FINAL REPORT ET008/12

Maize fertilizer activity evaluation of products FORMULA A "UMOSTART CEREAL" LIKE and FORMULA B "UMOSTART CEREAL"LIKE

According to EPPO guidelines
Biotecnologie BT Internal Methods

STUDY DIRECTOR

Monica Colli

DATE: 10TH JULY 2012

SPONSOR

Fondazione Lang Italia
P.zza S.Ambrogio, 2
20123 Milano
ITALY

TEST FACILITY

BIOTECNOLOGIE BT S.r.l.
Fraz. Pantalla
06059 Todi
Perugia
ITALY

Contents

1. STUDY OBJECTIVE

The fertilizer activity of the products FORMULA A "UMOSTART CEREAL" LIKE and FORMULA B "UMOSTART CEREAL" LIKE on maize plants was evaluated by an extended laboratory test in the greenhouse.
Before sowing, the pots were treated with the test items. The assessment (fresh shoot weight) was performed at 7 days after sowing.

2. MATERIALS AND METHODS

2.1 Test items, reference item and control

The test was carried out at the following application rates (Table 1).

Table 1: Trials Layout

TREATMENT	Application rates	Volume of treatment
Untreated control	0.00	400 L/ha
FORMULA A "UMOSTART CEREAL" LIKE	100 mL	400 L/ha
FORMULA A "UMOSTART CEREAL" LIKE	300 mL	400 L/ha
FORMULA A "UMOSTART CEREAL" LIKE	600 mL	400 L/ha
FORMULA B "UMOSTART CEREAL" LIKE	100 mL	400 L/ha
FORMULA B "UMOSTART CEREAL" LIKE	300 mL	400 L/ha
FORMULA B "UMOSTART CEREAL" LIKE	600 mL	400 L/ha
UMOSTART CEREAL	75 g	400 L/ha

For each trial, 10 pots with 1 seed each were tested.

2.2 Method

The applications were performed by spraying the pots. The reference standard was applied during sowing. The treated pots were placed on a bench top under greenhouse conditions.

2.3.1 Application of the products

The two test items were applied (undiluted) with spraying equipment. The spray equipment was calibrated before the application by adjusting the spraying pressure, application speed and type of nozzle to provide an output of 400 L ± 10% per ha. After the calibration the pots were sprayed.

2.3.2 Experimental test conditions

The test was carried out at the following conditions:

- temperature: 25.00 ± 3.00 °C
- humidity: 50 – 70%
- photoperiod: 16 h light and 8 h darkness

3. RESULTS

The results of the study are reported in the following table.

Tables 2: Fertilizer activity of the test items

TREATMENT	Application rates	% of weight increase
Untreated control	0.00	===
FORMULA A "UMOSTART CEREAL" LIKE	100 mL	-0.26
FORMULA A "UMOSTART CEREAL" LIKE	300 mL	-1.56
FORMULA A "UMOSTART CEREAL" LIKE	600 mL	3.51
FORMULA B "UMOSTART CEREAL" LIKE	100 mL	-0.26
FORMULA B "UMOSTART CEREAL" LIKE	300 mL	1.69
FORMULA B "UMOSTART CEREAL" LIKE	600 mL	4.03
UMOSTART CEREAL	75 g	9.87*

*the mean difference is significant at the 0.05 level for Dunnett's test

4. CONCLUSIONS

Based on the results obtained during the test, it can possible to conclude that the products **FORMULA A "UMOSTART CEREAL" LIKE** and **FORMULA B "UMOSTART CEREAL" LIKE** had no statistically significant maize starter fertilizer activity.

Study Director

Monica

Date

10th July 2012

BioTecnologie B.T. s.r.l.
Fraz. Pantalla
06059 Todi (Perugia) ITALIA
Partita IVA 02384950545

FINAL REPORT ET007/12

Efficacy evaluation of products FORMULA A "BUGGY" LIKE and FORMULA B "BUGGY"LIKE on the control of the weed *Avena spp.*

According to EPPO guidelines
Biotecnologie BT Internal Methods

STUDY DIRECTOR

Monica Colli

DATE: 10TH JULY 2012

SPONSOR

Fondazione Lang Italia
P.zza S.Ambrogio, 2
20123 Milano
ITALY

TEST FACILITY

BIOTECNOLOGIE BT S.r.l.
Fraz. Pantalla
06059 Todi
Perugia
ITALY

Contents

1. STUDY OBJECTIVE

The efficacy of the products FORMULA A "BUGGY" LIKE and FORMULA B "BUGGY" LIKE on the control of the weed *Avena spp.* was evaluated by an extended laboratory test in the greenhouse.
The aim of the extended laboratory test was to evaluate the efficacy of the test items in weeds control.
Plants of the species *Avena spp.* were treated with the samples and the assessment (mortality) was performed at 7 days after treatment.

2. MATERIALS AND METHODS

2.1 Test items, reference item and control

The test was carried out at the following rates (Table 1).

Table 1: Trials Layout

TREATMENT	Application rates	Volume of treatment
Untreated control	0.00	400 L/ha
FORMULA A "BUGGY" LIKE	100 mL	400 L/ha
FORMULA A "BUGGY" LIKE	300 mL	400 L/ha
FORMULA A "BUGGY" LIKE	600 mL	400 L/ha
FORMULA B "BUGGY" LIKE	100 mL	400 L/ha
FORMULA B "BUGGY" LIKE	300 mL	400 L/ha
FORMULA B "BUGGY" LIKE	600 mL	400 L/ha
BUGGY	3.75 mL	400 L/ha

For each trial, 10 pots with 1 plant each were tested.

2.2 Test plants

Wild plants were used as test system. The plants used in the study came from the field.

2.3 Method

The applications were performed by spraying the plants. The treated pots were placed on a bench top under greenhouse conditions.

2.3.1 Application of the products

The products were applied (undiluted) with spraying equipment. The spray equipment was calibrated before the application by adjusting the spraying pressure, application speed and type of nozzle to provide an output of 400 L ± 10% per ha. After the calibration the plants were sprayed.

2.3.2 Experimental test conditions

The test was carried out at the following conditions:

- temperature: 25.00 ± 3.00 °C
- humidity: 50 – 70%
- photoperiod: 16 h light and 8 h darkness

3. RESULTS

The efficacy results in *Avena spp.* control are reported in the following tables.

Tables 2: Efficacy of the test items in *Avena spp.* control at 7 days after treatment

TREATMENT	Application rates	N° of dead plants	% Efficacy
Untreated control	0.00	0	===
FORMULA A "BUGGY" LIKE	100 mL	1	**10.00**
FORMULA A "BUGGY" LIKE	300 mL	0	**0.00**
FORMULA A "BUGGY" LIKE	600 mL	0	**0.00**
FORMULA B "BUGGY" LIKE	100 mL	0	**0.00**
FORMULA B "BUGGY" LIKE	300 mL	0	**0.00**
FORMULA B "BUGGY" LIKE	600 mL	0	**0.00**
BUGGY	3.75 mL	9	**90.00***

*the mean difference is significant at the 0.05 level for Dunnett's test

4. CONCLUSIONS

Based on the results obtained during the test, it can possible to conclude that the products **FORMULA A "BUGGY" LIKE** and **FORMULA B "BUGGY" LIKE** had no efficacy in the control of the weed *Avena spp.*.

Study Director

Monica Dalla

Date

10th July 2012

BioTecnologie B.T. s.r.l.
Fraz. Pantalla
06059 Todi (Perugia) ITALIA
Partita IVA C.F. 03950545

FINAL REPORT ET006/12

Efficacy evaluation of products FORMULA A "TREBON" LIKE and FORMULA B "TREBON"LIKE against the Black Bean Aphid *Aphis fabae* Scopoli (Homoptera: Aphididae).

According to EPPO guidelines
Biotecnologie BT Internal Methods

STUDY DIRECTOR

Monica Colli

DATE: 10TH JULY 2012

SPONSOR

Fondazione Lang Italia
P.zza S.Ambrogio, 2
20123 Milano
ITALY

TEST FACILITY

BIOTECNOLOGIE BT S.r.l.
Fraz. Pantalla
06059 Todi
Perugia
ITALY

Contents

Efficacy evaluation of products FORMULA A "TREBON" LIKE and FORMULA B "TREBON"LIKE against the Black Bean Aphid *Aphis fabae* Scopoli (Homoptera: Aphididae).

1. STUDY OBJECTIVE

The efficacy of the products FORMULA A "TREBON" LIKE and FORMULA B "TREBON" LIKE on the colonisation of the Black Bean Aphid, *Aphis fabae* Scopoli (Homoptera: Aphididae) was evaluated by an extended laboratory test in the greenhouse.
Broad bean plants, infested by aphids, were treated with the samples and the assessments (mortality of the treated aphids) were performed at 24 and 48 hours after treatment.

2. MATERIALS AND METHODS

2.1 Test items, reference item and control

The test was carried out at the following rates.

Table 1: Trials Layout

TREATMENT	Application rates	Volume of treatment
Untreated control	0.00	400 L/ha
FORMULA A "TREBON" LIKE	100 mL	400 L/ha
FORMULA A "TREBON" LIKE	300 mL	400 L/ha
FORMULA A "TREBON" LIKE	600 mL	400 L/ha
FORMULA B "TREBON" LIKE	100 mL	400 L/ha
FORMULA B "TREBON" LIKE	300 mL	400 L/ha
FORMULA B "TREBON" LIKE	600 mL	400 L/ha
TREBON UP	15 mL	400 L/ha

For each trial, 5 pots infested by 10 aphids each, were used.

2.2 Test system

10 adults of *Aphis fabae* per plant were used as test system. The organisms used in the study were healthy and came from the laboratory rearing of the testing facility.

2.3 Method

The broad bean plants used as test units were been grown under environmentally controlled conditions, in the test facility for 7 days. Before the applications the plants were infested by 10 adult aphids.

2.3.1 Application of the products

The products were applied (undiluted) with spraying equipment. The spray equipment was calibrated before the application by adjusting the spraying pressure, application speed and type of nozzle to provide an output of 400 L ± 10% per ha. After the calibration the plants were sprayed.

2.3.2 Experimental test conditions

The test was carried out at the following conditions:

- temperature: 25.00 ± 3.00 °C
- humidity: 50 – 70%
- photoperiod: 16 h light and 8 h darkness

3. RESULTS

The results are reported in the following tables.

Tables 2: Aphids mortality at 24 hours after treatment

TREATMENT	Application rates	% Mortality at 24 hours	% Mortality at 48 hours
Untreated control	0.00	**0.00**	**13.00**
FORMULA A "TREBON" LIKE	100 mL	**0.00**	**0.00**
FORMULA A "TREBON" LIKE	300 mL	**0.00**	**0.00**
FORMULA A "TREBON" LIKE	600 mL	**0.00**	**16.00**
FORMULA B "TREBON" LIKE	100 mL	**0.00**	**0.00**
FORMULA B "TREBON" LIKE	300 mL	**0.00**	**0.00**
FORMULA B "TREBON" LIKE	600 mL	**80.00**	**80.00***
TREBON UP	15 mL	**100.00**	**100.00***

*the mean difference is significant at the 0.05 level for Dunnett's test

4. CONCLUSIONS

Based on the results obtained during the test, it can possible to conclude that the product **FORMULA A "TREBON" LIKE** had no efficacy against the aphids *Aphis fabae* Scopoli.
The product **FORMULA B "TREBON" LIKE** showed a good efficacy when applied 6 times as such; however the test item **FORMULA B "TREBON" LIKE** is 40 times less efficacy than the standard **TREBON UP**.

Study Director

Monica Dalla

Date

10th July 2012

BioTecnologie B.T. s.r.l.
Fraz. Pantalla
06059 Todi (Perugia) ITALIA
Partita IVA 02384950545