UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SYNGENTA CROP PROTECTION AG,
Petitioner,

v.

UPL LTD,
Patent Owner.

Case PGR2023-00017
Patent 11,445,727

DECLARATION OF CAIO PRATES OF SYNGENTA CROP PROTECTION AG

SYNGENTA EXHIBIT 1020
Syngenta v. UPL, PGR2023-00017

I, Caio Prates, hereby declare as follows:

1. My name is Caio Prates and I am an employee of Syngenta Crop Protection AG, where I have worked for almost 12 years. My current position is Fungicides Technical Manager at Syngenta Crop Protection AG, São Paulo, Brazil.

2. I make this declaration based upon personal knowledge. I am over the age of 21 and otherwise competent to make this declaration.

3. My responsibilities at Syngenta Corp Protection AG ("Syngenta") are management of the fungicide team and also being responsible for new fungicides development. This involves a lot trials and methods involved in testing chemical compounds to determine if they exhibit relevant fungicidal activity.

4. Syngenta attempted to duplicate the tests in U.S. Patent 11,445,727, as well as other combinations claimed in the '727 Patent. The protocol was as follows.

Field Test – 1 (2020/2021)

5. A field test was prepared with the following materials and methods:

Varieties:
M8372 IPRO, NS7667 IPRO, NA5909 RR

Trial Design:
Compl. rand. Blocks in 4 reps; plot size 18 m^2

Equipment:
Backpack: 150L/ha, flat nozzle, 30 lbs.

Application Timing:

A – Canopy pre closure (42 DAE of average)
B – 14 days after application A
C – 14 days after application B

Assessment:

% Severity – at 0, 7, 14, 21, 28, 35, 42 and 49 DAAA
% Phytotoxicity – 7, 14 Days after all applications
% Defoliation
Yield (kg/ha)

6. The trial program is summarized in Table 1.

Table 1

#	**Place (Brazil)**	**Variety**	**Planting Date**	**Target**
1	Area 1	M 8372 IPRO	Dec-08-2020	*P. pachyrhizi*
2	Area 2	NS7667 IPRO	Nov-25-2020	*P. pachyrhizi*
3	Area 3	NA 5909 RR	Dec-21-2020	*P. pachyrhizi*
4	Area 4	M 8372 IPRO	Dec-05-2020	*P. Pachyrhizi*

** Trial 4 contained *E. Piffusa* as an additional target.

7. Treatments were applied as described in Table 2, below. Solo applications (A1-A3 and A5-A7) were used to calculated synergy.

Table 2

#	**Active Ingredient**	**Rate (g a.i./ha)**	**% Control**
A1	Benzovindiflupyr	30	36
A2	Prothioconazole	70	65
A3	Mancozeb	900	48
A4	Benzovindiflupyr	30	74
	Prothioconazole	70	
	Mancozeb	900	
A5	Benzovindiflupyr	200	55
A6	Prothioconazole	150	71
A7	Mancozeb	1500	55
A8	Benzovindiflupyr	200	79
	Prothioconazole	150	
	Mancozeb	1500	
A9	Benzovindiflupyr + Prothioconazole	33.8 + 67.5	75
	Mancozeb	900	
A10	Benzovindiflupyr + Prothioconazole + Mancozeb	30 + 70 + 900	74

8. Table 3 summarizes results of the testing.

Table 3

#	Active Ingredient	Rate g a.i /ha	Isolated A.I. % Control for Expected Action Calculation	Expected Action (by Colby)	Rust (%Control Observed)	Difference Between Observed and Expected
A4	Benzovindiflupyr + Prothioconazole + Mancozeb	30 + 70 + 900	**36** **64** **48**	**89**	**74**	**-15**
A9	Benzovindiflupyr + Prothioconazole + Mancozeb	33.8 + 67.5 + 900	**36** **64** **48**	**89**	**75**	**-14**
A10	Benzovindiflupyr + Prothioconazole + Mancozeb	30 + 70 + 900	**36** **64** **48**	**89**	**74**	**-15**
A8	Benzovindiflupyr + Prothioconazole + Mancozeb	200 + 150 + 1500	**55** **71** **55**	**94**	**79**	**-15**

Field Test – 2 (2021/2022)

9. A field test was prepared with the following materials and methods:

Varieties:
M 7739, NA 5909, HO Aporé and M 8372

Trial Design:
Compl. rand. Blocks in 4 reps; plot size 18 m^2

Equipment:
Backpack: 150L/ha, flat nozzle, 30 lbs.

Application Timing:
A – Canopy pre closure (42 DAE of average)
B – 14 days after application A
C – 14 days after application B

Assessment:
% Severity – at 0, 7, 14, 21, 28, 35, 42 and 49 DAAA
% Phytotoxicity – 7, 14 Days after all applications
% Defoliation
Yield (kg/ha)

10. The trial program is summarized in Table 4.

Table 4

#	Place (Brazil)	Variety	Planting Date	Target
1	Area 4	M 7739	Dec-03-2021	*P. pachyrhizi*
2	Area 5	NA 5909	Dec-22-2021	*P. pachyrhizi*
3	Area 6	HO Aporé	Dec-29-2021	*P. pachyrhizi*
4	Area 7	M 8372	Dec-01-2021	*P. Pachyrhizi*

11. Treatments were applied as described in Table 5, below. Solo applications (B1-B6) were used to calculated synergy.

Table 5

#	**Active Ingredient**	**Rate (g a.i./ha)**	**% Control**
B1	Benzovindiflupyr	30	55
B2	Prothioconazole	70	67
B3	Cyproconazole	45	55
B4	Difenoconazole	75	54
B5	Mancozeb	1125	61
B6	Azoxystrobin	60	52
B7	Benzovindiflupyr + Azoxystrobin	30 + 60	69
	Mancozeb	1125	
B8	Benzovindiflupyr + Cyproconazole + Difenoconazole	30 + 45 + 75	69
	Mancozeb	1125	
B9	Benzovindiflupyr + Prothioconazole	33.8 + 67.5	76
	Mancozeb	1125	
B10	Benzovindiflupyr	30	76
	Prothioconazole	70	
	Mancozeb	1125	

12. Table 6 summarizes results of the testing.

Table 6

#	Active Ingredient	Rate g a.i /ha	Isolated A.I. % Control for Expected Action Calculation	Expected Action (by Colby)	Rust (%Control Observed)	Difference Between Observed and Expected
B7	Benzovindiflupyr + Azoxystrobin + Mancozeb	30 + 60 + 1125	**55** **52** **61**	**92**	**69**	**-23**
B8	Benzovindiflupyr + Cyproconazole + Difenoconazole + Mancozeb	30 + 45 + 75 + 1125	**55** **55** **53** **61**	**96**	**69**	**-27**
B9	Benzovindiflupyr + Prothioconazole + Mancozeb	33.8 + 67.5 + 1125	**55** **67** **61**	**94**	**76**	**-18**
B10	Benzovindiflupyr + Prothioconazole + Mancozeb	30 + 70 + 1125	**55** **67** **61**	**94**	**76**	**-18**

13. This data is a true and correct representation of the results of internal testing.

14. I have reviewed the data shown above and confirm that the were tested using the process described above. I can also confirm that the disease control percent observed was insufficient to meet the synergy as defined by the Colby Formula.

15. I recognize that in providing this Declaration, it may be used as evidence in the above-captioned proceeding. I accordingly agree to appear for cross-examination within the scope of this Declaration and at a convenient time should the same be requested.

16. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Date: January 30, 2023

Signature: 

São Paulo, Brazil
City/State Country
At: if outside of the US

Caio Barbosa Prates
CPD Fungicide Manager Brazil
Syngenta Crop Protection AG