243 on parts and steel to build the cultivator.

“What makes it unique – besides being built heavy – is that it has infinite depth control from 0 to 8 in. deep, thanks to its new-style depth control wheels,” says Plesums.

The depth wheels mount on heavy adjustable brackets made from 2 by 4-in. sq. tubing. Plesums says he built the brackets as “heavy as he could”. The wheels are made from a fluted coulters with sections of 12-in. dia. steel tubing welded to either side of it. Plesums welded round end caps made from plate steel into either side of the wheel to seal up the open pipe sections. Bearings mount at the center of each end plate. A bolt extends through the bearings for the wheel to turn on.

“Most cultivators have both coulters and depth control wheels. I combined them both into one wheel that’s heavy, rides solidly on the ground, and cuts through any residue,” notes Plesums.

The scissor-shaped linkage that holds the depth wheel pivots at two points – right under the toolbar and on a bracket mounted on back of the toolbar. A single 1-in. dia. threaded rod is used to adjust depth.

The spring-loaded shanks mount on brackets at the back of the 7 by 7-in. toolbar. “I fashioned the linkage after a tractor 3-pt. hitch,” says Plesums.

All his hard work paid off when he took the 8-row, 30-in. cultivator to the field. “Last fall I used it to strip-till some ground and pulled up a big rock with the end shank. It pulled so hard it caused the whole tractor to make an unexpected 90 degree turn. At that



He used conventional Deere chisel shanks fitted with 24-in. wide shovels but built everything else himself.



Depth wheels mount on heavy adjustable brackets made from 2 by 4-in. sq. tubing. Plesum says he built the brackets “as heavy as he could”. The wheels are made from a fluted coulters with sections of 12-in. dia. steel tubing welded to either side of it.

point I thought I had broken something on the cultivator but there was no damage at all.

“The precise depth control is great for cultivating. I can work at 1 to 2 in. with no problem.

“I could not have bought a cultivator this good. I plan to set up a spray system for in-row herbicide application for spot spraying while cultivating.”

Contact: FARM SHOW Followup, Karl Plesums, 24967 Trails End Rd., Spooner, Wis. 54801 (ph 715 468-7326).

Top-Link Weigh System Fits Any Tractor

A British company has come up with a new weigh system for tractors that simply consists of a replacement top link with a load cell build into it.

Parker Weighing System says the new top link could be used to weigh any load you can carry on a tractor 3-pt. – such as bulk loads of seed and fertilizer. It could also be used to weigh silage bales, chopped forage, and other feeds. Once it’s calibrated, no further adjustments are needed as long as all weights are taken at the same height. The scale has a built-in electronic level with indicator lights on the control box so it’s easy to put it at the same height.

The company says the system is accurate to within 2 percent.

Contact: FARM SHOW Followup, Parker Weighing Systems, 28 Hammer Lane, Warborough, Wallingford, Oxfordshire OX10 7DJ England (011 44 1865 858565; fax 001 44 1865 8585230).



Weigh system does the job of a top link and also weighs whatever is being carried.

(Photo & story courtesy Power Farming)



For some reason, Shawna Hobson's horse farm gets far more than its share of twins - the horse kind and the human kind.

Twins Are The Rule For Horses And Humans On This Farm

Shawna Hobson of Quincy, Washington has been raising horses for 32 years. During that time, she has had four sets of live twin foals born - in addition to having two sets of twin children herself!

Twins are considered rare in horses but for some uncanny reason, Hobson's operation gets far more than its share. In past years, she has always had at least one or two mares out of 10 conceive twins.

"Just this year, out of 25 mares bred, 10 of them conceived twins. Most commonly, what happens is that the mare will abort them, but we don't want that to happen because then you end up running an open mare," Hobson explains. "Instead, we have our vet do a rectal ultrasound at 17 days and again at 21 days to determine if twins exist. If they do, he pinches off the smallest one - it's like pinching off a grape - and the mare's body absorbs it."

Then, a week later, Hobson's vet comes back and does a third ultrasound to make sure that the remaining embryo wasn't disturbed. What makes Hobson's story even more unusual is that she's had her own two sets of twins (Shane and Seth, 21, and Stefanie and Steven, 17). She wouldn't change a thing as far as her family, but when it comes to horses she'd rather not have twin foals.

"It's just too hard. The babies come out too small, so they're weak and need a lot of extra attention. We don't even apply for breed registration papers for twins because they take a long time to mature, are usually stunted, and are of poorer quality than if they had been single foals. We give them away to 4-H kids instead," she explains.

The live twin foals that have been born on the Hobson ranch were ones that somehow slipped through the screening process and most weighed 35 to 40 lbs. at birth.

Many of Hobson's registered Paints are half Thoroughbred and it is thought by many

that Thoroughbreds are more likely to conceive twins.

However, equine veterinarian Carol Shwetz of Westlock, Alberta, Canada, says this could easily be a misconception because Thoroughbreds are also the horses that receive the most ultrasound examinations, due to their high value.

"It's possible that other breeds conceive just as many twins, but we just don't find out about them because they are re-absorbed or aborted," she says. "Belgians have the highest success rate in producing live twins, but it is still rare."

Shwetz quoted the following statistics from one of her veterinary reference books:

Out of every 1,000 bred mares that ovulate and conceive, 160 will conceive two eggs

150 of those (95 per cent) will lose or re-absorb those embryos at 40 to 45 days (before implantation)

Of the 10 remaining, six or seven will abort both foals or deliver them dead

Two or three will deliver one live foal

One will produce viable twins

Shwetz has no explanation for the high rate of twinning on the Hobson farm but says the trait can be genetic and that having a number of horses with similar bloodlines may increase the chances of twins.

But, of course, that doesn't explain why Hobson herself also had two sets of twins.

"Yeah, it's really strange why we've had so many twins on our ranch. It's something we don't understand, but we have a standing joke when people come to visit us," Hobson says. "We tell them, 'Don't drink the water'."

Contact: FARM SHOW Followup, Shawna Hobson, Hobson's Paint Horses, 16393 Road 1 NW, Quincy, Wash. 98848 (ph 509 785-6731; E-mail: shobson@televar.com; Website: www.geocities.com/shobson_99).

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A Red Angus cow near Swift Current, Sask., recently gave birth to her second set of live quadruplets in as many years. All four survived.

Cow Produces Quadruplets Two Years in A Row

A four-year-old Red Angus cow near Swift Current, Saskatchewan seems to have more than her fair share of fertility. She has produced 10 calves in three years.

According to Scotty Hofer of the Ponteix Hutterite Colony, the cow gave birth in early February to her second set of live quadruplets in as many years. Both times, the prolific cow calved naturally, although she has received some assistance during the births. All eight calves have been in the 35 to 45-lb. range.

Hofer says the 1999 calves included three heifers and one bull. Two of them nursed from the mother, while the other two were hand-fed. One of the heifers died at three weeks but the others survived.

This year, the Colony opted to leave only one calf on the cow, put another on a foster cow, and hand-feed the remaining two. All four survived.

The prolific mother began her career two years ago by producing twins - something that now appears to have just been a warm up for what was to come. Both sets of quads were sired naturally by a Charolais bull. No fertility drugs were involved.

Quadruplets are rare and most are stillborn. University of Wisconsin professor and animal geneticist Dr. Brian Kirkpatrick says research has found that there are also environmental influences in multiple births, in addition to genetic tendencies.

"We know that the time of year when breeding occurs can affect the number of multiple births, in addition to genetic tendencies. We also suspect there is a nutritional component whereby high nutrition prior to and at the time of breeding can increase ovulation."

Kirkpatrick is working together with

cattlemen to establish a "breed registry" especially for cattle with highly prolific genetics.

"The registry will maintain records on the ancestry of animals as well as performance records. While most people don't look favorably on twinning because it can be a lot of extra trouble, there are people who desire this type of animal because of the increased profit potential. We have a mailing list of 65 cattlemen who are interested in increasing their twinning rate. So far, we know of 15 people who wish to participate in the registry and thereby become a potential source of seed stock."

For the past 20 years, twinning research has been going on at the USDA's Meat Animal Research Center at Clay Center, Nebraska. The center has established a herd of 300 cows that are genetically predisposed to twinning and the herd is currently achieving a 50 per cent twinning rate. The cows in this herd represent 12 different breeds.

The USDA has a production sale each year where they sell off excess stock produced by their prolific herd.

Contact: FARM SHOW Followup, Scotty Hofer, Ranch Cow Boss, Ponteix Colony, Box 37, Ponteix, Sask., Canada, S0N 1Z0 (ph 306 625-3652; fax 306 625-3251). Or contact Dr. Brian Kirkpatrick, Dept. of Animal Sciences, University of Wisconsin - Madison, 1675 Observatory Drive, Madison, Wis., 53706 (ph 608 263-4323; fax 608 262-5157; E-mail: kirkpat@calshp.cals.wisc.edu; Website: http://www.wisc.edu/animalsci/faculty/kirkpatrick.html).



"It works great in my scrap metal business," says Edwell Cartwright, who uses a remodeled 1975 Chevy school bus to haul his cargo.

Farm Family's Recycling Business Uses Remodeled Bus

By Janis Schole

Edwell Cartwright gets a lot of funny looks when he drives around in his modified school bus loaded down with 5 1/2 tons of scrap metal. In fact, he was once stopped by the police but it turned out the amused officer just wanted to take a picture of the rig because he had never seen anything like it.

The recycled 1975 Chevy C-60 perfectly compliments Cartwright's business - Raven Hill Scrap Metal. He's been in the scrap metal business for eight years near Pickardville, Alberta. The operation is truly a family business, with Cartwright's seven children, ages 8 to 19, pitching in to help.

The roof of the bus was cut off, and the side and back walls removed so that only an 18-in. perimeter remains above the floor, forming a "box" for cargo. A closed-in cab was created by installing a wall with a window directly behind the front seat. The cab roof and back wall are made from plywood, insulation and aluminum.

The bottom part of the back emergency door was left intact for easier loading, and it can be locked closed with a hinged padlock system.

The low profile of the bus works well for using a Caterpillar with a bucket to load and unload it.

The Cartwrights have signed agreements with local waste dumps and they offer free pickup service to numerous automotive garages, gas plants, farms and the local recycling depot's tin bin. The family saves their local municipal government thousands of dollars in trucking fees by hauling discarded materials.

They purchase old catalytic converters, radiators, transmissions and other cores from garages because it is profitable to take them apart and sell the valuable metals contained inside. All metals are separated so that the final sale is of a specific metal rather than mixed metals.

The Cartwrights use a truck with stock racks to pick up the materials at one or two stations and garages each evening, and the items are later unloaded at home for "processing." Before it is ready to load on the bus for marketing, much of the scrap metal must be dis-assembled. Household appliances must be taken apart so that the various types of metals they contain can be separated. Edwell uses a portable chop saw to separate the materials and a Cat crawler to condense them for more efficient transportation. Items such as aluminum lawn chairs must be painstakingly dis-assembled

by hand, removing the nylon webbing and screws.

The Cartwrights say there is also a market for car and truck bodies, but they've got so much to do already, they simply don't have the time to travel around to farms and acreages, collecting them.

The most profitable materials are steel, aluminum and catalytic converters, but steel is the best because it's easier to get a high volume and there's usually less dis-assembly required," says Edwell's wife, Sherry. "The scrap metal market fluctuates quite a bit. We were getting \$97/ton for steel but last fall the price dropped to \$40. The price always seems to drop in the fall. Aluminum is currently bringing about 55 cents a pound."

When prices are low on certain commodities, the Cartwrights try to stockpile them. Items such as starter cores, wiper motors and heater cores take longer to accumulate a load, so the family sells these only twice a year.

Each week, the Cartwrights haul one or two loads of steel (regular and stainless), cast iron, lead and magnesium to a nearby recycling company. Every six weeks, they deliver zinc, copper, three types of aluminum and brass to a different recycler. On the way there, Edwell stops for pick-ups at various garages and on the way back he takes advantage of the added seasonal opportunity to haul fresh fruit back from orchards and market gardens.

I'm always looking for more suppliers in British Columbia and Alberta of non-magnetic metals such as aluminum, copper, zinc and brass, as well as more catalytic converters," Edwell points out.

When the Cartwrights deliver a school bus load of metal to one of the recycling plants, it is unloaded by a large crane magnet.

Edwell used to operate a roofing business, but a fall from a ladder eight years ago sent the family in the direction of the scrap metal business.

Roofing is so weather-related and seasonal that after 10 years in the business, we were \$11,000 in debt. Scrap metal is something we can do year-round and it's good for the environment. We'll probably never get rich doing this, but recycling is a good thing and we have been able to make a living at it," Sherry concludes.

Contact: FARM SHOW Followup, Edwell and Sherry Cartwright, Box 5726, Westlock, Alberta, Canada T7P 2P6 (ph 780 349-6172).



Fred Lally's two-headed pet collection includes this two-headed turtle. Both heads on the turtle eat although they sometimes fight over food.

Two-Headed Pet Collection One Of The Last Great Side Shows

Fred Lally has a one-of-a-kind collection that gives "one-of-a-kind" a whole new meaning.

Everyone's heard that two heads are better than one, but Lally, of West Fork, Ark., has turned that saying into a money-making enterprise. He has the world's most unusual collection of two-headed animals.

He turned the rare pets into a thriving business, but Lally is also sincerely attached to the little oddities. He lovingly hand-feeds them, calling them by name.

"I'm proud to be one of the last of a dying breed - an independent sideshow operator. My old-style traveling oddities show is the kind of thing that used to be part of every county fair, years ago," Lally explains. He quickly points out that what sets him apart from his predecessors is that his exhibit is based on the honest portrayal of real-life flukes of nature, as opposed to deception.

For the first 30 years of his career, Lally followed the county and state fair circuit with a snake show called the Oklahoma Rattlesnake Roundup. Occasionally, he would include an additional exhibit with such things as a 450-lb. live albino alligator. In 1995, he purchased a month-old two-headed rattlesnake. The tremendous interest that resulted led Lally to develop an extensive two-headed animal exhibit, featuring a freakish gallery of stars with genetic abnormalities.

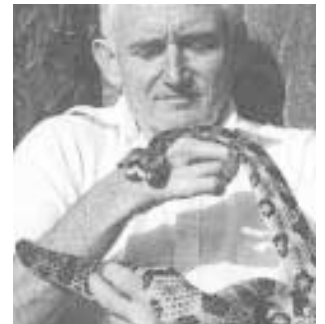
Lally's collection now includes the two-headed rattlesnake, six two-headed turtles, and a mounted collection of two-headed animals he purchased from other people. These stuffed animals are authentic (not man made) and include a two-headed monkey that died in Columbia in 1937, a two-headed calf, a four-eyed, four-eared, two-snouted pig, and a stuffed one-headed, eight-legged pig.

Lally's six turtles are "red-eared sliders" that he paid an average of \$500 each for. He describes two of them as being like sets of "Siamese" twins, with six legs, and shells merged together in a heart-shape. The other four turtles are what he calls "standard" two-headed turtles.

According to Lally, both heads on the turtles do eat although they sometimes fight over food. Lally says he sometimes notices one turtle head sleeping while the other is awake.

Lally first acquired D.T. the snake after hearing about it on the radio. He had previously tried to buy another two-headed snake of a different species, but was outbid by the San Diego zoo, which paid \$3,500 for it. Lally was able to purchase D.T. from a northern Alabama junkyard owner for \$850.

"Two-headed calves are a dime-a-dozen but a two-headed rattlesnake is a rarity, comparatively speaking. I've heard of four other 2-head rattlers, but none have been kept



Two-headed rattlesnake. "It draws people to my show the best of anything I've had," says Lally.



This two-headed monkey died in Columbia in 1937.



Here's a photo of Lolly's two-headed calf before it was stuffed and mounted.

alive in captivity. However, I've heard about or seen pictures of at least one two-headed calf in almost every town I've traveled to," Lally says.

He charges \$1 per person to see his show and travels the country from March until September to make his living. He tours the southern U.S. and also hits some fairs in Iowa, Minnesota, Michigan and Texas.

"The rattler draws people to my show the best of anything I've ever had. There's something about the innate fear evoked by venomous snakes, combined with the freakishness of two-headedness that really pulls people in."

Contact: FARM SHOW Followup, Fred Lally, 15058 S Hwy. 71, West Fork, Ark. 72774 (ph 501 839-3660 from Oct. - mid-March.)



Back in the 1950's a pair of Illinois farmers fitted a conventional grain header with rotating vertical gathering drums equipped with retractable fingers.

FROM THE ARCHIVES

The "Last Days" Of Ear Corn

By C.F. Marley

Veteran farm writer C.F. Marley of Nokomis, Ill., has been writing about "made it myself" farm inventions for 50 years. From time to time, he plucks a "jewel" from his archives. Here's one from the 1950's when farmers were starting to change over from harvesting ear corn to shelling corn on-the-go with their combines.

Before cornheads became widely available, innovative farmers found all kinds of ways to get their corn crop into the combine.

The attached photo shows a rig put together at that time by Wayne Best and Vince Meisner of Raymond, Ill. It consisted of a conventional grain header fitted with rotating vertical gathering drums that were

equipped with retractable fingers. The fingers would come out to grab the stalks and pull them into the combine, and then retract to release them into the machine. The vertical drums were produced by Hesston for another machine.

This method meant that the entire stalk would pass through the combine. That took a lot of power. To help handle the load, an extra engine was mounted on the back of the combine – above the existing engine compartment – to run the stalk chopper.

The machine worked very well during those years of transition to combines equipped to handle both small grains and corn."



Fingers came out to grab stalks and pull them into the combine, then retracted to release them into the machine.

Join FARM SHOW Talk!

Looking for parts for obsolete equipment? Trying to find an unusual machine? Need help with a difficult repair? Want some advice on a big upcoming purchase?

If any of the above fit you, just go to "FARM SHOW Talk" at our web site: www.FARMSHOW.com.

FARM SHOW Talk is where readers share experiences with each other and ask for advice on difficult mechanical problems or repair jobs. You can read through comments by other readers at your leisure, or enter your own comments or requests.



Alberta veterinarian Dewey Stickney created his own mobile full-service clinic. His 1994 Kenworth pulls a 50-ft. semi trailer equipped with a complete modern clinic.

Mobile Clinic Brings Vet Care To Remote Areas

By Janis Schole

To better serve the remote area his clients live in northern Alberta, veterinarian Dewey Stickney created what might be the world's first mobile full-service clinic. His 1994 Kenworth pulls a 50-ft. semi trailer equipped with a complete modern clinic.

The trailer has central heating, air conditioning, running water, on-board power, and separate rooms for surgery, examination, X-rays, and Stickney even included modest living quarters at the front of the unit. A satellite dish on the outside front of the van is tied into two televisions in the living area and waiting room, and a stereo system plays soothing music.

The mobile clinic serves a geographic area about 800 miles in length and 400 miles in breadth, with the majority of it being wilderness.

There are roughly 10,000 to 12,000 inhabitants centered mainly in five communities that I visit on a regular basis. There are no large population densities in these areas to justify a full-time clinic," he explains. "Residents of outlying areas usually come to the nearest center and clients with emergencies will usually come to one of our full-time clinics in Manning or Ft. Vermilion, or hunt me down if I'm closer."

The entire unit is 66 ft. long with a working weight of 44,000 lbs. and a fuel capacity of 200 gal. The drop-frame van is 13 ft. high and provides 400 sq. ft. of working space on the main floor. It also has under-slung basement compartments that house utilities such as wastewater storage, central air conditioning, water heaters, etc., and additional storage space. The drop-frame design of the van means it is lower profile, but it still has more clearance than a Greyhound bus, according to the vet. Efficient use of space above a dropped ceiling conceals utility lines and duct work.

I had to make the most of the room available, and still stay within legal highway requirements," he says. "A 200-gal. fresh water tank is recessed under the van's bed and there are sinks in both the exam and surgery rooms. I have a single compartment washer/dryer appliance in the lab/pharmacy and there is a bathroom in the front of the van. Each room has independent temperature controls and a power plant is attached to the front of the van."

Both the tractor-truck and the van have air-ride suspension that is deflated when the unit is parked. This results in a lower entry way and total stability when conducting clinics, Stickney explains.



Trailer has central heating, air conditioning, running water, on-board power, and separate rooms for surgery, examination, and X-rays. Stickney even included modest living quarters at the front of the unit.

Without dropping any numbers, Stickney admits the mobile rig was pricey, "but there was less investment than most people would think," he says, adding that, "it was cheaper than putting up a free-standing clinic."

I had the van conversion done at Northgate RV in Edmonton but I did all the design myself, saving engineering and architectural fees. It took about 10 months to finish and our maiden voyage with it was in July of 1999," he says. "It's a full-service companion animal clinic and makes a statement about the practice. It says to my clients that you can expect quality service and a sense of assurance."

Stickney uses the rig for 15 to 20 days each month, with two or three of those days spent traveling to the various communities he serves. The rates he charged his clients before building the rig have not changed. This is justified by the way the unit dramatically improved the efficiency of his practice, he says.

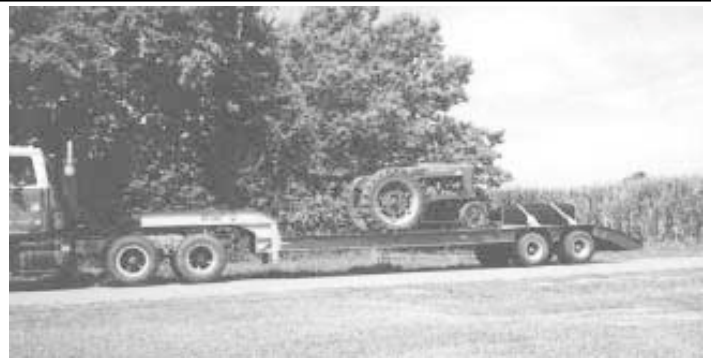
The Alberta vet continues to use a "booking agent" in each community to set up his appointment schedule on the road. His full-time mixed animal clinics in Ft. Vermilion and Manning operate while he is away, thanks to a partner, an associate, and a couple of animal health technicians.

One of the biggest impediments to providing veterinary service up here is finding enthusiastic veterinarians who are willing to reside here," Stickney says.

For more information, contact: FARM SHOW Followup, Dewey Stickney, Stickney Veterinary Service Ltd., Box 688, Manning, Alberta, Canada T0H 2M0 (ph 780 836-3770; fax 8348).



Friends and family gave Jimmy a fitting farewell by driving a procession of 28 tractors from the funeral home to the church. All the pall bearers were on tractors.



Jimmy's father led the procession, driving a semi pulling a flatbed trailer which carried his son's casket as well as his favorite antique tractor, a Farmall Super M.

Family And Friends Honor Tractor Buff With A Final Procession

Friends and family of Jimmy Haenning, who died last summer at age 24 in a non-farming accident, gave him a fitting farewell by carrying him to his final resting place on a flatbed trailer that also carried his favorite antique tractor.

Jimmy's father, Jim, led the procession of 28 tractors which made the trip from the church to the cemetery. Jim drove a semi pulling a flatbed trailer which carried his son's casket as well as his Farmall Super M. Jimmy's other two tractors, driven by

two of his three sisters, led a procession of 28 tractors behind the semi.

Jimmy grew up on a farm and also worked in the family's excavating business. He had planned to eventually take over the farm. He was well liked by the entire community and was a member of the Franklin County Antique Tractor Association. "He was always smiling and would do anything to help anybody. His death came as a big shock to us and to the entire community," says Jim.

The night before the funeral, a few friends

asked the family if they could load Jimmy's pulling tractor onto a semi trailer and park it outside the funeral home in the morning. By the next morning, 28 tractors were waiting to escort Jimmy's body from the funeral home to the church. All the pall bearers were on tractors. After the service at the cemetery was over, all the tractors made a circle and passed Jimmy again. Then they went on home.

"We never dreamed there would be so many tractors, and we also couldn't believe

the turnout. At least 800 people stood in line. Some people even videotaped the entire procession," says Jim.

Bumper stickers were made up that said "Pulling For Jimmy", and everyone put them on their tractors. The profits from the sale of the stickers, as well as from T-shirts, went to a scholarship fund started in Jimmy's name.

Contact: FARM SHOW Followup, Jim Haenning, 3161 George Road, Okeana, Ohio 45053 (ph 513 738-5659).



The grounds of the Fisherman's Inn in northern Illinois include 50 acres with 11 ponds, where rainbow trout are raised for the restaurant.

ROOM FOR 500 PEOPLE

Old Barn Converted To Popular Restaurant

What began as a dairy barn built in 1886 is now one of the finest eating establishments in northern Illinois.

Cliff Spence, general manager of the Fishermen's Inn near Elburn, Ill., says the barn was turned into a restaurant in the mid 1960's. It's now open only during the dinner hour from Tuesday through Sunday.

Used as a dairy barn up until the 1950's, the barn was surrounded by what was considered a swamp. The "swamp" turned out to be artesian springs that make it possible to raise fresh rainbow trout for the restaurant. The grounds of the Fisherman's Inn include 50 acres with eleven ponds. There's a replica mill house, fountains and well-lit walkways that make the Inn a perfect place for weddings and a variety of celebrations.

While the menu includes a variety of fish and steak offerings, it's the fresh Rainbow

trout that bring people coming back for more. Cliff Spence says, "The artesian wells provide fresh water for a concrete raceway that uses 1,500 gallons a minute for the trout. When they get big enough we bring them in."

Visitors from all over northern Illinois travel to eat at the Fisherman's Inn and enjoy the beauty of the scenery. Spence says the Inn can offer banquets for up to 500 people and that on Saturday nights, there's always a full house.

One unique feature is a round private dining room inside the original silo. Up to 12 guests can be seated in this room for no additional cost.

Contact: FARM SHOW Followup, Cliff Spence, Elburn, Ill. (ph 708 365-6265 or 9697).



Dennis Baker's bicycles range in size from a 2-ft. high tricycle to a maroon 3-wheeler with handlebars more than 6 ft. high.

HE CALLS IT "RECYCLED FARM ART"

He Makes Giant Bicycles From Old Farm Machinery

Dennis Baker of Carlisle, Pa., takes old farm machinery and turns it into a work of art. His self-taught hobby of building giant 2 and 3-wheeler bicycles makes use of everything from cast iron seats to barn hinges, disk spools, cow stanchions, etc.

The bicycles range in size from a 2-ft. high tricycle to a maroon 3-wheeler with handlebars more than 6 ft. high. About half the models are painted.

The 4-ft. high rubber wheel on front of the giant maroon bicycle is off an old Ontario grain drill while the 1 1/2-ft. high rear wheels are off a grain elevator. A silo blower was used to make the front wheel fender. The cast iron seat is mounted on an old barn hinge, and disk spools serve as the pedals.

One bike is painted Deere green and yellow and has a 4-ft. high steel front wheel off an old Oliver grain drill. The frame was built from an old barn stanchion and the seat is off an old potato harvester.

"I think of them not as lawn ornaments but as recycled farm art," says Baker, who

displays the bicycles in front of his house. "I don't live on a main road, but a lot of people still find their way here to look at them and take photos. They're a lot of fun to build and also bring back some history. A lot of old farm machinery is disappearing fast. My biggest bicycle has rubber wheels but all the others have steel wheels. I get more compliments on the rust-colored, unpainted models than on the painted ones."

"High bicycles, or high-wheelers, were popular in the 1800's. The bikes had a large front wheel, some with a diameter of more than 60 inches, and small back wheels to keep it steady when you got on and off. The large wheel made it possible to travel farther with each push of the pedal. It also helped make bumps less noticeable. I stick a steel pin through the spokes on the front wheel of my bikes so people won't try to ride them."

Contact: FARM SHOW Followup, Dennis Baker, 35 Lime Kiln Road, Carlisle, Pa. 17013 (ph 717 258-4610).



Conveyor belts move bales forward into flail cutters that pull hay and straw off bale ends. Another conveyor drops material into a bunk or on the ground.

New Feed Processor Mixes Hay With Straw On-The-Go

Cow-calf producer R.C. Patterson, Kim, Colorado, wanted to run more cattle than his winter pasture would handle.

"I had plenty of summer pasture for 400 head of cows and calves, but in the winter I could only handle half that many," says Patterson.

He says he could buy plenty of good alfalfa but it would be too dense in nutrients for his beef cows. He could also buy wheat straw and oat hay but it wouldn't have enough nutrients. If he put out a few bales of both alfalfa and straw, he knew that some of the cows would eat most of the alfalfa and others would get only straw and he'd have problems.

What he wanted was a machine that would process hay and mix it together in the right proportion so cows would have trouble sorting out the higher quality feed from the lower quality.

And he wanted to be able to mix the two types of feed and put them right into the feed bunk so he wouldn't have to store the processed feed. Trouble was, he couldn't find a machine that would do the job at a price he could justify. And so, his E-Z Ration Processor was born. It took him three years to get it right, but Patterson finally put together exactly the machine he wanted.

It's a trailer that holds up to four 4 by 8-ft. bales, two of each kind of feed. There are conveyor belts under each side. The belts move the bales forward into flail cutters that pull hay and straw off the ends of the bales and drop it onto a third conveyor that mixes

it up a little and drops it into a bunk or on the ground. The conveyors under the bales run independently of each other and the operator can vary the speed of each to adjust the ration.

Patterson did some ration cost tests that showed he could save about \$0.19 per cow per day by mixing a lower quality hay into a higher quality one. For 400 cows, that's a savings of \$76 a day. Over a three-to-four-month winter feeding period, that amounts to a reduced feed cost of between \$7,000 and \$10,000. He says another of his studies suggests a 25 percent reduction in feed use, brought on by the combination of feeding a more balanced ration and feeding in a bunk rather than on the ground.

Patterson has also developed a hopper attachment for the front of the processor that allows grain or pelleted feed to be mixed into the hay as it drops into the feed bunk.

The EZ Ration Processor needs a tractor with 80 hp or so. "It doesn't take that much power to run the processor, but you have to have something that won't be pushed around by the load on the machine," he says.

Patterson applied for and received a patent on it. He contracted with Mohrlang Manufacturing Inc., Brush, Colorado, to produce the machine and formed a corporation to market the machine himself. Selling price is just under \$25,000.

Contact: FARM SHOW Followup, R.C. Patterson, RCMR, Inc., Box 140, Kim, Colorado 81049 (ph 800 242-9599; ph/fax 719 643-5275; Website: www.ezration.com).



Hopper attachment on front of processor allows grain or pelleted feed to be mixed into the hay as it drops into the feed bunk.



"Ultimate Cover" is a plastic dome that's inflated by a 12-volt electric fan. Fan constantly blows in filtered air to keep the clear plastic cover inflated.

"Dome Of Air" Protects Stored Equipment

Here's the most unique idea we've ever seen for protecting equipment in storage – an inflatable plastic dome that keeps out dust, moisture and pests.

Introduced at the recent California Farm Equipment Show near Tulare, the "Ultimate Cover" is inflated by a 12-volt electric fan that constantly blows in filtered air to keep the clear plastic cover inflated.

The standard 6 ft. wide, 24-ft. long enclosure has a base made from PVC fabric. You "peel" the cover open by unzipping it around the entire base and drive the vehicle to be stored onto the base. Then pull the cover back over, zip it up, and plug in the fan to inflate the unit. The entire process takes only about 3 minutes.

"It keeps out mildew, mold, rot and rust and the fan costs only about \$1.50 per month to operate," says Bill Chapman, manufacturer. "The vehicle will dry out while it's inside the dome because a small amount of air is constantly leaking out through the zipper.



Fan that inflates dome costs just \$1.50 per month to operate, says manufacturer.

"The fan is powered by a 12-volt motor that runs off 110-volt electricity. We recommend storing the unit out of the sun to avoid exposure to ultraviolet rays."

The covers are available in various sizes with widths making them big enough to store dually pickups, tractors, boats, snowmobiles, etc. The biggest model offered measures 8 1/2 ft. wide by 24 ft. long.

A 6 1/2-ft. wide, 20-ft. long unit sells for \$399 plus S&H.

Contact: FARM SHOW Followup, Headrick, Inc., 11287 Garzoli Ave., Delano, Calif. 93216 (ph 661 725-0734; fax 0766).



"High-inertia" rotor is actually a rebuilt Case-IH rotor. Kuchar re-attaches the rub bars in a more open design which allows the crop to go through faster without "slugging down" the rotor.

Kuchar Introduces New Rotor For Case-IH Axial-Flow Combines

George Kuchar, better known as the "Combine Man", has been manufacturing specialized high-performance combine parts for years. He unveiled his latest patent-pending combine add-on at the recent National Farm Machinery Show in Louisville, Ky.

It's a "high-inertia" rotor for Case-IH combines that's designed to improve performance in any crop.

The new rotor is actually a rebuilt Case-IH rotor. Kuchar "re-skins" the rotor with a 1/4-in. thick material and then re-attaches the rub bars in a more open design which allows the crop to go through faster without "slugging down" the rotor. That results in a better job of threshing and separating without tearing up the crop material and overloading the sieves, says Kuchar. Also, the crop material pulls through more easily which reduces wear and tear to the combine belts, bearings,

and the rotor drive system. The combine also uses less fuel.

"It takes only about two turns of the rotor for the crop to go through, compared to four times with the original rotor with the vanes in the fast position," says Kuchar. "The new rotor sounds more like a conventional combine equipped with concaves and cylinders. When a slug goes in, you don't hear a thump every time the rotor goes around. Instead, you just hear one thump and then the crop is out."

A Kuchar rotor for Case-IH 60 series combines sells for about \$4,000 plus S&H. Rotors for the 80 series sell for about \$4,700 plus S&H.

Contact: FARM SHOW Followup, Kuchar Combine Performance, Box 595, Carlinville, Ill. 62626 (ph 217 854-9838; fax 6076; Website: www.Kucharcombines.com).



Kinney used two walk-behind tillers to build his tractor-mounted rotor tiller. He uses the 2-row tiller behind a Kubota 31 hp tractor with its wheels set in for 40-in. spacing.

Over-The-Row Rotor Tiller

Myron Kinney raises flowers that he sells as "pick your own". In order to weed the narrow rows, he built an over-the-row tiller that lets him clean up two rows at once.

He used two walk-behind tillers to build the tractor-mounted unit. Both had worm-drive gearboxes, which he drives with one #40 roller chain. It drives sprockets on both tillers. The main drive sprocket is pto-driven by the tractor. An idler sprocket mounts above the main drive sprocket.

The main frame came from an old 4-row Ford cultivator that Kinney cut down to two rows.

He uses the 2-row tiller behind a Kubota 31-hp. tractor with its wheels set in for 40-in. spacing.

"The tractor has a 3-speed pto. I run the tiller with the pto at high speed. The flowers are spaced equi-distant so I can work them traveling in both directions, eliminating the need for hand weeding. It's a great time-saver," says Kinney.

For more information, contact: FARM SHOW Followup, Myron Kinney, 7500 State Rd. 158, Columbia, Ill. 62236 (ph 618 476-7287).



Telescoping light bar mounts on back of tractor or on the back of wagons or other equipment.

Light Bar Fits Any Width Implement

Robert Neisen tired of trying to keep warning lights working on all his equipment. He decided to develop a better way.

The Delano, Minnesota farmer came up with a solution that he believes will solve warning light problems for a lot of other farmers, too.

Using an 8-ft. long section of 1-1/4 in. square tubing and two 4-ft. pieces of 1-in. tubing, Neisen made a telescoping bar that he can safely extend out to about 14 ft. wide. He installed a set screw on each end of the center section of the bar to fasten the telescoping sections securely. Then he mounted flashing lights on the ends of the telescoping sections. The lights are protected by open end sections of pipe at each end of the boom.

The lights on Neisen's extending light bar are normal 12-volt emergency flashers. He wired these to a regular extension cord, leaving the female plug intact. Another length of extension cord wires into the tractor, with the male plug on the loose end.

He mounts the light bar on the back of his



A flashing light mounts at each end of light bar, which can be extended out to about 14 ft. wide.

tractor when he has nothing behind it. When he's pulling wagons or equipment, he mounts the light bar on the rear-most vehicle. He simply runs the extension cord from the tractor back to the boom to power it.

Neisen will put plans together for the light bar if there's enough interest.

Contact: FARM SHOW Followup, Robert J. Neisen, 3946 County Road 30 SE, Delano, Minn. 55328 (ph 612-972-2207).

Remote-Controlled Fire-Fighting Nozzle Mounts On Pickup Bumper

"We've had tremendous interest from local fire departments and some large farmers who do a lot of burning," says Warren Redden, inventor and manufacturer of the "Range Fire Terminator" – a remote-controlled fire-fighting nozzle that mounts on the front bumper of a truck.

Movement of the nozzle is controlled by a joy stick inside the cab. A powerful light mounts directly on top of the nozzle so it moves as the nozzle moves, making it easy to see, even at night.

"You don't even have to get out of the truck for some fires. One firefighter told me he got called to a car fire along a road one cold night and he just pulled up and put it out without even climbing out of the truck. It puts water precisely where you need it," says Redden.

The nozzle puts out 20 to 95 gpm at 120 to 130 psi. It can be adjusted from inside the cab. Depending on the truck, it can be mounted on a tilt-down bracket so you can simply fold it forward when you need to get under the hood.

"It lets you start fighting a fire as soon as you drive up. And if the wind changes, you don't have to haul hoses – you just move the truck. It's great on grass fires because you can cover a lot of ground fast," notes Redden.

All electric motors are enclosed. Steel parts are zinc-plated or powder coated. All



Fire-fighting nozzle mounts on front of pickup bumper and is controlled by a joy stick inside cab. Note spotlight on top of nozzle.

hardware is stainless steel. The nozzle swings 220 degrees. Vertical travel is 60 degrees.

Sells for \$4,400. Redden will build a do-it-yourself mounting kit to fit almost any truck.

Contact: FARM SHOW Followup, Warren Redden, TRG, Inc., 9440 S. Kipp Rd., Gypsum, Kan. 67448 (ph 785 536-4348; fax 785 536-4377; Website: <http://www.webservice.net/terminators/>; E-mail: trg@sesaline.com).



New Mattracks track conversion system is available for smaller 4-WD tractors. It consists of four separate sets of 16-in. wide tracks.

Add-On Tracks For Smaller Size Tractors

Visitors to the recent California Farm Equipment Show got to see the Mattracks track conversion system mounted on a 50 hp Deere MFWD tractor. For years, Mattracks tracks have been available to fit any 4-WD vehicle including pickups, vans, and SUV's (Vol. 19, No. 6 and Vol. 23, No. 5). Now they're available for smaller 4-WD tractors. It consists of four separate sets of 16-in. wide tracks.

The new Track-Tor-Assist conversion system features a patent pending gear system that allows different gearing to be used to compensate for the many different tire and gear ratios used in front wheel assist tractors up to 85 hp. They're also designed to retrofit to center pivot irrigation systems.

"The conversion system takes less than an hour to install and requires no modification. You simply remove the wheels and bolt the tracks on in their place," says Jerry Brazier,

vice president of sales and marketing.

The company also introduced a new, improved version of its Trail-R-Mate trailer track conversion for non-powered, solid axle implements units such as sprayers, wagons, etc. It now features a pneumatic suspension that provides a smoother ride. It takes only about 20 minutes to install a pair of Trailer-R-Mates, again with no modification.

Mattracks also had on display one of their five different 4-WD pickup and light truck track conversions that are available for up to 1 1/2-ton vehicles. The tracks turn a light truck into a flotation machine that can be driven at speeds up to 40 mph.

Contact: FARM SHOW Followup, Mattracks, Inc., 202 Cleveland Ave. E., Karlstad, Minn. 56732 (ph 218 436-7000; fax 7500; Website: www.mattracks.com).



Made from anti-stick poly, "Superslide" protectors prevent dirt and trash from sticking to subsoiler shanks. They also prevent shank wear.

"No Stick" Poly Shank Protectors

Dirt and trash slide right off the shanks on your subsoilers and chisel plows when you mount these new poly protectors over them. The units also prevent shank wear, says Lubbock Gasket & Supply, Lubbock Texas.

Curved "Superslide" protectors are about 2 ft. long and 2 in. wide and have a 1 1/2-in. deep hollow channel that allows them to simply slip tight over the shank.

"The anti-stick poly produces much less friction than steel, which prevents dirt and trash from sticking and also saves fuel," says Jay Newton. "At times the shank protector may allow you to drive the tractor in one higher gear. We recommend welding a bolt onto the top side of the shank so that the protector can't be pushed off the top of it."

Available for Deere, Big Ox, Hamby, Bigham Bros., Roll-A-Cone, and Wedgeco.



Shank protectors are about 2 ft. long and 2 in. wide and have a 1 1/2-in. deep hollow channel that allows them to simply slip tight over the shank.

Other brands available upon request.

Sells for \$27.20 plus S&H.

Contact: FARM SHOW Followup, Lubbock Gasket & Supply, 402 19th St., Lubbock, Texas 79408 (ph 800 527-2064; E-mail: lgs@llano.net; Website: www.lubbockgasket.com).



MHP (Mobile Hydraulic Platform) has modern features such as a diesel engine, hydrostatic transmission, independent hydraulics and a rear pto.

Allis Chalmers "G" Reborn In Modern Form

One of the most popular cultivating tractors of all time has been brought back to life by a Georgia manufacturer which expects to do big business.

"We patterned it after the original Allis Chalmers G tractor built in the 1940's and 1950's. It can do everything the old 'G' could do plus it has modern features such as a diesel engine, hydrostatic transmission, independent hydraulics and a rear pto. We customize each model to fit the customer," says Rick Ayers, Fabritex, Inc., Hartwell, Ga.

The MHP (Mobile Hydraulic Platform) tractor was introduced at the recent Sunbelt Expo near Moultrie, Ga. It's equipped with a rear-mounted 28 hp Kubota diesel engine and rides on 8.3 by 24 lugged rear wheels and 4 by 12 front wheels. It has two 3-pt. hitches, one on front and one on back, as well as a rear pto. The forward and rear motion of the tractor is controlled by just one pedal.

A wide variety of attachments are available. Front-mount implements include a turn-

ing plow, single row cultivator, 60-in. finishing mower, 42-in. "bush hog", row cutter, ground buster scraper blade, and straight scraper blade. Rear-mount implements include a 48-in. roto tiller, tire track remover, and post hole digger. Some of the implements, such as the roto tiller and post hole digger, are hydraulic driven while others are pto-driven. All attachments quick disconnect.

"It's especially ideal for vegetable and nursery growers," says Ayers. "It's available with an 84 or 92 in. long wheelbase and can be made to straddle one or two rows. The standard model has 30 in. of ground clearance, but that can be increased to as much as 60 inches. The original tractor had a differential and gearbox whereas ours is fully hydrostatic, with independent hydraulic systems for the driveline and implements. It's easy to drive with no awkward gear changes.

"The driver sits almost right over the implement and always has an outstanding view of it. The steering wheel and column,



To use new post hole digger you first hook it up to a garden hose. It takes less than a minute to "dig" a 4-ft. post hole that's 4 in. in diameter.



Operator moves tool in a circular motion, then up and down. Water coming out of the tip loosens the dirt and puts it "into solution".

Posthole Digger Uses Water To Make Hole

It takes less than a minute to dig a 4-ft. post hole that's 4 in. in diameter with the new "Holey-Moley", a post hole digger that hooks up to a garden hose.

"The beauty of this device is that it requires as little as 15 psi water pressure so it's never messy and uses a minimum amount of water," says Dale Alldredge, manufacturer and president of Snake River Tool Co.

What's unique about the Holey-Moley is that you don't lift any dirt out of the hole and there's no back filling or tamping required, says Alldredge.

To operate, you turn on the water and soak the ground for a few seconds. With slight downward pressure, the water flow loosens the dirt and you move the tool in a circular motion, then up and down. The water coming out of the tip loosens the dirt and puts it "into solution." The circular motion of the mandrel compacts the loosened dirt into the wall of the hole and the excess water either floods out the top of the hole or dissipates into the sides. When you put a post in the hole it displaces the water, but that water then flows back to the post, also bringing back the displaced dirt. When the water seeps away the dirt remains, and this is what sets the post without the need for tamping.

"People are amazed at the ease of digging,"

Alldredge says. "The combination of the circular motion of the tool and the water flow is what does it."

The device is available in two models. Model 2000 weighs 6.8 lbs., is 58 in. long, and is equipped with a 2-in. tip. This allows you to dig a hole up to 4 in. in diameter. The model 3000 is also 58 in. long but weighs 9.2 lbs. and is equipped with a 3-in. tip which is capable of digging a 7-in. dia. hole.

"Like all diggers, there are soil conditions that the Holey-Moley won't work in. However, if you can dig with a manual digger, then you can dig with the Holey-Moley," Alldredge says. "It's actually two tools in one because it also works exceptionally well for post removal or removal of small trees and shrubs. You can use the tool to create a space next to the object so that you can shake it loose."

The Model 2000 is priced at \$99 and the Model 3000 at \$129. Shipping is approximately \$10 per tool.

Contact: FARM SHOW Followup, Dale Alldredge, Snake River Tool Co., 325 Snake River Ave., Lewiston, Idaho 83501 (ph 877 372-7782 or 208 743-5355; fax 208 743-5371; E-mail: dale@holey-moley.com; Website: www.holey-moley.com)



A wide variety of attachments are available including cultivators, finishing mowers, roto tillers, post hole diggers, etc.

as well as the seat, are adjustable."

The company offers models with 14 to 58 hp (turbo) and will soon offer an 87 hp model. "We can widen or narrow the axles to accommodate any implement, change the wheelbase, and even make 4-WD models," says Ayers.

The tractor can be ordered with Category

0, 1, or II hitches. Free-wheeling lockout hubs allow the rig to be towed.

Contact: FARM SHOW Followup, Fabritex, Inc., Box 10, Hartwell, Ga. 30643 (ph 706 376-6584; fax 1434; Website: www.ThomasRegister.com; E-mail: fab@hartcom.net).



"Truck Peddler" mounts on any pickup bed and comes with a fold-out awning that's designed to set up fast.



Frame anchors to stake pockets with no drilling required. Unit is aerodynamically designed to reduce drag on road.

GAS SPRINGS AUTOMATICALLY RAISE SIDES

"Truck Peddler" Awning Great For Roadside Sales

If you have a roadside farm produce stand, or have thought about setting one up, you'll want to take a look at this new "truck peddler" that mounts on any pickup bed and is designed to set up fast.

The fold-out awning is made from 13 oz. vinyl laminated nylon stretched over a frame made from 1 3/8-in., 14 ga. galvanized tubing. The sides and rear panels fold out to create a 10-ft. sq. protective awning. The sides are raised and lowered by gas springs. It takes only about 30 seconds to unsnap safety straps and raise the sides and rear up.

"The frame anchors to the stake pockets so you don't have to drill any holes and it's aerodynamically designed to reduce drag when traveling on the highway," says a com-

pany spokesman.

The fabric is flame retardant, waterproof, mildew resistant, and resistant to UV rays. It's available in 15 colors (red, white, blue, dark green, light green, yellow, orange, purple, pink, teal, maroon, brown, tan, silver and black), plus stripes.

Fits all American-made full-size pickups. Specify make, year, and model when ordering.

Sells for \$750 plus S&H.

For more information, contact: FARM SHOW Followup, Rainbow Industries, Inc., Box 506, South Vienna, Ohio 45369 (ph 800 388-8277).

Thought About A Roadside Stand? Here's Everything You Need

If you do any roadside marketing – or have ever thought of giving it a try – you'll be interested in an Illinois company that specializes in everything you need to market produce including flags, road signs, pricing cards, post cards and roadside market banners.

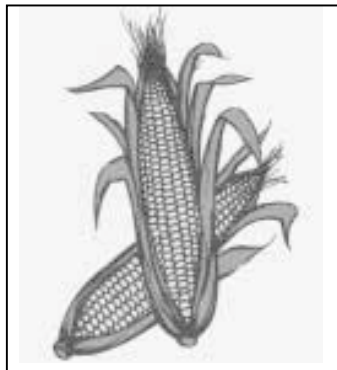
You can get a free 32-page catalog featuring hundreds of promotional products by calling toll-free 888 575-4090.

The company's colorful roadside banners measure 3 ft. high and either 8 or 10 ft. long. They're made of heavy duty 8 mil white polyethylene material, with all edges hemmed. The banners are reinforced full length top and bottom with ties that extend 4 ft. on either side of the banner. They sell for \$25 apiece plus S&H. Stock messages are available or they can be custom printed.

Also available are full color road signs that measure 13 by 17 in. They're made of coated white, heavy card stock. The four colors are on one side only. They can be placed on posts, trees and driveways, along highways and right of ways.

Colorscape flags are 3 by 5 ft. and handsewn on all sides. They're available with color drawings of corn, apple, pumpkin, strawberries, watermelons, Christmas trees, fall harvest scenes, etc. Available in two styles – rectangular and "sleeved" at a 45 degree angle. They sell for \$70 to \$95 apiece plus S&H.

A wide variety of other flags, banners and promotional materials are available, most of which can be customized to fit your needs.



A variety of 13 by 17-in. 4-color signs (above) on heavy card stock sell for \$1.00 each; 3 by 8-ft. banners (below) sell for \$25.



In addition, the company offers "Pick Your Own" glossy brochures and newspaper-ready "Pick Your Own" advertisements. These promo materials are ready to go. You just fill in your own name, address, and phone number. Sells for \$60 plus S&H.

For more information, contact: FARM SHOW Followup, Produce Promotions, Box 08-010, Chicago, Ill. 60608 (ph 888 575-4090; fax 800 375-2998; E-mail: producepromotions@usa.net).



Pto-powered feed grinder blows a mixture of oats and brome through a hose up to a 20-ft. long, tractor-mounted boom that's hydraulically raised or lowered.

REAR HOPPER BLOWS SEED UP TO TRACTOR-MOUNTED BOOM

"Terrace Seeder" Gets Cover Going On Steep Slopes

You've never seen anything quite like the terrace seeder built by Bill Gray of Correctionville, Iowa, who modified a pto-powered feed grinder to blow a mixture of oats and brome through a thick plastic hose up to a 20-ft. long, tractor-mounted boom that's hydraulically raised or lowered. Seed is blown onto the side of the terrace. Chains that hang from the boom cover it with soil.

The boom – a 4 by 6 toolbar off an old 6-row cultivator – is hinged to a steel frame originally designed to hold saddle tanks. Gray uses the rig to do custom seeding of terraces within a 100-mile radius of his farm.

"It's amazing how well it works," says Gray. "I made it in 1991 and have seeded thousands of feet of terrace with it. I already had the feed grinder and saddle tank frame. I bought the cultivator toolbar at a junk yard. My total cost was only about \$1,000."

He removed the hammers from the feed grinder and cut an opening into the tank where he installed a homemade manifold that controls the amount of seed coming out. He bought the 4-in. dia., 1/4-in. thick plastic hose from a grain vacuum company and hooked it up to a blower. A curved piece of metal pipe at the end of the hose delivers seed onto the top of the terrace.

He reinforced the back part of the tractor-mounted frame to better support the heavy boom. The boom is raised or lowered by a big hydraulic cylinder that manually swings in against the side of the tractor for transport. A steel support rod connected to the

front of the tractor holds the boom rigid during use.

To operate the machine Gray first engages the pto to mix the brome and oats inside the tank. Then he starts the blower to deliver seed through the pipe. A lever at the back of the machine is used to control the seed rate.

"It works better than endgate seeders because it does a better job of mixing the lightweight brome grass seed and heavier oats seed," says Gray. "Also, because the hose sucks the seed out of the tank, it isn't affected by sticks and dirt or leftover corn and beans."

"I use my International 1066 tractor to pull it. The heavy boom really rocks the tractor around. I drive along both sides of the terrace and sow about 15 lbs. of brome and 3 bu. of oats per 1000 ft. Most of the seed comes out near the top of the terrace because I want to get a good stand there. After a year or so the brome grass seeds itself down the terrace."

"It works great on even the steepest terraces. I've used it on giant terraces where I even had to set the boom almost straight up. I had to look up through the cab's side window just to see if the seed was coming out."

"I've found that the best time to seed terraces is in the spring onto terraces that have been built the previous fall. That way the terrace has gone through a frost and the ground is fairly soft so the drag does a good job."

Contact: FARM SHOW Followup, Bill Gray, 1729 Story Ave., Correctionville, Iowa 51016 (ph 712 384-2370).



Seed is blown onto side of terrace. Chains that hang from boom cover it with soil.



Balzer's new "Field Floater" grain cart can be equipped with either walking tandem axles or independent triple axles. Hydraulic cylinders keep the steerable axles parallel to each other and allow them to follow the tractor's direction.

Balzer Unveils "Steerable Axle" Grain Cart

"It has the same independent running gear we've been using on our liquid manure tanks for years," says Curt Aalderks, Balzer, Inc., Mountain Lake, Minn., about the company's just-introduced "steerable axle" grain carts equipped with high flotation tires to reduce compaction.

The "Field Floater" grain cart, available in 1,000 to 1,500-bu. sizes, can be equipped with either walking tandem axles or independent triple axles. Hydraulic cylinders keep the steerable axles parallel to each other and allow them to follow the tractor's direction. When the cart is equipped with tandem axles only the rear wheels turn. When it's equipped with triple axles both the front and rear wheels turn.

The steering design is automatically activated by the torque of the tractor as it turns. To back up, the tractor driver simply activates a hydraulic lever in the tractor cab to lock the tires straight. Putting the tractor hydraulics back in the float position allows the tires to turn and follow the tractor.

"The combination of the steerable axles and high flotation tires results in less compaction than a single axle cart, and the same or less compaction than carts equipped with tracks," says Aalderks. "We offer various

high flotation tire options for the lowest possible ground psi. A 1,000-bu. cart equipped with triple axles with 850/50-30.5 tires only exerts about 6.91 psi. A big advantage of the in-line wheel steering design is that it allows the use of high flotation tires, which no other grain cart manufacturer offers. And because the wheels always follow the tractor, the cart also pulls easier.

"Another advantage is that the system costs much less than tracks. Our complete 1,000-bu. cart equipped with triple axles and 850/50-30.5 high flotation tires sells for about \$30,000, which is about what the tracks alone sell for on Caterpillar's grain carts."

The cart comes with a 16-in. dia. unloading auger which can empty 1,000 bu. of dry corn in only about 2 1/2 minutes. A 12-in. recessed floor auger keeps the unloading auger full during unloading.

Optional equipment includes an electronic scale system, roll tarp, Halogen lights on the discharge auger, a grain tank, and a video camera system.

Contact: FARM SHOW Followup, Balzer, Inc., Co. Rd. 27, Box 458, Mountain Lake, Minn. 56159 (ph 800 795-8551; Website: www.balzerinc.com).

Farmer-Designed Low Cost Portable Hay Shelter

When hay producers Ken and Arnold Assenheimer of Barrhead, Alberta, tried to find a low-cost, portable building to store square bale stacks, they couldn't find one that allowed the right configuration of stacks from their bale wagon.

The brothers spent two years experimenting before they came up with a design for a shelter that would meet all their needs. After they'd proved the design worked, they started getting inquiries from other farmers. Now, the brothers manufacture the hay shelters as a sideline to their farming operation.

The Assenheimers say their shelters preserve hay color and quality. They're less expensive than erecting a permanent building (just over half the cost) and can be easily dismantled to move or sell. Although they're more costly than using simple tarps, the portable shelters are extremely labor saving, provide much better airflow around the stacks, and are far more durable, they say.

"At the end of a long day of haying, no one wants to do a bunch of tarping," says

Jerry Hodge of Sun West Forage, the company marketing the hay shelters. "When you cover a stack with tarps, moisture gets trapped under them. Occasionally, in the export business, you have to hold your hay for a whole year before moving it, and if there's moisture under there the top row can be damaged."

Each "Sun West Shelter" is 27 ft. wide by 96 ft. long by 25 ft. high and holds 26 typical bale wagon stacks. They're also suitable for machinery storage. Because of the roof's pitch, snow slides off before any accumulation can put stress on the cover. The buildings are modular, meaning that the design is such that two or more shelters can be connected to each other. Gable ends are also an available option.

Arnold Assenheimer is an engineer, as well as a farmer, and he designed the shelters strong, with steel uprights every 6 ft. and 38 cable winches that tightly hold the one-piece canvas cover.

Standard Sun West Shelters building pack-

Post Pounder Equipped With Auger Digs "Starter" Hole For Post

Driving posts into dry, hard ground is not a problem for this new Australian-built post pounder that's being distributed in North America by Leo Van Sambeek of Hermosa, S. Dak.

The 3-pt. mounted unit is equipped with a small auger that's used to dig a "starter" hole for the posts, which are then driven into the ground by a powerful pounder.

"The starter hole lets this machine drive posts in straighter and tighter than any other machine on the market," says Van Sambeek. "On my ranch I've found that by first drilling a pilot hole, I can drive wood posts in rocky areas where before I couldn't even drive steel T posts. Because of the starter hole, wood posts can be driven in with less force, which reduces damage to the posts."

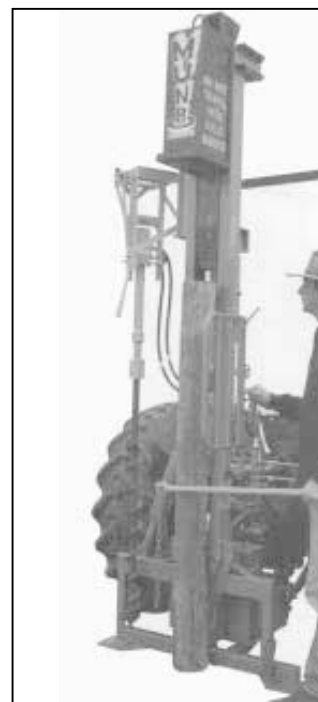
The new unit is operated completely hydraulic. The auger drive unit mounts on a movable carriage that latches under the dolly. The operator simply raises the dolly, swings the auger into position, and locks it in place. Different auger sizes are available, and auger changes can be quickly made using square-shank augers with no shear pin. A special rock drilling auger is available.

The entire unit can be hydraulically tilted 12 degrees forward, backward, or sideways, allowing it to be used on hills or sloping ground. A side-shift option can be used to move the unit to either side. A telescoping frame is available for installing tall posts. The frame stretches out to a full 11 1/2 ft.

The controls are on back, and steel guards separate the operator from moving or dangerous parts of the machine.

"I learned about the machine during a search over the Internet. It was just what I was looking for so I ordered one. I was so pleased with it that I became a distributor," says Van Sambeek. "I've used my machine to set posts from 3 1/2 to 9 in. in diameter. I've got the side-shift option which I think is a must for repairing old fences. It lets the operator drive along the fence and shift the machine laterally out to the fence to replace broken posts.

There's no need to back the tractor into the fence. The side-shift option also speeds up new fence construction because the tractor has to stay only within about 15 in. of the fence line. Hydraulically shifting the machine sideways to maintain alignment is a



Post pounder is equipped with a small auger. Controls are on back for easy access from the ground.

lot easier than moving the tractor.

"A telescoping frame lets you set longer posts. I also recommend purchasing a pto-operated hydraulic pump (optional) if the machine will ever be switched between tractors. Custom mountings can be made for truck or other mountings. It can also be mounted on a Bobcat or other skid steer loader. However, the side shift option can be used only on the biggest skid steer models."

A standard 3-pt. mounted machine equipped with a 3 3/4-in. dia. auger sells for \$5,630 plus S&H; \$7,430 when equipped with the side shift option; and \$7,530 plus S&H when equipped with with a telescoping frame.

Contact: FARM SHOW Followup, Leo L. Van Sambeek, HCR 89, Box 327-B, Hermosa, S. Dak. 57744 (ph 605 255-4356; fax 394-6456; E-mail: leo.van.sambeek@respec.com)



Shelter is 27 ft. wide by 96 ft. long by 25 ft. high and holds 26 typical bale wagon stacks. Roof's pitch allows snow to slide off before any accumulation can put stress on cover.

ages are currently priced at \$6,924 (Canada), FOB Westlock, Alberta.

Contact: FARM SHOW Follow-up, Jerry

Hodge, Sun West Forage, Box 5538, Westlock, Alberta, Canada, T7P 2P5 (ph 780 349-4329; fax 780 349-5160).

German Tractor's Front Axle Telescopes To Handle Heavy Loads

The front axle on this new articulated, 4-WD loader tractor telescopes out from 42 in. to a width of 6 ft. 2 in., making the rig more stable on hillsides and allowing it to safely lift 1 1/2-ton loads up to 11 1/2 ft. high. It can even lift 4,000 lbs (approximately its own weight) off the ground.

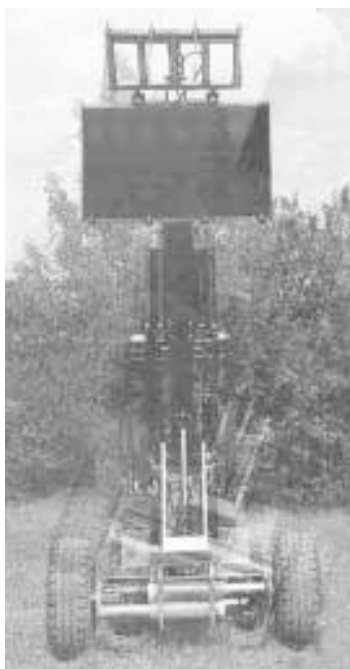
Built in Germany, the Kruger Telescoping Loader was exhibited at the recent California Farm Equipment Show near Tulare. The rig's front axle is equipped with a pair of big hydraulic cylinders. The driver simply pushes a button. The axles should be telescoped on-the-go to avoid excessive tire wear; however, you can push the axle to its full spread standing still even under full load.

"The Kruger is small enough that it can go through most barn doors and maneuver in tight places, yet it has much greater lifting capacity than conventional skid steer loaders," says Karl-Heinz Zeller, Oroville, Wash. "Several models are available ranging from 38 to 47 hp. The loader can be equipped with a bucket or grapple fork and can be used to load everything from round bales to pallets, etc. The grapple fork mounts on a swivel-type work head. With quick disconnect hydraulics it takes only about two minutes to change the work head. A small backhoe weighing only about 700 lbs. can be mounted on back. The backhoe is supported by a pair of steel legs and folds up to less than the width of the machine."

The 38 hp model sells for about \$35,000.

Contact: FARM SHOW Followup, Zeller & Sons Enterprises, Ltd., Box 1850, Oroville, Wash. 98844 (ph 250 496-5338; fax 5886).

Front axle is telescoped out by a pair of big hydraulic cylinders.



Tractor's oscillating front axle telescopes out from 42 in. to a width of 6 ft. 2 in., making rig more stable on hillsides and allowing it to safely lift 1 1/2-ton loads up to 11 1/2 ft. high.



By mounting Gandy seed boxes on his moldboard plow frame, Dick Thompson of Boone, Iowa, can broadcast winter rye onto fall-plowed ground.

Seed Boxes On Moldboard Plow Plant Fall Cover Crop

Dick Thompson, Boone, Iowa, mounts Gandy seed boxes on his moldboard plow frame to broadcast winter rye onto fall-plowed ground. The boxes are connected by a fiberglass rod that's driven by a hydraulic motor. Plastic down tubes spread 20 lbs.

of rye seed per acre. An attached harrow incorporates the seed, which suppresses weeds and controls erosion.

Contact: FARM SHOW Followup, Richard Thompson, 2035 190th St., Boone, Iowa 50036 (ph 515432-1560).



Deere's new 1535 Tru-Vee drill meters seed at the row to provide accurate seed drop and spacing. New plastic, 1/10th bu. mini hoppers mount above each meter.

Deere Drill Designed For Both Corn And Beans

One of the hottest new products at the recent National Farm Machinery Show in Louisville, Ky., was Deere's new 1535 Tru-Vee drill — the industry's first drill designed to plant both corn and beans with single seed precision, according to the company.

The key feature of the new drill is that it meters seed at the row to provide accurate seed drop and spacing. Two seed meters are available — a radial meter for singulating soybeans and a finger pickup meter for planting corn. New plastic, 1/10th-bu. mini hoppers mount above each meter in a typical planter fashion. A 3-in. dia. hose continuously feeds the mini hoppers from the drill's 42-bu. (15-ft. model) or 40-bu. (20-ft. model) main seed box.

The new seeder comes equipped with a high capacity, central-fill seed box and "Max-Emerge Plus" row units. It's available in 15 and 20-ft. sizes and plants in either 15 or 30-in. rows.

"The unit plants corn in 30-in. rows with the in-row spacing and depth accuracy of a planter. It plants beans in 15-in. rows more accurately than any other drill on the market. And it can deliver this accuracy under virtually any condition," says the company.

The 15-ft. model can be equipped with 11 openers for planting beans on 15-in. rows. Lock up every other row and it becomes a 6-

row, 30-in. corn planter. The 20-ft. model can be equipped with either 15 openers for planting beans on 15-in. rows. By locking up every other row it becomes an 8-row, 30-in. corn planter.

Population selection and seed meter drives are similar to planter operation. Two ground-drive wheels drive the planter-style transmission. Fifty population settings and spring-loaded idlers make population selection easy. The drive output of the planter's transmission turns the drill shaft and seed meter drive chains.

Down-force pressure can be adjusted with the drill's pneumatic down-force system or standard heavy-duty down-force springs. Both are adjustable for up to 400 lbs. of force to each opener.

Optional unit-mounted coulters are available for slicing through residue. By mounting a Deere 1570 Caddie Cart on front of the drill it can be pulled behind a smaller row crop tractor (75 hp minimum) since the cart takes all the weight off the tractor's 3-pt. hitch.

No meters have yet been developed for wheat. Only 25 of the new drills were built this year and they've all been sold out.

Contact: FARM SHOW Followup, John Deere Co., John Deere Road, Moline, Ill. 61265.

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But that's not all.

We've compiled a list of all the major farm equipment shows in North America, Europe, and the rest of the world. And if the shows have a web site, we've provided active links so you can travel there with a click of your mouse.

If you're an inventor, you'll want to check out our resource links for inventors. If you've got a product you'd like to patent or bring to market, this site will get you on your way.

We've got a discussion group where you can talk to other FARM SHOW readers. And you can now sign up for free E-mail updates between regular issues of FARM SHOW.



In event of a fall, spring-loaded stirrup opens up, releasing foot.



Stirrup fits all Western saddles and comes in eight colors.

Safety Stirrup Designed To Prevent Dragging Deaths

A traumatic experience fueled Jimmie Simmons' desire to invent a safer stirrup for riding horses. He witnessed a 17-year-old girl get dragged to her death, and he decided right then and there that his own daughters wouldn't ride again until he found a safer stirrup.

Since he could not find one on the market, Simmons set to work designing his own. After four years of extensive testing and many prototypes, he came up with the "Side Step Safety Stirrup".

In addition to being safer, the new stirrup is more comfortable. The stirrup doesn't cause twisting of stirrup leathers and places much less stress on knees and ankles. It won't swivel away from your foot while mounting and is made from slightly flexible plastic which absorbs more of the shock when riding.

In the event of a fall, a re-positioning safety arm with a stainless steel torsion spring releases your foot and simply goes back to the "closed" position. When in the closed position, there are 2 in. of vertical clearance for your foot. Even if you have a large foot or thick-soled boot, the arm will only "rest" on the top of your foot, not putting any pressure

on it. The top end of the safety arm is "ball shaped" because this discourages anything from getting caught on the stirrup (i.e. your pant leg or branches). Another added advantage to the new stirrup is that there are no break-away parts to lose or replace.

It fits all Western saddles and comes in eight colors (dark brown, medium Brown, golden brown, black, dark grey, burgundy, tan or rawhide). Later this year Simmons will be releasing an English style safety stirrup as well.

Spring Creek Marketing provides a 30 day money back "total satisfaction guarantee" to ensure that customers won't be disappointed. "Ride in them, get them scratched up or dirty - we don't care. If you don't like them, send 'em back," Cohorst says.

The Side Step Safety Stirrup sells for \$129.95 per pair plus \$10 for S&H. Checks, money orders, Visa, MC, AmEx and Discover are accepted.

Contact: FARM SHOW Followup, Amy Cohorst, Spring Creek Marketing, 1107 Pony Express Hwy., Marysville, Kan. 66508 (ph 800 758-2632; fax 785 562-2990; E-mail: info@surerider.com; Website: www.surerider.com)



Bale feeder measures 9 by 8 1/2 ft. and can also be used for silage and mixed rations.

Lifetime Feeder Fitted With 3-Pt. Hitch

"This is a feeder built by farmers for farmers. It's strong enough for the biggest bulls and largest cow and is easier to move around than any other feeder of its kind on the market," says Dale Slayton of Slayton Manufacturing about his new big bale feeder which can also be used for silage and mixed rations.

The 9 by 8 1/2-ft. feeder is fitted with 3-pt. fittings to hitch to a tractor, making it easy to move around. One side of the feeder is

hinged so you can open it to load in bales. The bottom is ridged to move loose hay to the outside where cattle can reach it.

"It's built heavy and comes with a 10-year warranty. All tubing is equipped with drain holes," says Slayton, who has been building hay handling equipment since 1972.

Contact: FARM SHOW Followup, Dale Slayton, Slayton Manufacturing, RR2, Box 11, Casey, Iowa 50048 (ph 515 746-3987).



Equipped with motion sensors and electric motors, fake owl moves and also makes realistic sounds.



Whirly Bird is a helicopter-like device that spins constantly.

Motion-Activated Owl Chases Birds Away

California inventor Steve Luft got the idea for his new motion-activated moving scarecrow when he put in a large vegetable garden and pest birds dug out the seeds almost as quickly as he could get them into the ground.

He tried plastic owls, homemade scarecrows, blow up snakes, and other bird-scaring devices. "None of them worked. I knew birds were afraid of the things but they got used to them for some reason. I decided to try to put some movement into them and see what happened," says Luft.

He created a remote-controlled owl by connecting a rotating device to the neck of one of his plastic owls. It made a huge difference in scaring birds. The only problem was that someone had to be there to run the remote control.

Luft is not an electronic engineer but he found someone to incorporate motion sensors and small electric motors into a fake owl. He also designed what he calls a "Whirly Bird".

In addition to moving, the owl also makes

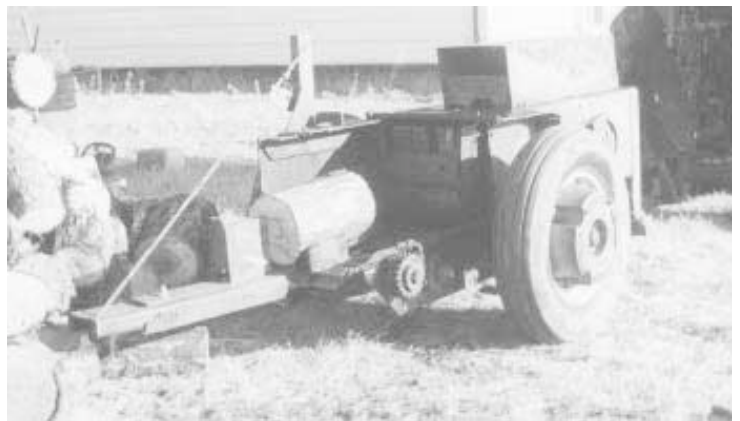
realistic sounds. And it has glow-in-the-dark eyes.

The Whirly Bird consists of a device with a helicopter-like propeller on top that can be extended out to 5 ft. in dia. The solar-powered device spins constantly and is particularly effective on top of signs, or any particular ledge that you want to keep free of birds.

"We just started marketing these birds. They're not available in any store or from any other company. Some people have confused us with a cheap fake owl that makes noises but does not work. Our motion-activated owls do work and are different from anything ever developed," notes Luft.

The motion-activated owl sells for \$39.95. The Whirly Bird sells for \$49.95. Add \$6.95 S&H for each.

Contact: FARM SHOW Followup, Steve Luft, Motion Scarecrows, Inc., Box 1966 Ventura, Calif. 93002 (ph 805 388-1770; Web site: www.nobirds.net).



Byski welded two pieces of grader blade crossways to baler plunger. It pushes wood into home-built axe head, which mounts stationary on the frame.

Wood Splitter Built From Massey Baler

"My wood splitter started out as a Massey Ferguson baler that had been sitting in my junk pile for about 10 years. I took it to the shop and removed the hay pickup, the twine box, needles, axle and the slide where the bale comes out," says Dennis Byski, Goodeve, Sask.

"The plunger was rusted from not being used so I had to use a sledge hammer to loosen it. I welded two pieces of grader blade to the plunger crossways. This is what pushes the wood into the axe head, which mounts stationary on the frame.

The axe head is made from two pieces of 8 by 8-in. plate steel 1/4 in. thick. The two pieces are welded together to a point and tilted upward about 10 degrees.

"The log to be split is held in a cradle made from a pair of 3-ft. long, 1-in. dia. pipes spaced 8 in. apart. They angle downward into the axe head. I can split logs from 4 in. dia. to 20 in. dia. and I can move the axe forward or back 4 in. as needed.

"I pull the splitter behind a tractor with a 540 pto. I use the original shear pins from the baler but I have to heat treat them, otherwise they will snap.

"I only spent about \$100. It only takes me 1/2 hr. to split a 1/2-ton truck full. And some of it I split into four pieces. If two people are working, it goes even faster."

Contact: FARM SHOW Followup, Dennis Byski, Box 91, Goodeve, Sask. S0A 1C0 Canada (ph 306 795-2906).

Like The Sound Of Old Engines? Then This CD (Or Tape) Is For You

If you or someone you know can spend all day listening to the sounds of old engines at antique threshing shows, you'll want to take a look at this new 74-min. recording of more than 124 models of old tractors.

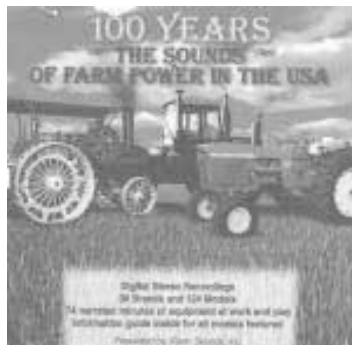
The brainchild of Paul Salow of Milan, Mich., "100 Years - The Sounds Of Farm Power In The U.S.", is a delight to listen to for anyone who gets a chill up their spine when they hear an old two banger come to life.

The high-quality recording is available in CD or on audiotape. A narrator announces each tractor before it starts up. Other than that, it's all sounds of tractors, recorded in clear, digital stereo.

Salow first got the idea for the recording a few years ago. But he didn't get going on the project until he saw a recording of car and motorcycle sounds come on the market.

Paul and his young son, Adam, spent more than a year travelling to county fairs, steam and antique tractors shows, and out to fields, gathering recordings. By the time he was done, he had more than 1,000 recordings.

In editing the recording, he tried to pick brands that he knew would interest the



"The Sounds Of Farm Power In The U.S.A." is a 74-min. recording of more than 124 models of old tractors.

greatest number of people. Deere and IHC models represent nearly half of the models featured. You'll hear everything from a Waterloo Boy and a Rumley Oil Pull to a Deere 4020.

The CD's sell for \$12 each. Cassette tapes sell for \$10 each. Add \$2 for S&H.

Contact: FARM SHOW Followup, Paul Salow, Farm Sounds, Inc., Box 127, Milan, Mich. 48160 (ph 734-615-2286).

Door-Mount Hat Rack

Keeping hats organized and in great condition is easy with this door-mount hat rack.

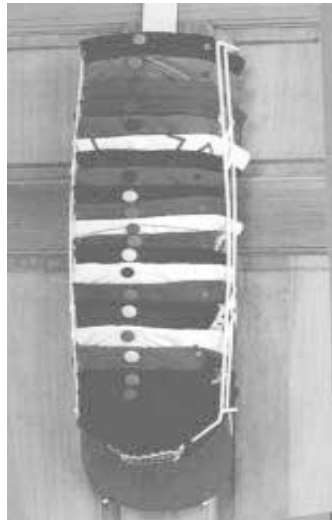
"Dad's Hat Rack" is made from vinyl-coated steel. It mounts on any door and can hold up to 20 hats.

You fold the hats into storage position and put them into the top of the rack, then slide the hats down into each other. To remove a hat you simply pull it out no matter where it is in the rack.

Sells for \$9.99 plus S&H.

Contact: FARM SHOW Followup, LeGreg, Inc., Box 2568, Merced, Calif. 95344 (ph 209 723-8217; Website: www.dadshatrack.com)

"Dad's Hat Rack" mounts on any door and can hold up to 20 hats.



FARM SHOW®

New
Products
Especially For
Women And The
Farm, Ranch
Home

Two-Seat Tricycle "Drives Like A Car"

Either one or two riders can operate this two-seat, three-wheel tricycle that's equipped with twin pedals, drives, and coaster brakes.

The "Tri-Hauler" rides on three 20-in. wheels and has a twin plastic seat that can be moved back and forth 10 in. to accommodate all size riders. The specially designed handlebar is wide enough for both riders.

"It's the best marriage counselor you can buy," says Gary Albertson, Isanti Engineering, Inc., Fergus Falls, Minn. "If one person gets tired they can simply stop pedaling and let the other take over. It's geared high enough that two kids can go 20 mph with it, yet it's geared low enough that two older people can drive it up a hill. The handlebar can be folded all the way to the front so if necessary you can get off the unit and pull it up hill. It'll turn 360 degrees in its own tracks.

"There's nothing on it that you can't buy at a local bike shop. We sell a lot of them to handicapped people who can pedal but can't be left on their own with a conventional



Two-seat, three-wheel "Tri-Hauler" is equipped with twin pedals, drives, and coaster brakes.

bicycle. There's a hitch on back so you can pull a wagon with it."

Optional equipment includes a 20-in. rear-mount basket, battery-operated headlight, between-seat tray, and upholstered soft seat.

Sells for \$795 plus S&H.

Contact: FARM SHOW Followup, Isanti Engineering, Inc., 715 W. Birch, Fergus Falls, Minn. 56537 (ph 218 739-4949).

Video Bird-Feeder Lets You Watch Birds On TV

You can watch birds up close and personal on your TV with this new bird feeder that has a video camera built into it.

"It brings your bird feeder right into your living room," says inventor Jeff Zernov.

"Bird-Vu" is a plastic feeder with a built-in color video camera, microphone, and wireless transmitter. It comes with a remote receiver that you attach to a TV or VCR. The video camera and microphone are mounted on the unit's feed hopper and face the platform where the birds feed. No matter where the bird lands on the platform it's always within sight of the camera. The system sends audio and video signals up to 300 ft. through trees, brush and walls to the TV or VCR.

The camera is equipped with a wide-angle lens and operates on either a battery or electric power.

"The feeder is designed so the birds are always on camera. The microphone picks up tweets and chirps that normally aren't heard from more than a few feet away. With the birds up close you can see things you wouldn't normally see, such as the social

interaction between individual birds. You can also learn the personalities and subtle color variations of individual birds.

"A clear acrylic support archway allows you to hang a suet block, seed bell, or hummingbird feeder. It's really fun to watch hummingbirds live on your TV.

"People in senior citizen homes love it because they can watch nature in action. When it's used with a big screen TV even visually challenged residents can see the birds, which they would never be able to see otherwise."

According to Zernov, the Bird-Vu compliments any feeding stations that you may already have. "We recommend mounting it on top of a post so that the other bird feeders are in the background. That way you can see birds as they land on other feeders. Also, because the video camera's depth of field goes to infinity you'll be able to see birds up to 100 yards away as they approach the Bird-Vu."

Sells for \$499 plus S&H.

For more information, contact: FARM SHOW Followup, Nature Vision, Inc., 1701



Bird feeder has a video camera and microphone built into it and comes with a remote receiver that you attach to a TV. Inset photo at upper left shows the hardware used to hook up unit.

College Road, Baxter, Minn. 56425 (ph 800 295-1546 or 218 825-0733; 0721; E-mail: aquavu.com; Website: www.birdvu.com).



Miller modified his Deere 8200 drill by mounting a fertilizer box on front and adding knives that band liquid urea 3 in. to the side of the furrow and 2 in. below the seed.

One-Pass Drill Applies Liquid And Dry Fertilizer

"I farm land in a high rainfall area of north-eastern Oregon using a wheat-alfalfa rotation with conventional tillage and limited irrigation. The rotation consists of up to 4 years of continuous wheat, so with the narrow profit margins in grain crops, I need to get the most out of those crops," says David Miller, Milton-Freewater, Oregon.

"In the past I would make two trips across fields to fertilize and finish the seedbed, which would result in a loss of moisture. I took a look at no-till drills that do multiple operations in one pass but decided I wanted a one-pass drill for conventional tillage. I wanted to be able to put down dry starter fertilizer for the emerging plants and also put down primary nitrogen and sulfur for later growth.

"I already owned a Deere 8200 12-ft. drill with disc openers on 6-in. spacing. The 8200 has capacity for about 1,400 lbs. of wheat seed but no fertilizer. I decided to modify it.

"The first thing I did was to modify a dry fertilizer box I bought from Barber Engineering. I reduced its capacity to 1,000 lbs. of dry fertilizer and mounted it in front of the grain box on the drill. There are other models of fertilizer boxes available that'll fit Deere drills but they're limited both in fertilizer and seed capacity so you have to stop too often.

"The Barber fertilizer box uses a metered feed screw with individual openings along the bottom that feed fertilizer into plastic 1 1/4-in. drop tubes running to the disc openers.

"Instead of using the rear opening built into the disc opener casting, I found a plastic 'Y' fitting from Deere that's used on some corn planters to channel the fertilizer and seed through the front opening in the disc opener.

This allows a more direct line for the fertilizer tube to follow which prevents any bridging of fertilizer inside the tubes.

"All parts of the delivery system are either pvc plastic or stainless steel to prevent corrosion. The fertilizer feed screw is driven off the main drive on the drill for the seed metering drive. That way, when the openers are lifted, both seed and fertilizer drops are disengaged.

"The second addition I made to the drill was mounting a 2-in. square toolbar just ahead of the openers. It's supported by the main frame of the drill. The toolbar is equipped with 12 fertilizer knives, centered between every other opener on the drill. The knives band liquid urea solution 3 in. to the side of the furrow and 2 in. below the seed. The knives are rolled up out of the ground with a hydraulic cylinder. A hydraulic-controlled ball valve is plumbed into the cylinder circuit to stop fertilizer flow when the knives are raised out of the ground. Deere cultivator tool clamps provide depth and spacing adjustment for knives on the toolbar. The liquid fertilizer is carried in saddle tanks on the tractor and delivered by a pto roller pump to manifolds on the drill which are equipped with metering orifices.

"By making the placement of starter and liquid fertilizer more precise, lower application rates are possible, less residue is turned up from tillage, and we eliminated the expense and moisture loss that we had before from making two extra passes across fields. The knives disturb little ground and have the added advantage of removing tractor tire tracks ahead of the drill."

Contact: FARM SHOW Followup, David J. Miller, 85090 Winesap Rd., Milton-Freewater, Ore. 97862 (ph 541 938-6253).



Knives clamp onto a 2-in. sq. toolbar mounted ahead of drill's openers.



A 5-gal. air tank, 12-volt compressor, 8-in. cylinder, and valve allow Roberts to activate the clutch on his Deere 4430 tractor by either hand or foot with very little effort.

Add-On Air Clutch Is Easy On the Back

"I first came up with the idea of an air-operated clutch two months after I had back surgery for a herniated disc," says W. Harvey Roberts, who designed an air clutch for his Deere 4430 tractor.

"We grow 35 acres of sweet corn, which we pick by hand. The 4430 has a quad-range transmission. We're continually starting and stopping the tractor while the boys place corn in our over-sized front-end loader bucket. This continuous depressing of the clutch was difficult for me. Even using both feet, it caused me a considerable amount of pain.

"At first I had the idea of using a hydraulic cylinder to activate the clutch but I couldn't find one short enough. The next idea was to use air pressure.

"I bought an 8-in. long cylinder with a 3-in. stroke, a 3-way foot and/or hand valve, a 5 gal. air tank, a 12-volt air compressor, regulator, and water and air filters.

"I fabricated a bracket that attaches to the clutch pedal and a second bracket that mounts

on the floor of the tractor to anchor the air cylinder. I then connected all the components together and hooked up 12 ft. of air hose to form a closed-loop system.

"To activate the clutch, all you have to do is depress the foot or hand valve about 1/2 in. Takes very little effort. The air cylinder requires a constant 40 psi to operate. The small 12-volt compressor I bought provides enough pressure to keep the 5-gal. tank pressurized. Total cost of components was about \$350.

"The great thing about it is that the air cylinder doesn't interfere with regular manual operation of the clutch. You just have to disconnect the roll pin that holds the air cylinder to the clutch pedal.

"Maintenance on the system is minimal. Because it's a closed loop air system, moisture and dirt don't get into the system."

Contact: FARM SHOW Followup, W. Harvey Roberts, 489 N. Indiantown Rd., Shawboro, N.C., 27973 (ph 252 336-4793).



To make chick shelters, Haswell simply places satellite dishes upside down and mounts them on posts.

Satellite Dishes Make Great Chick Shelters

Upside down satellite dishes make instant shelters for poultry, says Rick Haswell or Carnduff, Sask.

Haswell was looking for a way to protect 6-week-old pheasant chicks from the rain. Haswell, along with his wife Virginia and brother-in-law Allistar Hogg, run a pheasant

hatchery on their farm. They supply about 3,000 pheasants for wildlife conservation groups who sponsor raise and release programs.

Haswell simply mounts the dishes upside down on a wood posts.

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Every day our editors are uncovering exciting new products and farmer-built inventions that may save you time or money. Don't miss out! You can tell when your FARM SHOW subscription expires by checking your address label on the front cover. It gives you the date of your last issue (example: 6/1/2000). You can use the order envelope enclosed with this issue, or the order coupon on page 44, to send in your renewal. Or call us toll-free at 1-800-834-9665.

Reader Letters



Regarding the "best buy" in your last issue on the new Staber washing machine – which has a horizontal washing drum rather than a conventional vertical drum – I can offer a bit of historical perspective. There was a washing machine with



a similar design built in the early 1900's by the Paragon Mfg. Co. in New York and Chicago. It was a wood frame machine with a galvanized tank. A drum with internal paddles like a cement mixer held the clothes and tumbled them in the tank of water. It was energy efficient. One 10-year-old on the crank was all the power required. I'm sending along a picture of a Paragon washer we own that's in its second career – serving as a plant stand. **(Richard Wenkel, St. Paul, Minn.)**

Just thought you would like to see a peacan sheller I made in my shop. It has a 1/8-hp. electric motor on each side. The inside breaker plate runs counter clock



wise at 94 rpm's. The outside tank, with the slats, runs 12 to 14 rpm's. I can shell a peck of nuts in anywhere from 5 to 9 min., depending on the thickness of the shell. It works great. I have shelled 80 bu. in 4 weeks. About 90 percent of the nuts come out in halves. I am applying for a patent on this great new design. **(Hoover A. Lingle, 1022 S. Main GQ St., Salisbury, N.C. 28146 ph 704 279-2465)**

I mounted a forklift boom on front of my Allis Chalmers D17 tractor. I can use



standard forks on it or attach a bale spike in place of them. Hydraulics are supplied by a pump on the right side driven by bolting a flangeless (hubless) V-pulley on the belt pulley hub. The tractor's one-way hydraulics run through 2-way controls mounted on the right fender. **(Harold R. Stoudt, 1241 Hex Highway, Hamburg, Penn. 19526)**

I have written a book from journals that my mother left behind after she died last year. She was born in 1925 on a farm in Minnesota. Her father was a farmer and he delivered her himself. She was three months premature so her first bed was a shoebox. To keep her warm, she was placed on the open door of the kitchen wood stove.

The book is filled with her stories of threshing, black blizzards in the 30's, the depression years, grasshoppers that would crawl up overalls, and many other experiences over the years. She wrote many of her experiences in the form of short stories which are both informative and often funny.

I sell the book, Golden Memories, by mail for \$13.95 plus \$3 S&H. **(Carol Yarrow, 2000 E. Mulberry, Sioux Falls, S.Dak. 57103)**

The article in your Vol. 23, No. 6 issue telling readers how to use a water level was informative. I've used the idea myself and have a few suggestions that might improve on the idea.

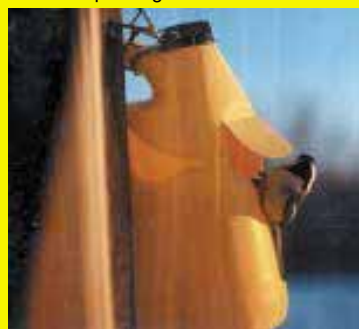
I suggest you use small dia. clear tubing of 1/4 to 5/16-in. dia. The smaller hose is cheaper and takes less water to fill. You don't have to pour water into the hose. Just stick one end in a bucket and siphon the water. It's faster and you won't get any air bubbles in it.

Although it's easiest for two people to use a water level, one person can do it by tying one end in place. To make it easier to see the level of the water, just add some food coloring to the water.

I own a fairly expensive transit level but I hardly ever use it anymore. The water level is handier and faster, with less chance for error. **(John Strunck, 9123 Gholson Rd., Waco, Tex. 76705)**

Our gates along a county road kept being stolen so we painted them fluorescent pink and orange. Who wants to steal a gate that looks like that? It would be incriminating from a long distance. No stolen gates since we started this. **(Linda Bormann, 4200 S. Hulen St., Suite 435, Ft. Worth, Texas 76019)**

I make cheap bird feeders out of 1-gal. plastic jugs, like the kind anti-freeze comes in. There are so many of these jugs that just get tossed away but they would be put to good use. Commercial



bird feeders are expensive and they're open to snow and rain. All I did was to cut a flap in the front side of a jug and fold the flap up. Small birds can reach in

under the flap but the flap keeps out moisture. I fill the jug with sunflower seeds up to the hole. Birds reach down inside. If the seeds get down too far, the birds go right inside. If you make the hole small, only the smallest songbirds – like chickadees, thrushes, goldfinches, etc. – will use it. Sparrows, blackbirds and other "bully" birds don't seem to use it. I have the jug pictured hanging outside my kitchen window. **(R.B. Prescott, 51037 Range Rd 221, Sherwood Park, Alberta T8E 1G8 Canada 780 922-2247)**

Here's how to make inexpensive cleanup "towels" for your farm shop. Use old telephone books. They work great for wiping oil dip sticks and as quick towels for everyday use. To make them useful, though, you have to do a little preparation. I first clamp a piece of 3/8-in. plywood to the top and bottom of the book, and then drill a 1/2-in. dia. hole through one corner of the book. Then I take the clamps off and run the book through a table saw, cutting off about 1/4-in. of the glued binding. Then I just take off the front and back cover and hang the pages from a nail or shower curtain hook. The pages come off easy and they're very absorbent. **(Carl Reid, RR2, 521 Campbellville Rd., Campbellville, Ontario L0P 1B0 Canada)**

Some of your readers might be interested in a modification we made to our Deere 1030 tractor. The tractor is fitted with a front-end loader. The grille kept getting



bent when we would get too close to a truck or wagon. After having the grille straightened, I was determined not to bend it again. I made a heavy-duty grille guard with a fold-down center section of slats that fold down when you need to get at the battery. The slats are made from 2-in. strap metal welded to 2 1/2-in. sections of steel on either end. The slats fit inside the outer frame of the grille guard, which is made out of 4-in. channel iron. It bolts to the tractor frame. The section of slats folds down out of the way when you need to get at the battery. **(Kenneth Brecht, 353A McKean Rd., Moorcraft, Wyo. 82721)**

In your last issue, Richard Jacobs, Beaver Dam, Wis., complained about boots that cost a bundle but last only six months. He's not alone. I've bought name brand boots for as much as \$150 and cheap foreign ones for as little as \$40 with the same results – poor quality.

There might be hope, though. Wesco Shoe Co. (Box 607, Scappoose, Oregon 97056) makes boots to fit and they also rebuild their own boots when they get worn. They're not cheap but I figure they're worth it if they'll last three times what store-bought boots cost.

Another similar company is Bailey's Logging Supply Co. (Box 550, Laytonville, Calif. 95454).

Both these companies specialize in logger's cork boots and also make regular boots of all kinds.

Both companies have catalogs you can order. **(Elmer Pinkerton, Elmwood, Neb.)**

I was interested in the story in your most recent issue about making tire feed bunks out of tractor tires. It's the first time I've seen tires cut this way. My only question is: What keeps animals from stepping into the feeder with dirty feet or relieving themselves? **(Jack Dumkley, Clinton, Ind.)**

My father repowered his Farmall C tractor in 1974. Because there are still a lot of these tractors around, some of your readers might be interested in what he did.

The engine had a big crack between two cylinders and was beyond repair, so Dad took a straight six cylinder engine



with a 3-speed transmission from a 1962 Ford car.

He built a frame around the engine and transmission and attached it to the rear axle. He built a new wide front end for the tractor and used the original tires and spindles as well as the original gas tank, hood and grill.

With the combination of two transmissions you have every conceivable ground speed imaginable from super slow speed to drag strip road speed. It has 13 forward speeds, four reverse speeds, three pto speeds and one pto speed in reverse (which doesn't do you much good but is interesting).

Guys who see it wonder how you get thirteen forward speeds. The original tractor had four speeds multiplied by the added three speeds results in 12 speeds. Then if you put both transmissions in reverse, the tractor moves forward – making 13 speeds.

Dad later added live hydraulics to power a front-end loader, and he built a hydraulic 3-pt. hitch, which he built himself. He used the tractor for years to cut weeds along ditches and fence lines, using a Deere chopper that he cut down to about 6 ft. wide and fitted with a 3-pt. hitch. **(Jeff Lang, Wisconsin, E-mail: ninahunsch@msn.com)**



Here's a photo of a calf sled we built. We needed something to bring newborn calves in from the field. We can pull this sled with a 4-wheeler or horse and it

works fine on wet, dry or snowy ground. We pull it with a 10 to 12-ft. rope so we don't bother the mother, who follows behind. The calf isn't stressed at all. It rides on elastic straps strung back and forth across the rectangular frame at the top. **(Daryl Wiegand, 13578 159th Trail, Drakesville, Iowa 52552 ph 515 722-3253)**

We found this little earth mover in a dealer's junk pile and fixed it up. We have been unable to find anyone who knows who built it or when it might have



been built. Anyone out there know? **(George A. Wojnar, 5 Malsbury Lane, Cream Ridge, N.J. 08514)**

I'd like to thank Vermeer Mfg. for building their new Rebel baler, which is a "no frills" baler designed for smaller farmers. I think more companies should be looking at building smaller, simpler equipment. **(Joe Dugan, Box 906, Roblin, Man. R0C 1P0 Canada)**

My wife Sue and I recently became "non traditional" farmers. Changing from cattle and horses to llamas has been a major culture shock as well as a very steep learning curve for a couple of back country Yankees. We have been amazed at the number of farms (mostly small in this part of the country) that have changed from the traditional dairy or beef operation to deer, elk, goats (milking and fiber), sheep (milking and fiber), llamas, alpacas, birds, and so on.

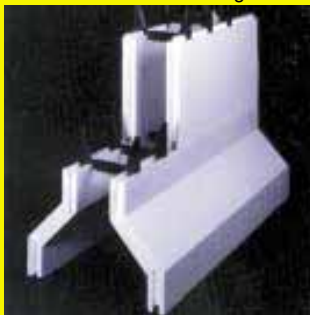
What's interesting is how this has impacted related businesses such as feed, veterinarians, crafts (spinning etc.), barn designs and so on. For example, it's easy to find a cow or horse vet but try to find a qualified and experienced llama vet. Feed is another issue that has not caught up to the changing make-up of farms. Our co-op wants to sell feed in 3-ton lots. With a relatively small herd of 32 animals, we only use about 700 pounds per week. Whole new industries and services are going to grow up to serve these "non traditional" farms. Everything from toe nail clippers to microchips to grinding up antlers. Rural people looking for new opportunities should look into it. **(Bob and Susan Simpson, Center Barnstead, N.H.; E-mail: rss@worldpath.net)**

Putting a tarp down on the ground when unloading grain helps make cleanup



easy. But holding it down against strong winds can be a problem. I solved the problem by simply laying a chain down around the perimeter of the tarp. **(T.J. Shambaugh, Cerro Gordo, Ill.)**

After four years in development, last year we started manufacturing our stay-in-place insulating concrete form, called Tech Bloc. Made of expanded polystyrene, this product can be used for basement foundations or entire single or multi-



story buildings — homes, barns, warehouses, churches, schools, and so on. It produces a quiet, energy-efficient structure with tremendous strength.

Tech Block is the first insulating concrete form with an offset panel which allows you to pour the footer and wall in one operation. The off-set panel can be turned upside down to form an exterior brick ledge or an interior ledge to set floor joists on. Finishing walls — drywall, paneling, stucco, siding, etc.) can be applied directly to the surface of the forms without furring. Each form is 16 by 48 in., 2 in. thick. They're lightweight, easy to handle and ship flat for low freight rates. They're assembled in pairs on site.

We provide whatever field and technical support might be needed. **(Dick Chambers, TechSystems, 10813 Zerkle Rd., Cridersville, Ohio 45802 ph 800 406-4096 or 419 657-6525)**

We are sending along copies of letters we have sent to a couple of your readers who have expressed dissatisfaction with their Red Wing boots in recent issues. Red Wing Shoe Company has built our success over the past 95 years by handcrafting the best footwear made in the U.S. We understand the needs of our customers and build a quality product. We get many letters from satisfied customers.

This is not to say we never have unsatisfied customers. We depend on our network of Red Wing dealers to provide the best customer service possible. We also have the most liberal return policy in the industry.

Our customers matter. We just wanted you and your readers to be aware that we respond to our customers and what they say is important. **(Cindy Taube, Public Relations Manager, Red Wing Shoe Company, 314 Main Street, Red Wing, Minn. 55066 ph 651 388-8211).**

Here's a simple idea to make it easy to hook up to gooseneck trailers with a pickup. I attached a 1/4-in. steel rod to a magnet. I stick the magnet to the top of the ball. I can then then back up to the receiver until it's right over the ball. When the hitch pushes the rod and magnet off the ball, you know you're lined up. **(Tom Boatright, 9765 State Park Rd., Lockhart, Tex. 78644 ph 512 488-2230)**

I thought you might like to see a little trailer my son-in-law, Clint Thomas, made to haul leaves and trash out of his yard. He took the wheels off a wheelbarrow



and mounted the frame to a mower deck. Then he took the top part of the mower handle off and turned it around, making a hitch out of the two loose ends. He can pull it behind his riding mower. **(Harvey Krein, RR1, Box 157, Kensington, Kan. 66951)**

If you live anywhere near a lake or river with snapper turtles, you're not far away from a good meal. I've been catching them for 25 years. Turtle meat is delicious.

Here's how I catch them: Attach some trot line or fairly heavy cord to a gallon milk jug with the cap on. Put the longest steel leader you can find on the end of the line and fit it with the biggest hook you can lay your hands on. My favorite bait is beef shank, which you can get at your local meat shop. After I catch one, I like to leave it out of the fridge for a day to age. **(Charlie Musser)**

I am almost 86 years old and have been a FARM SHOW subscriber for many years. I don't farm any more but I read every bit of it. As long as I can see to read, I'll be a subscriber. It's the best darn farm magazine ever. Keep it up. **(Fred Meier, 1948 Fir Dr. Apt. 12, Beloit, Wis. 53511)**

This is a simple idea but many may not have thought of it. To keep birds out of the open ends of grain augers, just use duct tape and aluminum pie plates to close them up. **(Edwin Mattix, RR1, Box 23A, St. Elmo, Ill. 62458 ph 618 829-9750)**

Here's a device I built to roll up plastic irrigation pipe. It could also be used to roll up fence wire.

I mounted a tire and wheel on a frame fitted with 3-pt. brackets. The tire is held



securely in place on one side by an auto hub on an arm. The tire is friction-driven by a 2-in. dia. pipe that turns against it. The pipe mounts on pillow block bearings and is driven by a small hydraulic motor that connects to tractor hydraulics.

The plastic is rolled up on a spool with a concave disc blade at either end. The spool simply bolts to the lug holes on the wheel. **(No name on report submitted)**



This photo was taken in 1919 at the Sioux City, Iowa, stockyards. My grandfather, Joseph Zenk, is on the far left. The trucks are 1919 Internationals. My grandfather sold the trucks from his farm, which was located three miles east of Remsen, Iowa. The trucks sold for about \$1,000. He sold 12 trucks during one 3-year period. **(David Zenk, RR 3, Box 126, New Ulm, Minn. 56073)**

This front-mounted long stock carrier, built by Bob Joiner, Carlinville, Ill., is an easy way to handle long stock, ladders



and other oversize loads. Joiner installed a receiver hitch on front of his pickup and built the stock carrier to fit into the hitch. He can quickly put the carrier into place as needed. Much better than letting long stock dangle off the back of the truck. **(C.F. Marley, Nokomis, Ill.)**

This is a simple idea that saves us time at harvest. We fill the small dugout hole for the bottom end of our auger with concrete. It eliminates digging the next year



and also marks the correct spot for the auger. All we have to do is flip out the concrete plug the next year and put the auger in place. **(Jack Gogerty, 71095 105th St., Zeoring, Iowa 50278 ph 515 487-7489)**



If you've got a pto that's missing its shield, you can use a piece of plastic drain tile to temporarily provide protection. **(Doug Phillips, 71835 150th St., Zeoring, Iowa)**

Thanks for your article in the last issue of FARM SHOW about my "automatic" feed gate for cattle that knocks silage and hay loose as cattle feed. It used to take me four and a half hours to feed our herd each day but now I can do it in a half hour or less.

Continued on next page

Reader Letters



Continued from previous page

Unfortunately, my mailing address changed soon after I talked to your reporter. If anyone wants to talk to me about the gate, you can reach me at the address below. I have patented the gate and would like to find a manufacturer to put it on the market. **(Todd Amthor, Box 203, Admiral, Sask. S0N 0B0 Canada ph 306 297-2724; E-mail: damthor@t2.net)**

Winters can get pretty rough in the Midwest. Every year, when it starts getting cold, I put together a winter survival kit



using an ordinary suitcase. I just fill it full of warm clothing, a blanket, candles, food, and whatever else fits. The suitcase keeps everything clean and takes up less room in the trunk. **(Rex Gogerty, 33475 K. Ave., Hubbard, Iowa 50122 ph 515 487-7617)**



You can make all kinds of things from old school buses. We've found that it doesn't



take much to make cheap, sanitary transportation for early weaned pigs. All you have to do is strip out the seats and board off the driver's platform. **(Roger Howe, 1233 Eastman Ave., Clemons, Iowa 50051 ph 515 477-8600)**



This is a simple idea that's handy if you have a lot of wet boots. I just hang them upside down on electric fence posts. It's easy to set up as many posts as you have boots. **(Jack Gogerty, Zearing, Iowa)**

We needed a ladder on our M&W grain cart. We simply bolted a section of lad-

der off a windmill. It's strong and makes checking the wagon safe.

Another idea that works well for us is putting a sheet of plastic under our unloading auger. We just stake the corners down to hold it in place. Makes cleanup easy. **(Jim Oakes, Zearing, Iowa)**



My father, Sam, bought this 1941 Deere "B" tractor new. It has now served four generations without ever needing an overhaul. It's still an active part of our operation. **(Asher Oakes, 107 North Pine, Zearing, Iowa 50278 ph 515 487-7361)**

Last fall a lot of my corn was blown down completely flat during a bad windstorm. The down corn wouldn't feed into my corn head so, out of desperation, I designed my own down-corn reel. It works perfect and cost me only the time to build it.



I used the center tube, mounting arms, and several of the spokes from a batt reel off an old 20-ft. wheat table. The tube was just the right length for my combine's 8-row corn head. I added several 16-in. wide, 24-in. long paddles which I made from continuous belting off a conveyor. I positioned the paddles and spokes over the row snouts, instead of the rows, so as not to impede the harvest of standing corn. The reel is driven by a hydraulic motor from the wheat table and is manu-



ally raised and lowered by a pair of come-alongs attached to the back of the corn head, one at each end.

I also designed a quick and easy way to lift a full barrel of oil out of my pickup and move it into my shop or over to an irrigation engine site using my loader tractor. I welded a 16-in. length of chain to each of the two screw-in lids on top of the barrel. To lift the barrel out of the pickup I simply screw in each lid and then bolt the end of one chain to the end of the other chain. The same lids are found

on most sizes of drums and can be used over and over again. **(Dale Orman, 1300 Timber Run Dr., St. Louis, Mo. 63146 ph 314 434-7645)**

I used an old 9-ton, 3-axle trailer to build a light duty bridge for my friend, who operates a bed and breakfast on his farm. He already had a wooden 9-ft. wide, 22-



ft. long bridge that was designed for pedestrians, light vehicles and horse-drawn wagons, but he wanted it replaced. The steel-framed trailer had been used to carry a backhoe towed behind a dump truck. I removed the trailer's fenders and front and rear axles. I also cut the center axle from the frame and then chained it



back into place so that the trailer could be moved to its new location.

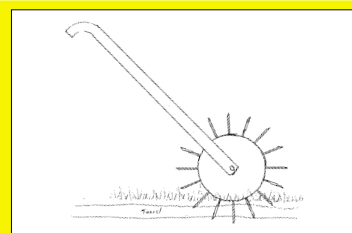
I installed five rows of pressure-treated wood planks the length of the frame and 2-in. thick Hemlock planks at each end. We planned to cover the remaining 12 ft. in the middle with the decking from the old bridge. The bridge was then loaded onto a trailer and transported 80 miles to my friend's farm. There, we removed the deck deck from the old bridge and pushed the new bridge across the timbers. A big skid steer loader was then used to lift one end of the deck so that the axle could be unchained and rolled out. Then the center of the bridge was re-decked. The new bridge deck is 10 ft. wide and 22 ft. long and has a 5-ft. high railing on each side. **(Hudson Wilson, 14776 Hwy. 50, Rt. 2, Bolton, Ontario, Canada L7E 5R8 ph 905 857-8768)**

We demonstrated this miniature working replica of a 1936 stationary hay baler at



the Sunbelt Expo last fall near Moultrie, Ga. It produces miniature bales of hay or straw that measure 4 in. wide, 5 in. high, and 9 in. long. The baler itself is 62 in. long by 18 in. high and weighs 110 lbs. It's powered by a modified 1939 John Deere pedal tractor which is equipped with a small gas engine. Both the tractor and baler were built by Clifford Stone of Benton, Tenn. He's in his late 70's and built the baler from memory. As a child growing up on the farm one of his chores was to help bale hay with his father's stationary baler. **(Patsi Barker, 233 Co. Rd. 782, Etowah, Tenn. 37331 ph 423 263-2914)**

Over the years I've had problems with moles in my yard so I decided to find a



way to kill them for good.

The first thing I tried was something I call a 'mole stabber'. It consists of a 10-in. dia., 1/2-in. thick steel disc with 3-in. sharpened steel spikes welded to it. The spikes are about 1 1/2 in. apart. A handle is attached to an axle that runs through the disc. I just push the stabber ahead of me, following the path made by the moles as they dig their tunnels and push the dirt up. I know I've killed at least one mole this way because as I stabbed into the tunnel I heard him squeak and then dug him up. But I decided that method was too hit and miss.

My second idea works better. During the evening I use my ATV to pull a 1,000-lb. lawn roller across the yard and roll the tunnels down flat. Then at about noon the next day, when moles are looking for food, I go back with a spade and watch for any fresh digging activity. If I see dirt being pushed up at the end of a tunnel I pop the spade down, flip the ground over, and kill the mole. I have to walk quietly because moles are very sensitive to ground vibrations and will stop digging if they hear you coming. Last year I killed 24 moles this way. **(Mike Dick, 1998 215th St., Humboldt, Iowa 50548 ph 515 332-3550; fax 3770)**

We have a lot of trees around many of our fields and often have to trim off overhanging limbs. Standing on a ladder or in a loader bucket while holding a chain saw can be dangerous and time consuming, so to solve the problem I built my



own loader-mounted cherry picker. I use it on my Deere 2020 tractor. It consists of a treated plywood box that pivots at the end of a pair of 12-ft. long steel arms that bolt to steel brackets that wrap around the box. A pair of cross pieces connect the arms together. To keep the arms from bending I attach a pair of chains to the top cross piece and down to hooks welded on back of the bucket.

The box pivots on a pair of bolts so it always remains vertical even as the loader is being raised or lowered. A shock absorber on one side of the box reduces bucket sway. The box can be lifted up to 20 ft. high.

It also works great for access to center pivot irrigation pipes, electric lines and poles, etc. The bucket on my loader is hydraulic-controlled. For safety reasons I'd never try this idea on a manually-controlled bucket. **(LeRoy Lampen, 13277 Born St., Jones, Mich. 49061 ph 616 244-5455)**

“Water-Powered” Rotary Scrub Brush

Driven by water pressure from any ordinary garden hose, this new rotary scrub brush saves time and does a better job cleaning than stationary brushes. The piston-driven scrubber helps you do the work even when submerged under water.

The T-Scrub requires no electricity or batteries and weighs only 5 lbs. It requires a minimum of 50 psi of water pressure.

“A control valve regulates the amount of water deposited on the brush and there’s a built-in speed control and sprayer for rinsing. It has both inlet and exhaust hoses. Water from the return line can be run out onto the lawn or whatever needs watering,” says Thomas Vrhel Sr., vice president of Vrhel Inc. in Texas.

Vrhel says the oscillating action of the rotary brush is more than just a rotary motion – it’s the same scrubbing motion as a washing machine. Because it generates so much scrubbing power, Vrhel doesn’t recommend it for use on car, tractor or truck paint finishes, but the unit is ideal in hundreds of other applications such as scrubbing horse trailers, farm equipment, vinyl or aluminum siding, windows, walkways, RVs and airplanes. Because the pistons generate so much scrubbing power, the unit works well underwater, making it ideal for swimming pool, boat or hot tub cleaning.

A sponge within the center of the brush minimizes the required soap, and retains it



Rotary scrub brush is driven by water pressure from garden hose to create the oscillating motion of a washing machine.

for an extended period, eliminating the need to soap frequently.

The T-Scrub comes with 25 ft. of paired hose and a 54-in. extension handle.

The T-Scrub sells for \$179.95 plus \$14.25 S&H.

“We’ll soon be releasing a new option as well,” Vrhel says. “It’s a re-circulating pump that will allow water to be re-used on large jobs.”

Contact: FARM SHOW Follow-up, Thomas Vrhel Sr., Vrhel Inc., #552 Eastview Drive, Georgetown, Texas, 78626 (ph. toll free 877 287-2782 or 512 869-4944); E-mail: info@vrhel.com; Website: www.vrhel.com).



In order to cut through 3-in. dia. phone cable, Walter and Philip Miller added a 2-ft. sq. steel shear plate to the bucket of their IH payloader.

Bucket Cable Cutter Solved Big Problem

When Walter and Philip Miller yanked a 5-ft. deep AT&T transcontinental phone cable out of the ground on their farm, their biggest problem in handling the unused 3-in. dia. cable was figuring out how to cut it up.

The men had decided to sell of part of their farm for building lots, but AT&T had an easement across it which was not being used but which contained the old cable. They worked with AT&T to move the easement to another section of the farm but they needed to pull the cable out of the ground.

AT&T would have done the work but at a pretty stiff price. They decided to do it themselves.

Pulling the cable out was not much problem. They dug down 3 ft. or so with a backhoe and then pulled it out with a front-end loader. The biggest problem was disposing of it.

The cable could not be sawed up because

it contains lead. The only method allowed is to shear it.

The men hit on the idea of adding a shear to the bucket on their IH payloader. They bolted a sharpened 3/8-in. thick piece of 2-ft. square steel plate to the side of the bucket. They also sharpened the edge of the bucket so that as the cutting plate scissors back and forth, both sharp edges shear through the cable. They also welded a cross piece of angle iron to the bucket to rest the cable on as it was cut and fed through.

The 4-ft. long cut-up sections were then dropped to the ground as the bucket opened up for the next cut.

“We cut up 1,300 ft. in six hours, saving more than \$2,000 in company charges,” notes Walter.

Contact: FARM SHOW Followup, Walter & Phillip Miller, 9182 Knox School Rd., Minerva, Ohio 44657 (ph 330 894-2828).



“I use it during the summer to haul ground corn out to my calves on pasture,” says Wilburn Lemons, who mounted a 40-bu. hog feeder on top of a pickup steering axle.

Hog Feeder Converted Into Portable Feed Hauler

Wilburn Lemons of Wentzville, Mo., made a low-cost portable feed hauler by mounting an old 40-bu. hog feeder on top of a pickup steering axle.

“I pull it behind my pickup and use it during the summer to haul ground corn out to my calves on pasture,” says Lemons. “A slide door at the bottom dumps feed into a 5-gal. bucket which I then dump into bunks. I use it three or four times a week. I already had the hog feeder and I got the axle for free.”

The bin’s four steel legs bolt onto a steel frame that mounts above the axle.

He uses a modified hammer mill to load the feed hauler. He mounted the hammer mill

on top of a 250-gal. oil drum laid sideways.

A tractor is used to pto-drive the hammer mill. An auger powered by an electric motor loads feed into the mill and another auger, also powered by an electric motor, delivers feed out of the oil drum and into the feed hauler. A hinged door on top of the drum can be opened so that Lemons can scoop feed directly out of the drum, if desired. The entire unit rests on a steel sled, allowing it to be moved out of a shed over to nearby corn cribs.

Contact: FARM SHOW Followup, Wilburn Lemons, 2880 Jackson Road, Wentzville, Mo. 63385 (ph 314 673-2946).

Cut Costs With Phase Converter

If you haven’t checked out 3-phase motors for your electrical power needs, you may be paying more and getting less than you could. Not only are 3-phase motors as much as half the cost of their single phase counterparts, but they are considered more reliable, too, with fewer parts to fail. What’s more, used 3-phase equipment is cheaper due to the limited availability of 3-phase power. The only catch is getting 3-phase power to your farm.

You could pay the \$15,000 to \$30,000 per mile that utilities charge to bring in a 3-phase line but another solution is to buy a converter to produce your own 3-phase power from a single phase line.

Karam Manufacturing, Madelia, Minn., has been making and selling Phase-O-Matic™ 3-phase converters since 1975. They received UL approval in 1992 and will soon be UL approved in Canada. Company owner Tom Jorgensen reports that 25-year-old units are still running with virtually no maintenance since they were first purchased..

“They are practically bullet proof and 96 percent efficient at converting single phase power to 3-phase,” says Jorgensen. “About 90 percent of our business is ag related, powering irrigation rigs, grain dryers, elevator legs and air systems.”

“With single phase power, 15 hp motors are about as big as you can go,” explains Jorgensen. “Some farmers feel they can’t expand because they don’t have 3-phase power, but 3-phase motors cost enough less that you can pay for the converters with the savings. I have one customer who has a 40 hp motor operating his manure handling equipment.”

Much of the cost savings on 3-phase motors comes from their simplicity. A single phase motor requires switches, capacitors, relays and governors, none of which are needed on a 3-phase motor. Another big sav-



Converter allows you to produce your own 3-phase power from a single phase line.

ings comes when used 3-phase equipment comes on the market. Jorgensen tells of one customer who bought a 3-phase 450 amp welder for \$500, while a single phase welder of the same size would have sold for \$4,000.

While other converters are on the market, they aren’t all equal, cautions Jorgensen. He recommends checking for reliability, simplicity of operation and output. While some converters can only be used with a single motor, Karam’s Phase-O-Matic can handle multiple motors as long as no single motor is rated higher than the horsepower rating of the converter and the horsepower needs of all the motors combined doesn’t exceed twice the rating of the converter.

“In a drier setup, you might have two 20 hp motors, a 15 hp wet auger, and another 5-10 hp motor on the side,” explains Jorgensen. “All of those could run off a 40 hp converter.”

Karam converters start out at \$700 for a 3.5 hp converter and top out at \$8,000 for a 100 hp unit. Units are available for either 230 or 460 VAC, 60 Hz power source and are prewired ready for installation.

Contact: FARM SHOW Followup, Karam Mfg., P.O. Box 70, Madelia, Minn. 56062 (ph 800 293-8969; fax 507 642-3993).

Charles Larson, Kalispell, Mont.: "Here's how I solve the problem of air leaking out around the rims of tubeless tires. Just put some crankcase oil in the tire and it will seal right up. Works great."

Edwin H. Veitengruber, Frankenmuth, Mich.: "Here's how to break the bead on any tire. Just lay it on a concrete floor and drive your tractor or pickup over the edge of the tire. I have done this many times and it'll break even the most stubborn tire. If it's a large tire, you can lay down a board ramp up to the tire."

Richard Cox, Jacksonville, Ill.: Richard and friend, Buddy White, Jacksonville, Ill., made this shop hoist from parts salvaged from an old portable elevator and a wagon hoist.



A hand-cranked winch mounts on the side of the hoist and runs up through pulleys on top. The lift rolls back and forth across the top of the hoist.

The winch came off a Little Giant elevator. The gantry mounts on casters, and travels anywhere it's needed in the shop.

The two men also came up with a handy high-speed sander-buffer for polishing steel shafts and also for rounding wood. It's a high-speed emery blade mounted on an electric motor, mounted parallel to a small work table. They say it works as well on



wood as metal because it doesn't "fill" with gunk as it's used.

Lloyd Meffert, Rettick, Ill.: He put together a portable stand-by generator that mounts on the frame of a junked garden tractor. The tractor motor powers the



generator via an electric-operated clutch-type pulley. The generator is a 5,000-watt Generac.

He made the frame towable with a hitch point on what had been the back of the tractor. He welded the front axle solid. An electric control box on the tractor activates the electric clutch to engage the generator.

Alfred Amm, Michigan City, Ind.: "To make a hole with threads in sheet metal panels, burn a larger hole than needed and weld in a nut. Use a bolt to hold the nut in place while welding."

Weaver's Welding & Casting, Corbin, Ky. (ph 606 523-4395): "I run a small welding shop and a neighbor brought in a tie rod end from his MF 50 backhoe. The "ball" had popped out of its socket from wear. I cut a piece of 2-in. bar stock and chucked it into my old South Bend lathe and turned out a new socket "cap", contouring the inner edge to match the ball. I then cut the old crimped

FARM SHOW®

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



New socket cap in lathe.

cap part off the end and mig-welded mine on in place.

"I did the first rod end two years ago and



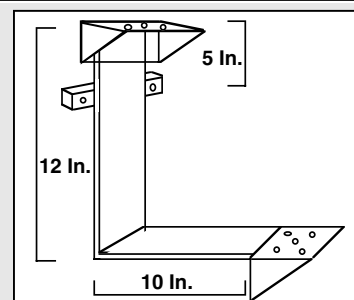
Ball ready to be reinserted (above) and completed end (below).



recently did the other one. They're working great, especially since I tapped grease zerks into the ends. The MF dealer wanted \$400 per new tie rod end. I charged \$70 for the two repairs."

Bruce Burns, 0935N 1100 E., LaGrange, Ind. 46761 (ph 219 367-2455): "I built these steps in less than 2 hours on my 3010 Deere. I've been crawling on and off 10 and 20 Series tractors since they were new. This step is a great improvement, especially getting off. Wish I'd thought of it 35 years ago.

"What I did was to remove both existing steps. Then I took a piece of 2 by 2 by 7-in. steel tubing and drilled holes in it to match the holes where the steps were mounted. Next, I take a piece of 1/2-in. thick strap iron, 22 in. long by 2 in. wide, and make a bend at



12 in. Weld the piece of steel tubing to the back side of the L-shaped strap iron, about 5 in. from the top. Finally, turn the existing Deere steps upside down and weld them to the top and bottom of the 'L'. And then bolt the whole assembly to the tractor."

Marvin Henry, Maywood, Neb.: "I never discard broken shovel, axe, fork handles, and so on. I recycle them into handles for hammer, hatchets, and other tools."

Gordon Lawson, Houston, Texas: "We saved a lot of money using a 2-ton engine hoist to set 18-in. dia. sections of concrete pipe which weighed 700 lbs. each. We used a come-along to draw the pipes together. It was so easy, my wife was able to operate the come-along while I pushed the pipe to its final position."

Richard Jaescke, Northampton, Mass.: "My New Holland 565 twine tie arms came from the factory too rough. The knots were okay but the string would often get cut. I solved the problem by filing excess casting off until they were smooth. Works great now."

Paul Gilster, Bangor, Wis.: "Here's a money-saving repair that saved me some money. It involved my 1984 Gleaner M3. The tube under the feederhouse that locks the head to the combine was rusted and bent. A new one was \$130. I went to the local hardware store and bought a piece of 1-in. pipe the same length with threads and caps to screw over the ends. I took the insides out of the old tube and put in the new pipe, and drilled holes in the caps for the ends to come



Low-Cost Filter Keeps Shop Air Cleaner

"I was tired of breathing dirty air," says Arvin De Cook, Sully, Iowa, who came up with an idea for a low-cost air cleaner to remove dust, smoke, paint and other airborne particles.

"During the winter, I spend many hours a day doing repairs in my heated farm shop. After a couple hours of cutting, grinding, welding or spray painting, the air becomes quite dirty. Usually you don't realize it until you blow your nose. This air can do permanent damage to your lungs.

"You can run an exhaust fan but it'll bring cold air into the shop, which gets costly. And few farmers can justify spending hundreds, or thousands, of dollars for a commercial air cleaner.

"I came up with this idea for a low-cost air cleaner that you can put together for less than \$30. It consists of a 3-speed box fan which pulls air through four cheap furnace filters. The fan and filters are mounted in



a plywood box which hangs from the ceiling in the shop. The fan also circulates warm air through the shop.

"The four plywood sides of the box screw together. A slot is cut out of one side for the filters to fit into. Then a cover is screwed over the slot to cover it. A piece of window screening goes over the open filter side of the box. The fan bolts into the other end of the box and pulls air through the filters.

"Maintenance depends on how much it's used and how dirty the air is. The filters generally cost less than \$1 apiece to replace. Because the fan pulls air through the filters, it's always running on filtered air. However, when you need to replace it these fans can be bought for about \$15."

Contact: FARM SHOW Followup, Arvin De Cook, 9658 Hwy F 62 E, Sully, Iowa 50251 (ph 515 594-3438).

out. It works better than new and I've got just \$8 invested."

Mike Ruppert, Wapakoneta, Ohio: "For the times when I need an air compressor in the field, I put a valve and male air hose adaptor in the air tank on my grain truck. This gives me a portable air compressor."

"An idea I had in my shop was hanging some old school lockers on the wall, horizontally, three-high. They're excellent for power tools, cords, and other miscellaneous equipment or parts."

Toby Truex, Warrensburg, Mo.: "I have a 4-ft. tractor mower. The bottom gearbox seal was bad and needed to be replaced. I tried two gear pullers that didn't work so I heated the hub and put in melted wax. The wax ran through the hub and out of the splines. Then I put the gear puller back on and the gear came off on the first try."

John Hill, Millington, Md.: "If you have a pit, or a hoist, for draining oil in your shop, put a 55 gal. drum on a set of caster wheels. Cut another 55 gal. drum in half and thread a 2-in. nipple into it. Turn it upside down into the drum on wheels. Works like a big funnel."

Tim Gest, Grafton, Ohio: "The spring clutch on our Case 970 tractor broke and we couldn't get enough leverage to attach it. So to make the spring longer, we inserted a washer on both sides. That gave us enough extra length so we could pop the spring into place. To remove the washers, we just pushed down on the clutch and they fell out."

LeRoy C. Mack, Manistique, Mich.: "When a tie rod end came apart on our Ford 7000 tractor, I found that the nylon bushing was shot. A new end would have cost \$60. I cleaned everything out and replaced the O-ring with a loop of #6 copper wire. Then I reinserted the ball, set the unit level, and poured in liquid lead babbit. When it started to cool, I just tapped the end to free the ball and then drilled in a hole for a grease fitting. This fix has worked very well."

Art Skoog, Eagle River, Alaska: "The traction clutch had been sticking on my '93 Deere 5300 tractor, which I bought new. It has MFWD with a loader, low hours, and does only light duty. It's always shedded.

The problem was it would stay in gear with the pedal pushed. The clutch would disengage as soon as I touched the brake. I adjusted the free travel, moved the seat closer, and checked the pedal for obstructions. I couldn't spot the problem so I guessed that maybe the clutch springs weren't able to slide the clutch plates apart on the shaft. It might be binding on the spline. Another possibility was that popping the clutch could put a slight twist on the splines.

"The pto shaft runs inside of the hollow traction shaft on this tractor. I bought a mirror and was able to peer into the clutch housing from the top. I couldn't get light in there with even the smallest flashlight so I got the idea of lowering a single Christmas tree bulb into the inspection hole. Then I could clearly see the driveshaft splines. I pushed in the clutch and saw the splines get covered with about 1/4-in. of movement.

"So I slid a small clear tube into the hole right up to the spline and sprayed in a bit of WD40. I could see it hit the target. I jacked up one tire, turned the shaft, and sprayed again. No more sticking for the past month since I did that.

"The Deere mechanic I talked to had wanted to split the tractor apart to access the clutch."

Larry Miller, Spencer, Wis.: "I bought a Delta 14-in. chop saw which lasted less than 2 years before the motor burned out. I then rebuilt the saw at about 3/4 the cost of new



only to have it burn out again 2 years later. At that point I decided to build my own. I built a frame and had a machine shop make a 1 1/4-in. arbor shaft for me. I had the

Continued on next page



Two forks slip around shaft. The "tines" are angled so they fit together. Forks are mounted on C-clamp which holds them tightly together.

Power Take-Off Remover

You can waste hours taking off pto shafts, bearings, sprockets and other similar equipment if you don't have the right tools. And sometimes you have to resort to using a cutting torch, or you have to take the equipment to a machine shop in town to get the job done.

That's what prompted Bruce Wilson to come up with his new "Pto Remover".

It consists of two forks that slip around the pto shaft, or whatever else you're trying to remove. The fork "tines" are angled so they fit together and don't allow for any slippage. They tighten like a C-clamp so they come

together from opposite sides and apply equal pressure to get the job done.

"I've used this tool on pto's, sprockets, bearings - even tie rods on cars and tractors. I had a machine shop make them in different sizes, from 1/4 in. to 8 in. so there are many possibilities for use, all over the farm," says Wilson.

He's in the process of patenting the new tool and plans to bring them to market.

Contact: FARM SHOW Followup, Bruce Wilson, 1739 Back Grove Rd., Webster City, Ia. 50595 (ph 515 543-5211).

Ultra-Wide Baler Belts Eliminate Plugging Problems, Save Leaves

If you own a belt-type round baler, you'll want to take a look at what Manitoba farmer Jake Wiebe has been doing to his baler.

Wiebe called FARM SHOW one day to tell us about the idea he came up with for his New Idea soft center 484 baler. "A couple 4-in. wide belts went bad. I replaced the two belts with a single 10-in. wide belt. I had to take out the divider between the two belts. It worked so well I decided I might as well go wider. I just replaced all the belts with a single 5-ft. wide strip of rubber belting."

"My dealer looked at me funny when I told him I wanted a 5-ft. wide baler belt. But after he thought about it, he said he figured it just might work."

The belting Wiebe used is the same material as regular belts are made of. The material is made in wide strips and then cut to size for each particular baler. You just have to request full-width strips.

He installed the wide belts himself using

regular lacing on the ends. The only modification he had to make to the baler was to take off the spacers that go between the belts.

"Hay no longer can get stuck between the belts and I'm losing less leaves out of the baler. It seems to run smoother and the repair was quick and easy to make," says Wiebe.

His New Idea baler has several sections of belt. He is gradually replacing each section as they go bad. He's looked at other belt-type balers and says he sees no reason why the idea shouldn't work on them, too. He says the wide belts were no more difficult to handle and he feels the wide belt is stronger and should last longer than individual belts.

If you decide to try it, Wiebe suggests you shop around for belting. He got widely different prices from different dealers.

Contact: FARM SHOW Followup, Jake Wiebe, RR1, Winnipegosis, Manitoba R0C 2G0 Canada (ph 204 656-4468).



Drain pan mounts on end of pipe so you can easily extend it under oil pan.

Low-Profile, Portable "Oil Changer"

After he built a new shop, Scott Smith, Blue Earth, Minn., didn't want the mess that comes with changing oil and catching it in buckets or trays. So he built a low-profile, portable "oil changer" that drains away used oil and also disposes of it using compressed air.

He used heavy, 3/16-in. thick steel plate to make a 16-gal. tank, adding caster wheels to each end. A 6-ft. long, 2-in. dia. pipe extends out one end of the tank. A drain pan equipped with a quick-tach adapter fits into an elbow at the end of the pipe.

When changing oil, Smith rolls the tank under the vehicle and pulls the drain plug to drain oil into the pan. After the oil drains into the tank, the pan is removed and replaced by a pressure regulator, also on a quick-tach fitting.

He then rolls the tank over to an air compressor, stands the tank up on end, and hooks a hose to a fitting on the regulator. The hose leads to a 300-gal. tank outside the building, where oil is picked up for recycling. The last step is to hook an air hose up to a fitting at the top of the tank. Air is forced through a tube that extends from the fitting almost down to the bottom of the tank. It takes only a few pounds of pressure to force the oil out of the tank.

Contact: FARM SHOW Followup, Scott Smith, 33080 50th St., Blue Earth, Minn. 56013 (ph 507 464-3390).



Oil drains out of pan into this reservoir, which is fitted with caster wheels.



To empty used oil out of reservoir, Smith takes off drain pan and stands unit up straight next to valves by wall. Drain pipe hooks to reservoir (above right). Air hose hooks to fill pipe (below).



Continued from previous page

bearings, 3 hp. motor, and switch. I used the vise and blade holder from the old chop saw. It's well-balanced and with plenty of power to cut through 1/2 by 3-in. steel bar faster lying flat than the old saw did with metal lying on edge. I use standard blades. No problems at all after 3 years. It runs at 3250 rpm's. The drive pulley is 6 5/8 in. dia. The driven pulley is 3 1/2 in. dia."

Tyler Plocinski, Williamsport, Penn.: "I repair garden tractors and the best idea I've come up with lately is using plastic quart oil bottles to change oil. I cut a square hole out of the wide side of it. The work great to catch oil from the engines. They fit into tight spaces. Once one is full of oil, you can use the original spout to pour it out."

Chris Lynch, Sabina, Ohio: "When we poured our shop floor we installed four 4-in. well casings in the ground and welded 18-in. long chains in the bottom. We placed them in the floor on 8-ft. centers so we can use them to hold equipment for repair."

O. Douglas Holland, Bedford, Va.: He came up with a method that makes it easy to install sleeves in a Massey Ferguson Perkins diesel. He freezes the sleeves to shrink them and heats the block with a space heater to the point where it's too hot to the touch. Then he just presses the sleeves in.

Thomas F. Jackson, Jr., Bowling Green, S.C.: Thomas tried an idea that has been in FARM SHOW before and says it really works. "To remove a bearing race that's in a recessed or hard-to-reach place, just weld a short bead onto the race. The heat and drawing effect of the weld will make removal easy."

Charles Huegel, Venus, Penn.: "My 1977 Belarus 400 tractor didn't turn very sharp so I cut a 1 1/4-in. section out of each spindle arm. Then I welded the arms back together. This really quickened the steering and sharpened the turning radius. I'm sure the idea would work on other tractors."

John Meyer, Walton, N.Y.: "We had a problem hauling manure in winter to the top of hills. So we attached a bumper to the back of our Deere flail-type spreader. Metal brackets were welded on and a hardwood 2 by 6 plank attached. Then we put a metal pusher with an old tire attached on front of another tractor that we used to push from behind. Worked well."

Tom Macy, Spencer, Ind.: "I stopped a 3-pt. leak on my Deere 3020 tractor by not letting it down when parking it. Just remember to push the lever down again before starting."

Colin Collins, Myrtle, Miss.: "The Powershift on older Deere tractors with cables can be hard to shift. I clamped a rubber hose onto the cable cover, and clamped a grease zerk into the other end of the hose. Then I pumped grease through the length of the cable. The tractor now shifts like new. One cable was full of dirt and dry grease. To clean it before greasing, I clamped a tire valve stem into the hose after first filling the hose with parts cleaning fluid. Then I blew in air to clean the cable by forcing the fluid through. This repair works best if you work from the lower end of the cables at the transmission where it's easiest to detach the cables."

Perry Hathaway, Claypool, Ind.: "To hook a battery charger up to a 600 Bobcat, I put an extension onto the positive cable so I don't have to take the seat off to charge it."

How To Make An Engine Last Longer

In a recent issue of FARM SHOW there was a brief mention about diesel engine cylinder liner corrosion. Engineer Kevin Johansen, Mound, Minn., contacted us with the following comments.

"I now work with big railroad maintenance equipment of 4,000 hp. and up, but I did a lot of farm mechanical work years ago. At that time, we knew almost every farm engine we tore down would have tapered wear in the cylinder. The widest, belled-out part of the cylinder is at the top. Wear decreases towards the bottom, resulting in the familiar taper to the cylinder. This taper was attributed to mechanical wearing due to the piston side forces. It was one of those folklore items that 'everybody knows is true'.

"However, I noticed that the hardest-working engines, which should have had the most wear, seemed to have the least taper. The bores might have more overall wear, but the wear was more uniform with little tapering. Those with the most severe tapering were the chore tractors—small loader tractors that got started and used every day, in all

kinds of weather. Often for only a short time.

"The second clue to solving the problem is that the side forces of the piston are not at a maximum at the top, where the wear was the greatest, but further down the stroke. I ignored both these signs because of what I—and most other mechanics—knew to be true.

"Several years later, while doing research on diesel engines, I found an SAE research paper on cylinder corrosion during the cold startup of an engine. The essence of the paper was that byproducts of combustion can condense, form acids, and attack lubrication and the cylinder liners underneath. The acids are worse at the top of the cylinder since they are exposed to the wall the longest. There is a critical temperature range of between 100 and 160° F. Above and below that range, less damaging acids are formed.

"Bingo. Chore tractors are started up 365 times a year to get 300 hours on them. Big field tractors are started up 25 times a year to get the same 300 hrs. on them. So engine wear in the big tractors is more truly wear due to hard use. Wear in the smaller engines

is more from corrosion and loss of lubrication.

"What this taught me is that getting longer engine life involves four simple, easy steps:

"1. Maintain the cooling system, including fluid and pressure cap.

"2. Get the engine hot as soon as possible to get through those damaging temperatures. Keep the thermostats working. Cover the radiator with cardboard. Use block heaters or oil pan heaters. I have a stick-on oil pan heater wired together with a block heater on all vehicles. I plug them in at night and have a simple 24 hour timer that comes on an hour before I need the equipment the next day.

"3. Change oil frequently to get the acids and particulate out of the engine.

"4. Always question the 'conventional wisdom'. Like someone said, 'It's not all the things I know that cause me problems, it's the things I know that ain't so.'"

Contact: FARM SHOW Followup, Kevin Johansen, 2148 Basswood Lane, Mound, Minn. 55364.

Portable Lift Makes Small Equipment Work Easy

Here's a handy new lift for anyone who does a lot of work on mowers or has thought about opening a sideline repair shop.

The Heftee 250 is a free-standing service lift that you can roll anywhere inside your shop. It's designed to hold push mowers, chain saws, small engines, and other equipment. It'll handle up to 250 lbs. The base of the unit rests on a U-shaped steel frame.

A pair of channeled lift arms mount on a rotating head that's attached to a vertical steel mast. The arms can be adjusted from 16 to 42 in. wide. A pair of straps secure the equipment to the arms. You crank a handle to raise the arms up to 48 in. high. The arms can be rotated up to 360 degrees to provide optimum visibility and access to any part of the repair item. (There are 12 locking positions, one every 30 degrees).

"It works much like a free-standing fork-lift and requires no in-ground installation at all," says Kelly Johnson, McCanse Engineering, Oregon, Ill. "It eliminates the need to stoop down to the floor to make an adjustment or reposition the equipment on the floor or on the bench top. Separate brackets are



Locking Jaw Adjustable Wrench

It looks like a cross between a vice grips and a crescent wrench.

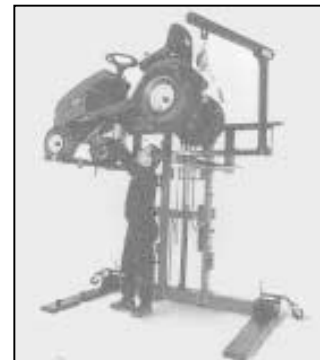
Stanley's new MaxGrip wrench has an adjustable jaw like a crescent wrench. You adjust to fit whatever nut or bolt you're trying to loosen. Then squeeze the locking handle down to tighten the jaws, which have just enough "wobble room" to clamp down tightly.

Sell for about \$25 in stores.

Contact: FARM SHOW Followup, Stanley Works, 1000 Stanley Dr., New Britain, CT 06053.



Free-standing Heftee 250 (above left) can handle push mowers, chain saws, and small engines, and can be fitted with a flat platform for standup work on small equipment. The Heftee 2000 (above right) lifts 2000 lbs. up to 6 ft. high.



required for chain saws, string trimmers, and small engines."

Sells for \$500 plus S&H.

The company also offers two larger electro-hydraulic, push button-operated models that run on 110-volt electricity. The Heftee 2000 can safely lift 2,000 lbs. to any height up to 6 ft., and the Heftee 4000 can accommodate equipment up to 87 in. wide and safely lifts

4,000 lbs. They can be used to lift riding mowers, garden tractors, etc.

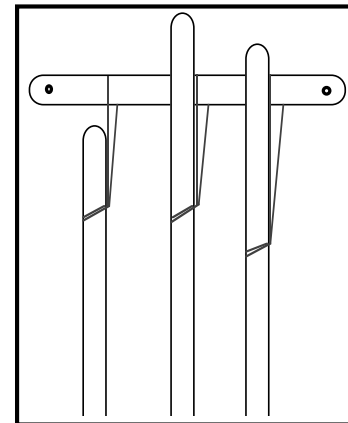
Contact: FARM SHOW Followup, McCanse Engineering, LLC, 107 South Daysville Road, Oregon, Ill. 61061 (ph 800 755-7540 or 815 732-7540; fax 2052; E-mail: mccanse@essex1.com; Website: <http://www.heftee.com>)

Hanging Tools In Shop

Here's a simple way to store garden tools which we spotted in Countryside magazine. A dowel or broomstick is mounted horizontally along the wall. Loops of twine hang from the bar. To hang up shovels, hoes, pitchforks, etc., you make a "slip loop" over the end of the handle. The weight of the tool keeps the twine tight. When you need to use it, just lifting up on the tool releases loosens the twine.

Takes up much less room than hanging tools on nails.

This simple idea for hanging hand tools saves room in shop.





"Tool pallet" is a self-contained shop-on-wheels that slips into pickup with a forklift.



A 90-gal. fuel tank and electric pump topped by a tool chest and light bar mounts at one end of platform, with longer side-mount tool boxes on each side.

Slip-In Tool Pallet Turns Pickup Into "Instant" Service Truck

Twenty-three-year old Eric Richards, Greenwood, Indiana, is a student and a farmer. What that means, he says, is he really can't afford more than one pickup.

Eric owns a Dodge 2500 4-WD. He likes to keep it clean and in good shape for "commuting" to school but he still needs to use it around the farm as a tool/fuel truck to tend to the needs of field equipment.

He and his younger brother, Aaron, solved the problem by building what they call a "tool pallet". It's a self-contained shop-on-wheels that they can slip into the truck with a forklift in minutes.

They started with a couple of 7 1/2-ft. lengths of 1/8-in. thick, 2 1/2 by 6-in. steel tubing. They set these 2 ft. apart to match up with the forks on their forklift. On top of these, the brothers mounted a 7 1/2 by 4-ft. sheet of steel tread plate. At one end of the platform is a 90-gal. fuel tank and electric pump. Atop that, there's a tool chest. Along each side of the tool pallet, they mounted longer side-mount tool boxes. These are located so that when the pallet is slid into the pickup truck bed, they're easily accessible from the side of the truck.

Between the skids, they installed a shallow

drawer that's 3 1/2 ft. long by 2 ft. wide. "This works great for sockets and ratchets," Eric says. "You can only open the drawer when the tailgate is down."

On top of it all, they mounted a light bar, with four off-road lights and a beacon. Inside the left-side toolbox is a work light with magnetic base. The light can be pulled out the back of the toolbox and the cord winds onto a reel mounted inside the box. A fire extinguisher is mounted on this side of the pallet and a grease gun holder is mounted on the back of the right-side toolbox.

They get 12-volt power from the pickup to

the pallet by way of a 7-pin trailer plug.

"It only takes five minutes to put it in or take it out again and everything is right there. It's great for when you need the pickup to run an errand or to haul lumber or something else," says Eric.

The brothers have decided to make a few tool pallets for sale. They'll custom build them to fit anyone's truck. They recently completed one that has an air compressor.

Contact: FARM SHOW Followup, Richards Farms, 110 Bluffdale Drive, Greenwood, Ind. 46142 (ph 317 859-3610 or 317 881-5725; fax 317 882-8131).

Slide-In "Service Bed" Can Also Be Used In Shop

"When we're in the field, we pick it up with a forklift and slip it into the back of our pickup. At other times of the year I mount it on a dolly and use it in my shop," says Dwight Colson, Caledonia, Miss., about his "slide-in service bed".

It consists of a 4 by 8-ft. metal platform fitted with maintenance equipment. It fits snugly between the wheel wells of Colson's pickup. The front end of the platform slides under a permanently-mounted toolbox at the front of the bed.

The slide-in bed is fitted with a portable air compressor, air-operated grease gun, 50-gal. fuel tank, and three 120-lb. grease drums which are lined up against one side of the bed. A big garbage can stands alongside the drums. All of the equipment is secured to brackets welded onto the floor.

"Once the slide-in service bed is inside the bed and the tailgate is shut, it can't move and nothing on top of it can move, either," says Colson. "I spent about \$300 on it, not including my labor. I use the compressor to clean out the air conditioner system on the cotton picker and to operate the grease gun. I had been using ropes to tie the same equipment down inside the pickup bed. The problem was that the equipment still bounced around a lot. One time the air compressor fell over and broke. It cost \$100 to fix.

"I keep the three 120-lb. drums of grease on hand because my cotton picker requires both spindle grease and multi-purpose grease.

It takes about 20 minutes to service a picker with spindle grease using the air-operated grease gun. A drum of spindle grease will last only about five days so I always carry a replacement drum."

Colson used 1/4-in. thick steel plate to make the unit's floor and two 8-ft. long pieces of square tubing to make the skids underneath it. He welded a 4-in. sq. section of channel iron between the two lengths of tubing at both ends and in the middle for reinforcement.

The grease drums mount between a side railing made from 2-in. channel iron and a length of box tubing welded to the floor. The drums are secured with a pair of nylon ratchet straps. A bracket on the railing is used to store the grease gun.

To mount the air compressor he welded a 7-in. high channel iron bracket onto the service bed floor, then removed the compressor wheels and inserted the axle through holes drilled into both brackets. The axle is secured by a cotter pin at each end. A nozzle holder next to one of the brackets is used to store the fuel pump nozzle. The fuel tank has flanges on the bottom and is bolted directly to the floor.

"I plan to add reels for my regular grease gun and for the air compressor hose," notes Colson.

Contact: FARM SHOW Followup, Dwight Colson, 860 Spruill Rd., Caledonia, Miss. 39740 (ph and fax 662 356-6631).



The 4 by 8-ft. metal platform is fitted with a portable air compressor, air-operated grease gun, 50-gal. fuel tank, and three 120-lb. grease drums.



Slide-in "service bed" fits snugly between the wheel wells of Colson's pickup.

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Do-It-Yourself Air Filter Cleaner - After he got frustrated trying to clean air filters on his equipment, an Alberta farmer decided to build his own air filter cleaner that uses a compressor to blow dust out and a large squirrel cage fan to vacuum it away. The filter is placed inside a metal housing. A 2-in. dia. pipe with holes in it blasts air through the filter from inside and a fan sucks the dust away.



Home-Built Silo Gas Exhaust System - "We wanted a way to suck gases out of silos before going in," says an Ontario farmer who designed and built a system that pulls poisonous gases out of silos through the chute. It consists of a commercial 3/4 hp, 12-in. dia., high speed aeration fan from a feed bin and 25 ft. of industrial ductwork. "The first time I flipped the switch, a big cloud of orange chlorine gas was drawn out so I knew it worked."



World's Fastest Tree Planter - The inventor claims this is the world's fastest tree-planting machine. He and two other workers can plant 60,000 cuttings in only one week, compared with 30,000 cuttings in two weeks with four people planting by hand. The machine, which mounts on a utility tractor's 3-pt. hitch, consists of a pair of 5 1/2-ft. dia. wheels with spokes placed 6 in. apart. Slotted spokes accommodate cuttings up to 8 in. long and 1/3-in. in dia. Sliding hammers tap cuttings into the soil.

First-Of-Its-Kind Dump-Style Manure Spreader

- To replace his worn out slinger-style manure spreader, a Wisconsin farmer built a totally unique, hydraulically operated dump-style manure spreader that he says works bet-



ter and should last longer than any commercial model. The inside of the 2,000-gal. tank is sprayed with a slippery plastic so no material sticks to the corners.



Revolutionary Off-Set Baler Makes 8-Ft. Round Bales - You've never seen anything like this big, off-set baler built from scratch by a Canadian farmer on the frame of a pull-type combine. "It makes big 8-ft. long, 5-ft. dia. bales that are just as easy to handle as conventional 5 or 6-ft. bales," says the inventor. "You've got exceptional visibility behind you because it's off to the side and is only 5 ft. high."



"Transplant" Gives New Life To Worn-Out Tractor - When the engine went out on his IH 3788 tractor, a Saskatchewan farmer decided to solve the problem inexpensively by performing a tractor "transplant". Rather than attempt to install the Deutz air-cooled diesel in the IH's engine compartment, he attached the front end of the Deutz onto the IH frame.



He Saves Money By Recycling Twine - A Saskatchewan farmer saves more than \$1,000 per year by recycling plastic twine from the bales he feeds to cattle. He ties the strings together end-to-end and winds them up on empty 2-ft. dia. wooden welding wire spools. When baling, he mounts the spools on a bracket above the twine box on front of his baler.



Combine-Mounted Weed Seed Collector - An Ontario farmer gets rid of weed seeds as he harvests by catching them off the sieves and blowing them into a self-unloading forage wagon that he pulls behind his combine. "It helps reduce weed pressure," he says. A bolt-on steel plate diverts material that falls off the sieves into a high-speed 6-in. dia. auger that's connected to a blower unit mounted alongside the combine.

Combine Harvests Shelled Corn And Stalks

- A Wisconsin farmer uses a New Idea Uni-System harvester to harvest shelled corn and stalks at the same time. It consists of a 4-row corn head fitted with flail choppers, cross auger, and header-mounted blower. The flails shred the stalks and cut them off at the same time. The header-mounted blower sends chopped stalks back into a trailing wagon while a rear-mounted blower delivers cobs, husks, and chaff.



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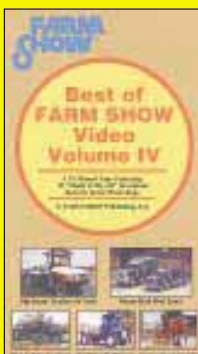
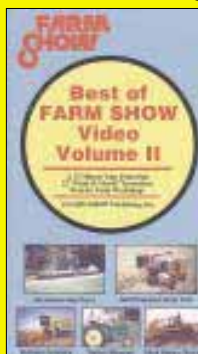
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It took a lot of time and horsepower, but Robert Slayton of Casey, Iowa, was finally able to move this giant "landscape rock" out of a field and 1 1/2 miles down a gravel road to his farm yard. Rock measures about 14 ft. high. It's estimated to weigh 250 to 300 tons.

Humongous Rock Moved From Field To Farmyard

By Mick Lane

When Robert Slayton, Casey, Iowa, went looking for a big rock to accent the landscaping around his house, he remembered the big one in a field he and his father, Donald, had been renting from a neighbor.

"For as long as we've rented the land, we've had to farm carefully over or around that rock," Robert says.

A lot of people were familiar with the rock. A one-room country school once sat just down the hill from it, so local children have played on it for a hundred years or more. The rock, which appears to be granite, was probably transported to the area from Minnesota or Canada on a sheet of glacial ice.

Since only a few square feet of the top were visible, the Slaytons had no idea how big the rock was, but they figured they could dig it up and set it in place in a day or so.

Their neighbor told them they could have the rock if they dug it out. In the early winter of 1998, Donald started moving soil from around it with his D-6 Caterpillar. The more he dug, the more rock he found. He dug for two days with the D-6 without completely exposing the rock. After that, a commercial excavator was hired to finish the job.

When they finally got it uncovered they discovered their "landscape rock" measured about 14 ft. high. By some estimates, it weighs 250 to 300 tons.

"We tried to move it by rolling it, but we just couldn't get it to go over," Robert says. Pushing with their D-6 along with two bigger borrowed Caterpillars, and pulling with a couple of Steigers, they managed to get the rock to the edge of the field in about two weeks. "At first, on a good day, we'd move it about three inches," Robert notes.

From the edge of the field, they still had to go another 1 1/2 miles down a gravel road and over two bridges to get to the farmstead where they hoped to display the rock.

By this time, it was the spring of 1999 and farm work took priority over moving the rock. So it laid there all summer, at the edge of the field, where neighbors could see it and ask regularly about their intentions and question their sanity, too. So many people said they couldn't move it that the Slaytons became determined to prove them wrong.

When the crops were off last fall, they again turned their attention to the rock. They built a skid of 1 1/2-in. thick plate steel that measured about 8 ft. wide by 25 ft. long, figuring if they pushed the rock to the skid, they'd be able to slide it. The weight of the rock, however, bent the skid so that it dug into the ground like a plow when they tried to pull it. With an identical sheet of steel, they doubled the thickness of the skid. This

time, it held the rock without bowing.

It took a couple of Caterpillars - a borrowed D-8 and their own D-6 - to push the rock onto the skid.

They then tried several different ways to move the skid with the rock in place, but without much luck. Chains and cables were no match for the big rock.

What finally worked was a 200-ft. long ship's anchor chain, with links 2 in. thick and 1 ft. long, borrowed from neighbor Dick Hunter. He had also used it to move a rock at one time.

With at least 3 in. of frost in the ground and a fresh 2 in. of snow on the gravel road, December 18, 1999, seemed like the ideal day to move the rock. (That just happened to be the day the Slaytons planned to celebrate Christmas with extended family, and Robert says in retrospect, they might have planned a little better.)

They'd prepared for this day by putting in temporary culverts and fills over the two creeks they had to cross, so they could avoid the bridges. "We knew we couldn't put all those tractors and the rock across them," Robert tells.

With the anchor chain hooked to the skid, they put together a team of "horses" big enough to get the job done. Directly in front of the rock hooked together in single file was a D-8, a D-7, four older model Steiger 4x4s, and in the lead a brand new Deere 9200 4x4, loaned to them by their dealer Faga Jorgenson. With those seven tractors pulling (close to 3,000 hp in all) and the D-6 and D-8 pushing from behind, they headed down the road - in low gear all around. When it was possible, they pulled the rock off the road onto adjacent fields. It was easier going there, and not as hard on the roadbed.

Behind all that horsepower, the rock had no choice but to move. On the level, they could get up some speed, but the last several hundred yards was all up hill.

An Adair county deputy brought up the rear, with his lights flashing to warn off anyone who might have wanted to use the road at the time.

When it was over, the rock was put on display in a grove of trees near the Slaytons' machine shed. They built a driveway around it so people could come and look. And Robert climbed to the top and mounted a cross there. "Once we saw how big it was, we decided it really didn't belong where we originally planned to put it. But we weren't about to put it back," Robert says.

To thank all the friends and neighbors who helped move the rock, the Slaytons held an open house and dinner on December 31.



Pushing with their D-6 along with two bigger borrowed Caterpillars, and pulling with a couple of Steigers, they managed to get rock to edge of field in about two weeks.

"We had a lot of help. The bigger Caterpillars were borrowed from Chuck Cummins, who operates Cummins Construction in nearby Fontanelle. Once he saw what we were doing, Chuck wanted to move that rock as much as we did. Stanley Kading, Casey, L&K Tile, Elkhorn and Double L Construction, Menlo, also loaned Caterpillars. In all, nearly 100 people were involved in this project. We broke a few chains and cables and had a few other mishaps, but not one

person was hurt," Robert says.

To view the rock, take exit 83 off of Interstate 80 in western Iowa, about halfway between Des Moines and Omaha, Nebraska. Go north to Casey. Go west on old U.S. Hwy 6 for 2.5 miles and then 2.5 miles south on a gravel road.

Contact: FARM SHOW Followup, Robert Slayton, 1808 130th Street, Casey, IA 50048.



With seven tractors pulling and a D-6 and D-8 pushing from behind (about 3,000 hp in all), they headed down the road - in low gear all around.

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