APPLIED PLANT RESEARCH
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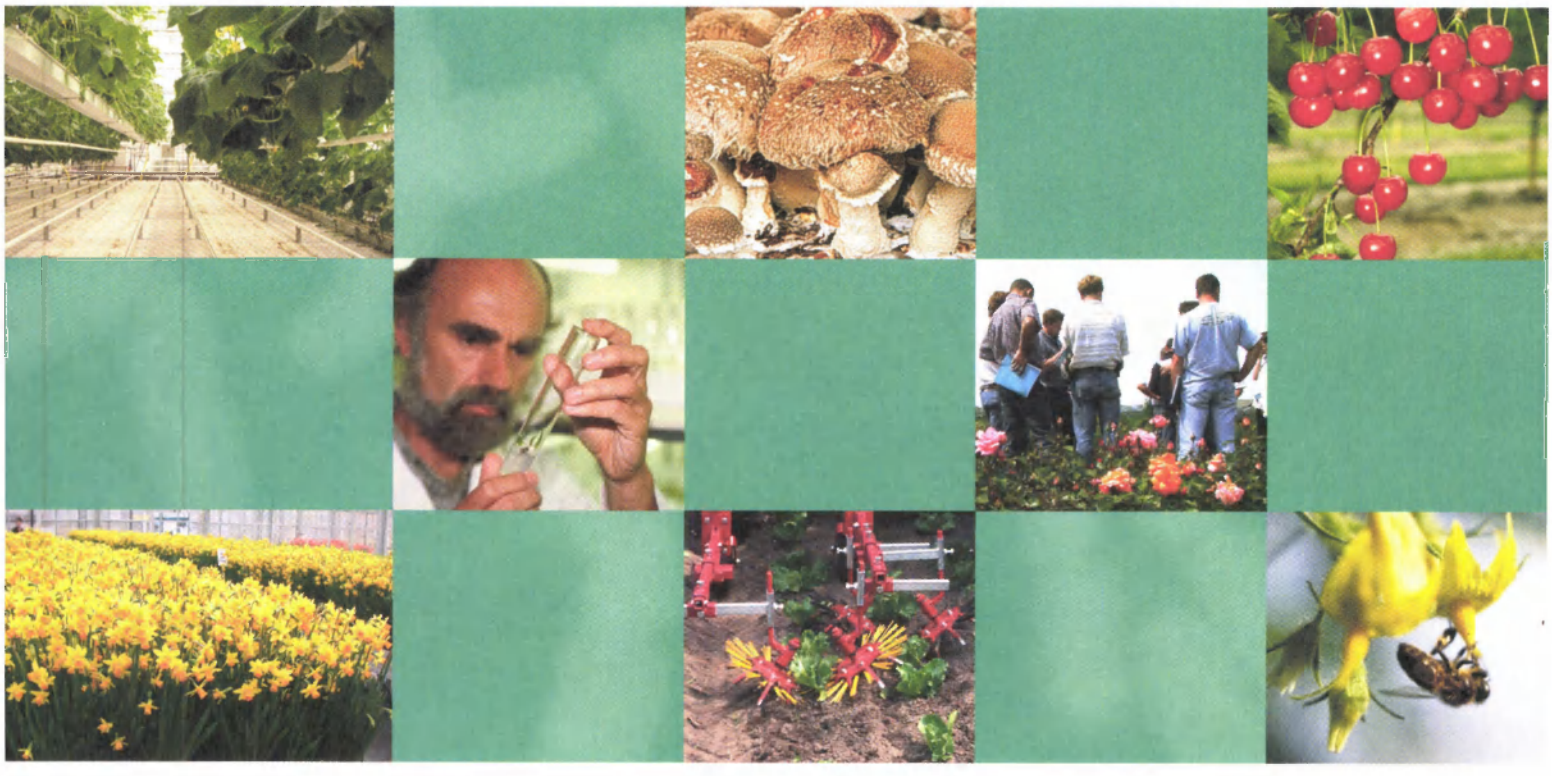
# Effect of Pendimethalin 400WG in lilies and tulips

## Comparative field-trial of two pendimethalin formulations

A.Th.J. Koster, J.P.M. Wijnker



Applied Plant Research
Research Unit Flowerbulbs
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PPO no. 32 340159 00

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Project no. 3234015900

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# 1 Introduction

In 2005-2006 by order of Maktheshim-Agan Benelux & Nordic (Mabeno) a study has been conducted to compare two pendimethalin formulations. The research was conducted in the bulbous crops tulip and lily. It consisted of three field trials in each crop in which the pendimethalin was applied and greenhouse trials of each experiment to see if the field applications had an influence on the flower quality of the bulbous crops. The glasshouse trials will be reported separately. The aim is to compare efficacy and selectivity of a pendimethalin formulation from Mabeno with the commercial formulation of pendimethalin Stomp.
These GEP-trials were conducted according the EPPO-guidelines (PP 1/88 (2)).
In chapter 2 the experiments in tulips are described. The experiments in lily are described in chapter 3.
In chapter 4 conclusions are made, based on the results. In the appendices the data of the trials are presented.

# 2 Field-trials in Tulips

## 2.1 General information

| | | |
|---|---|---|
| Project number/Trial number | : | 3234015900 / H06t2, H06t3, H06t4 |
| Title/ aim or Goal | : | Comparison of two formulations of pendimethalin on weed control and phytotoxicity in the culture of tulip and lilies |
| Project leader | : | A.Th.J. Koster |
| Project member(s) | : | J.P.M. Wijnker, H. van Aanholt, C. Bakkum |
| Experimental Description | : | 15/10/2005 |
| Standard Operating Procedures | : | SOP02, SOP03, SOP04, SOP06, SOP07 |

## 2.2 Experimental Lay-out

### 2.2.1 Experimental data

| | | |
|---|---|---|
| 1. | Crop | : Tulip |
| | - cultivar | : Christmas Marvel (H06t2)<br>Negritta (H06t3)<br>Christmas Dream (H06t4) |
| | - plant size | : 9-10 |
| | -Pretreatment bulbs | : no |
| | -Standard disinfection bulbs | : yes |
| 2. | Disease-, pest-, weed pressure | : weed |
| | -natural occurrence | : yes |
| | - artificially | : |
| | *Inoculation method (of infection) | : |
| | * Amount | : |
| 3. | Location | |
| | - greenhouse/field | : field,<br>PPO B&B Lisse (H06t2);<br>Floratuin Julianadorp (H06t3),<br>PPO AGV Lelystad (H06t4) |
| | - soil type | : sandy soil in Lisse and Julianadorp and clay soil in Lelystad |
| | - previous crop | : |
| | - standard fumigation of soil disinfection | : no* |
| | **if yes, name chemical and dosis | : |
| 4. | Plot size (brutto area/surface.) | : 3.375 $m^2$ |
| | - netto surface. | : 1.5 $m^2$ |
| | -number of bulbs | : 160 |
| | - plant weight | : Christmas Marvel (H06t2): 1920 g,<br>Negritta (H06t3): 2410 g<br>Christmas Dream (H06t4): 2350 g |
| | - number of replications | : 4 |

5. trial data
- infection : n/a
- soil treatment(s) : n/a
- chemical application : see § 2.2.2
- planting date(s) : H06t2: 17 November 2005
  H06t3: 15 November 2005
  H06t4: 22 November 2005
- plant depth : 10 cm

6. Observations
I. Efficacy :
- crop damage : yes
- bulb damage : no
- root damage : no
- yield : yes
- plant weight (flower production) : no
- plant length (flower production) :
- % bloom :

II. Phytotoxicity :
- emergence : yes
- stand (crop) : yes
- % bloom (color) : no
- die back or decrease : yes
- yield : yes

Observation scales 'fytotox.' : 0-10 scales, where 0 =none or bad, 10 = 100% affected or excellent

idem, efficacy : 0-10, where 0 = 100% diseased or no effect, 10 = healthy of 100% control

7. Remarks or notes :

8. Exceptions :

9. additional information :

## 2.2.2 Treatments

**1. Number of treatments and coding (assigned treatment number)**

| Trt.# | product | Name active ingredient (a.i.) | % a.i. | Formulation | Dose in kg, l/ha or % | Mode of application/ timing |
|---|---|---|---|---|---|---|
| 1. | Untreated check | -- | -- | -- | -- | -- |
| 2. | Untreated weeded | -- | -- | -- | -- | -- |
| 3. | Stomp* | Pendimethalin | 400 g/l | SC | 2 | Spray, Pre emergence |
| 4. | Pendim. 400WG** | Pendimethalin | 400 g/kg | WG | 2 | Spray, Pre emergence |
| 5. | Stomp | Pendimethalin | 400 g/l | SC | 4 | Spray, Pre emergence |
| 6. | Pendim. 400WG | Pendimethalin | 400 g/kg | WG | 4 | Spray, Pre emergence |
| 7. | Stomp | Pendimethalin | 400 g/l | SC | 2 | Spray, After emergence |
| 8. | Pendim. 400WG | Pendimethalin | 400 g/kg | WG | 2 | Spray, After emergence |
| 9. | Stomp | Pendimethalin | 400 g/l | SC | 4 | Spray, After emergence |
| 10. | Pendim. 400WG | Pendimethalin | 400 g/kg | WG | 4 | Spray, After emergence |

Batchnr Stomp: 06-01--296868
Batchnr. Pendimethalin 400 WG: FSG 01098 H / 0XX040008

2. **Application of treatment**

Spraying:

-sprayer type : Veeze hand-held sprayer with 3 nozzles
- nozzle type : Lechler AD110 03 VS
- pressure : 3 bar
- volume : 800 l/ha
- Spraying-surface : 2,25 m x 1,25 m

| Trt. nr. | Treatment | Desired quantity in in spray mixture in l/treatment | Amount product needed to be measured in ml/g | Amount of spraymixture (carrying fluid) in l/treatment |
|---|---|---|---|---|
| 1. | Untreated check | -- | -- | -- |
| 2. | Untreated weeded | -- | -- | -- |
| 3. | Stomp | 1000 ml | 2.5 | 900 ml |
| 4. | Pendim. 400WG | 1000 ml | 2.5 | 900 ml |
| 5. | Stomp | 1000 ml | 5 | 900 ml |
| 6. | Pendim. 400WG | 1000 ml | 5 | 900 ml |
| 7. | Stomp | 1000 ml | 2.5 | 900 ml |
| 8. | Pendim. 400WG | 1000 ml | 2.5 | 900 ml |
| 9. | Stomp | 1000 ml | 5 | 900 ml |
| 10. | Pendim. 400WG | 1000 ml | 5 | 900 ml |

Spraying date:

**H06t2**

20 February 2006; treatment 3 through 6
16 March 2006; treatment 7 through 10

**H06t3**

27 February 2006; treatment 3 through 6
17 march 2006; treatment 7 through 10

**H06t4**

20 February 2006; treatment 3 through 6
16 March 2006; treatment 7 through 10

### 2.2.3 Plot Plan

**H06t2**

| | A - repetition | B- repetition | C- repetition | D- repetition | |
|---|---|---|---|---|---|
| | **7** | **7** | **6** | **7** | |
| | **8** | **4** | **4** | **3** | |
| | **5** | **5** | **3** | **8** | |
| | **6** | **3** | **8** | **1** | |
| | **2** | **9** | **5** | **10** | |
| | **9** | **1** | **10** | **4** | |
| | **10** | **6** | **1** | **5** | |
| | **1** | **10** | **9** | **2** | |
| | **4** | **2** | **2** | **6** | |
| | **3** | **8** | **7** | **9** | |

**H06t3**

| | A- repetition | B- repetition | C- repetition | D- repetition | |
|---|---|---|---|---|---|
| | **10** | **10** | **6** | **6** | |
| | **9** | **1** | **8** | **8** | |
| | **4** | **3** | **4** | **4** | |
| | **3** | **5** | **10** | **1** | |
| | **6** | **8** | **2** | **5** | |
| | **2** | **4** | **7** | **9** | |
| | **1** | **2** | **9** | **7** | |
| | **8** | **7** | **1** | **2** | |
| | **7** | **9** | **3** | **10** | |
| | **5** | **6** | **5** | **3** | |

**H06t4**

| | A- repetition | B- repetition | C- repetition | D- repetition | |
|---|---|---|---|---|---|
| | **10** | **9** | **2** | **7** | |
| | **2** | **10** | **1** | **6** | |
| | **1** | **3** | **9** | **3** | |
| | **4** | **1** | **3** | **5** | |
| | **5** | **8** | **6** | **1** | |
| | **7** | **7** | **8** | **2** | |
| | **6** | **6** | **5** | **9** | |
| | **9** | **5** | **7** | **10** | |
| | **3** | **4** | **4** | **4** | |
| | **8** | **2** | **10** | **8** | |
| | | | | | |

## 2.3 Results

All results were analysed with ANOVA Genstat version 8.1

### 2.3.1 Weed control

Table 1 shows the number of weeds counted in the three trials in tulip. The weeds were counted at the end of the growing season, mid June.

Table 1: The average number of weeds per treatment per plot (1,5 $m^2$) of the trial in tulip in Lisse, Julianadorp and Lelystad.

| Behandeling | | | No. of weeds in the trial in | | |
|---|---|---|---|---|---|
| | Dose | Timing | Lisse (H06t2) | Julianadorp (H06t3) | Lelystad (H06t4) |
| 1. Untreated | - | | 30.2 a | 47.25 a | 3.25 a |
| 2. Untreated, weeded | - | | 26.0 a | n.t. | n.t. |
| 3. Pendimethalin 400WG | 2 kg/ha | pe | 6.0 b | 23.25 b | 0.75 bc |
| 4. Stomp | 2 l/ha | pe | 8.8 b | 21.75 bc | 1.00 bc |
| 5. Pendimethalin 400WG | 4 kg/ha | pe | 1.8 b | 19.75 bcd | 0.25 c |
| 6. Stomp | 4 l/ha | pe | 3.3 b | 17.00 cde | 0.50 bc |
| 7. Pendimethalin 400WG | 2 kg/ha | ae | 6.8 b | 16.50 cde | 1.50 b |
| 8. Stomp | 2 l/ha | ae | 8.5 b | 16.25 cde | 1.50 b |
| 9. Pendimethalin 400WG | 4 kg/ha | ae | 2.8 b | 13.75 de | 0.25 c |
| 10. Stomp | 4 l/ha | ae | 1.8 b | 13.50 e | 0.00 c |

*) pe = pre-emergence treatment; ae = after emergence treatment

In the trial in Lisse there is only an effect of spraying compared to no spraying.
The results of Julianadorp suggest there is an effect of dose and timing, but these differences are not significant. There is no difference between the two formulations.

In Lelystad there is also no difference between the two formulations. There is an effect of dosage after emergence, although the number of weeds is small. This effect was not found when the herbicides were applied pre emergence.

### 2.3.2 Crop growth

During the growth season the crop standing was assessed three times. There were no differences in crop stand found.
After harvesting the bulbs were counted and weighed. The results are shown in table 2.

Table 2: The average total harvested weight (in g) per treatment per plot of the trails with tulip in Lisse, Julianadorp and Lelystad.

| Treatment | | | Total harvested weight (gr) tulip in | | |
|---|---|---|---|---|---|
| | Dose | Timing* | Lisse (H06t2) | Julianadorp (H06t3) | Lelystad (H06t4) |
| 1. Untreated | - | | 5607 ab | 5770 | 5686 |
| 2. Untreated, weeded | - | | 5814 a | 6024 | 5478 |
| 3. Pendimeth. 400WG | 2 kg/ha | pe | 5803 a | 5940 | 5826 |
| 4. Stomp | 2 l/ha | pe | 5768 ab | 6232 | 5771 |
| 5. Pendimeth. 400WG | 4 kg/ha | pe | 5625 ab | 5742 | 5565 |
| 6. Stomp | 4 l/ha | pe | 5567 bc | 5941 | 5545 |
| 7. Pendimeth. 400WG | 2 kg/ha | ae | 5670 ab | 5982 | 5682 |
| 8. Stomp | 2 l/ha | ae | 5730 ab | 5821 | 5589 |
| 9. Pendimeth. 400WG | 4 kg/ha | ae | 5358 d | 5930 | 5650 |
| 10. Stomp | 4 l/ha | ae | 5387 cd | 6061 | 5393 |
| *F.prob* | | | *<0.001* | *0.319* | *0.970* |
| *L.S.D.* | | | *208.0* | *n.s.* | *n.s.* |

*) pe = pre-emergence treatment; ae = after emergence treatment

In the trials in Julianadorp and Lelystad no effects of the treatments on the harvested weight were found. In Lisse there was an effect. High dosages of both formulations that were sprayed after emergence of the tulips gave yield-loss. There were no differences in yield between the two formulations applied in the same dose on the same time.
A possible cause of the yield loss in the high doses applied after emergence can be the soil-type in Lisse (H07t2). This is a coarse-grained sandy soil with low organic matter, which are very susceptible for rinsing in of herbicides applied on the soil.
Another difference in this trail compared to the other trials were the bulbs used in this trial. They splitted up extremely. Tulips normally form one or two big, saleable, bulbs and two to three small(ler) bulbs. These smaller bulbs are used as planting material for next season. Normally this planting material makes up 30% of the yield-weight, with the bulbs used in this experiment it was 80%. Maybe these bulbs are more susceptible for soil herbicides, especially when they are applied in a high dose after emergence.

## 2.4 Conclusions tulip trials

- There is no difference in weed control between the two formulations of pendimethalin applied in the same dose on the same time.
- There seems to be an effect of the timing and the dosage on weed control. However this effect is not significant. The weed control gets better when the product is applied later in the season and when the dosages gets higher.
- There are no differences in yield between the two formulations of pendimethalin applied in the same dose on the same time.
- In the trial in Lisse high doses that were applied after emergence of the tulips showed yield-loss.

# 3 Field-trials in Lily

## 3.1 General information

| | | |
|---|---|---|
| Project number/Trial number | : | 3234015900 / H06I1, H06I2, H06I3 |
| Title/ aim or Goal | : | Comparison of two formulations of pendimethalin on weed control and phytotoxicity in the culture of tulip and lilies |
| Project leader | : | A.Th.J. Koster |
| Project member(s) | : | J.P.M. Wijnker, H. van Aanholt, B. Buitenwerf |
| Experimental Description | : | 15/10/2005 |
| Standard Operating Procedures | : | SOP02, SOP03, SOP04, SOP06, SOP07 |

## 3.2 Experimental Lay-out

### 3.2.1 Experimental data

| | | |
|---|---|---|
| 1. | Crop | : Lily |
| | - cultivar | : White Heaven (H06I1)<br>Cordelia (H06I2)<br>Sorbonne (H06I3) |
| | - plant size | : 8-10 |
| | -Pretreatment bulbs | : no |
| | -Standard disinfection bulbs | : yes |
| 2. | Disease-, pest-, weed pressure | : weed |
| | -natural occurrence | : yes |
| | - artificially | : no |
| | *Inoculation method (of infection) | : |
| | * Amount | : |
| 3. | Location | |
| | - greenhouse/field | : field,<br>PPO B&B, Lisse (H06I1)<br>Floratuin, Julianadorp (H06I2)<br>Stichting ROL, Vledder (H06I3) |
| | - soil type | : sandy soil in Lisse and Julianadorp and cover sand soil in Vledder |
| | - previous crop | : tulips in Lisse, grass in Julianadorp and Vledder |
| | - standard fumigation of soil desinfection | : no |
| | **if yes, name chemical and dosis | : |
| 4. | Plot size (bruto area/surface.) | : 3.4 $m^2$ |
| | - netto surface. | : 1.5 $m^2$ |
| | -number of bulbs | : 160 |
| | - bulbweight | : White Heaven (H06I1): 1775 g<br>Cordelia (H06I2): 2400g<br>Star Gazer (h06I3): 2240 g |
| | - number of replications | : 4 |

5. trial data

| | |
|---|---|
| - infection | : n/a |
| - soil treatment(s) | : n/a |
| - chemical application | : see § 3.2.2 |
| - planting date(s) | : H06I1: 07-04-2006<br>H06I2: 28-03-2006<br>H06I3: 13-04-2006 |
| - plantdepth | : 10 cm |
| - harvest date | : H06I1: 06-10-2006<br>H06I2: 14-11-2006<br>H06I3: 16-11-2006 |

6. Observations

| | |
|---|---|
| I. Efficacy | : |
| - crop damage | : yes |
| - bulb damage | : no |
| - root damage | : no |
| - yield | : yes |
| - plant weight (flower production) | : n/a |
| II. Phytotoxicity | : |
| - emergence | : no |
| - stand( crop) | : yes |
| - die back or decrease | : yes |
| - yield | : yes |
| Observation scales 'fytotox.' | : 0-10 scales, where 0 =none or excellent, 10 = 100% affected or bad |
| idem, efficacy | : 0-10, where 0 = 100% diseased or no effect, 10 = healthy or 100% control |

## 3.2.2 Treatments

**1. Number of treatments and coding (assigned treatment number)**

| Trt.# | product | Name active ingredient (a.i.) | % a.i. | Formulation | Dose in kg, l/ha or % | Mode of application/ timing |
|---|---|---|---|---|---|---|
| 1. | Untreated check | -- | -- | -- | -- | -- |
| 2. | Untreated weeded | -- | -- | -- | -- | -- |
| 3. | Stomp* | Pendimethalin | 400 g/l | SC | 2 | Spray, Pre emerge |
| 4. | Pendim. 400WG** | Pendimethalin | 400 g/kg | WG | 2 | Spray, Pre emerge |
| 5. | Stomp | Pendimethalin | 400 g/l | SC | 4 | Spray, Pre emerge |
| 6. | Pendim. 400WG | Pendimethalin | 400 g/kg | WG | 4 | Spray, Pre emerge |
| 7. | Stomp | Pendimethalin | 400 g/l | SC | 2 | Spray, After emerge |
| 8. | Pendim. 400WG | Pendimethalin | 400 g/kg | WG | 2 | Spray, After emerge |
| 9. | Stomp | Pendimethalin | 400 g/l | SC | 4 | Spray, After emerge |
| 10. | Pendim. 400WG | Pendimethalin | 400 g/kg | WG | 4 | Spray, After emerge |

*) Batchnr Stomp: 06-01-296868
**) Batchnr. Pendimethalin 400WG: D.295

**2. Application of treatment**

Spraying:

| | |
|---|---|
| -sprayer type | : Veeze hand-held sprayer with 3 nozzles |
| - nozzle type | : Lechler AD110 03 VS |
| - pressure | : 3 bar |
| - volume | : 800 l/ha |

- Spraying-surface : 2,25 m x 1,25 m

| Trt. nr. | Treatment | Amount of carrying fluid in ml/treatment | Amount product added in ml/g | Amount of spray mixture (carrying fluid) in l/treatment |
|---|---|---|---|---|
| 1. | Untreated check | -- | -- | -- |
| 2. | Untreated weeded | -- | -- | -- |
| 3. | Stomp | 1000 ml | 2.5 | 900 ml |
| 4. | Pendim. 400WG | 1000 ml | 2.5 | 900 ml |
| 5. | Stomp | 1000 ml | 5 | 900 ml |
| 6. | Pendim. 400WG | 1000 ml | 5 | 900 ml |
| 7. | Stomp | 1000 ml | 2.5 | 900 ml |
| 8. | Pendim. 400WG | 1000 ml | 2.5 | 900 ml |
| 9. | Stomp | 1000 ml | 5 | 900 ml |
| 10. | Pendim. 400WG | 1000 ml | 5 | 900 ml |

Spraying date:
**H06I1**
26 April 2006; treatment 3 through 6
15 May 2006; treatment 7 through 10
On 16th of June the plot was sprayed with Gallant 1 l/ha against annual meadow-grass (*Poa annua L.*)
From the 21st of July the whole plot was sprayed with asulam 0,33 l/ha (Asulox) and metamitron 0,15 kg/ha (Goltix WG), on 21-07-06, 28-07-06, 07-08-06, 22-08-06, 05-09-06, 12-09-06 and 27-09-06.

**H06I2**
20 April 2006; treatment 3 through 6
12 May 2006; treatment 7 through 10
From the 13th of July the whole plot was sprayed weekly with asulam 0,33 l/ha (Asulox) and metamitron 0,16 kg/ha (Goltix WG)

**H06I3**
26 April 2006; treatment 3 through 6
31 May 2006; treatment 7 through 10
From the 14th of July the whole plot was sprayed weekly with asulam 0,33 l/ha (Asulox) and metamitron 0,16 kg/ha (Goltix WG)

### 3.2.3 Plot plan

**H06I1**

| | A-repetition | B-repetition | C-repetition | D-repetition | |
|---|---|---|---|---|---|
| | **10** | **9** | **2** | **7** | |
| | **2** | **10** | **1** | **6** | |
| | **1** | **3** | **9** | **3** | |
| | **4** | **1** | **3** | **5** | |
| | **5** | **8** | **6** | **1** | |
| | **7** | **7** | **8** | **2** | |
| | **6** | **6** | **5** | **9** | |
| | **9** | **5** | **7** | **10** | |
| | **3** | **4** | **4** | **4** | |
| | **8** | **2** | **10** | **8** | |

**H06I2**

| | A-repetition | B-repetition | C-repetition | D-repetition | |
|---|---|---|---|---|---|
| | **1** | **9** | **4** | **5** | |
| | **5** | **6** | **1** | **7** | |
| | **9** | **1** | **9** | **1** | |
| | **10** | **4** | **7** | **3** | |
| | **3** | **7** | **2** | **10** | |
| | **7** | **3** | **10** | **8** | |
| | **6** | **8** | **6** | **4** | |
| | **4** | **5** | **5** | **6** | |
| | **8** | **2** | **3** | **9** | |
| | **2** | **10** | **8** | **2** | |

**H0613**

| | A-repetition | B-repetition | C-repetition | D-repetition | |
|---|---|---|---|---|---|
| | **6** | **4** | **1** | **1** | |
| | **10** | **6** | **2** | **8** | |
| | **1** | **7** | **5** | **3** | |
| | **7** | **9** | **6** | **10** | |
| | **4** | **3** | **9** | **4** | |
| | **9** | **1** | **10** | **5** | |
| | **3** | **10** | **4** | **9** | |
| | **2** | **8** | **3** | **7** | |
| | **8** | **5** | **7** | **6** | |
| | **5** | **2** | **8** | **2** | |

## 3.3 Results

All results were analysed with ANOVA Genstat version 8.1

### 3.3.1 Weed control

At the end of June the number of weeds in the trials was counted. The results are shown in table 3. For the trial in Julianadorp the results with and without the number of common groundsel (*Senecio vulgaris*, SENVU) are shown. In this experiment there was a relatively high number of SENVU, and pendimethalin is known to have little effect on this weed.

Table 3: The average number of weed per treatment of the experiments in Lisse, Julianadorp and Vledder. For the experiment in Julianadorp with and without common groundsel (*Senecio vulgaris*, SENVU).

| Treatment | | | Number of weeds in the trial in | | | |
|---|---|---|---|---|---|---|
| | Dose | Timing* | Lisse (H0711) | Julianadorp (H0712) | | Vledder (H0713) |
| | | | | +SENVU | -SENVU | |
| 1. Untreated | - | | 144.0 a | 17.25 a | 13.50 a | 25.50 a |
| 2. Untreated, weeded | - | | 150.8 a | n.c.** | n.c. | n.c. |
| 3. Pendimeth. 400WG | 2 kg/ha | pe | 59.5 b | 6.75 b | 6.50 b | 6.75 b |
| 4. Stomp | 2 l/ha | pe | 57.8 b | 4.75 bcd | 4.00 bc | 6.50 b |
| 5. Pendimeth. 400WG | 4 kg/ha | pe | 45.5 b | 2.75 cd | 2.00 cd | 3.66 b |
| 6. Stomp | 4 l/ha | pe | 49.2 b | 2.50 d | 1.75 cd | 3.75 b |
| 7. Pendimeth. 400WG | 2 kg/ha | ae | 68.8 b | 5.75 bc | 3.00 cd | 7.25 b |
| 8. Stomp | 2 l/ha | ae | 69.0 b | 5.00 bcd | 3.75 bcd | 7.50 b |
| 9. Pendimeth. 400WG | 4 kg/ha | ae | 42.2 b | 3.50 cd | 0.50 d | 4.75 b |
| 10. Stomp | 4 l/ha | ae | 39.0 b | 3.00 cd | 1.00 cd | 6.25 b |
| *F.prob* | | | *<0.001* | *<0.001* | *<0.001* | *<0.001* |
| *L.S.D.* | | | *42.58* | *3.219* | *3.418* | *4.677* |

*) pe = pre-emergence treatment; ae = after emergence treatment
**) not counted

In Lisse there are no differences between the treatments with pendimethalin (trt. nr. 3 through 10). There seems to be a trend of less weeds at higher dose. The same counts for the results from Vledder, although the differences between the number of weeds between the high and the low dosage are much smaller as

compared to the Lisse results.
In Julianadorp there is a difference in weed control between the doses of Pendimethalin 400 WG in the pre-emergence treatment. A higher dose had a better weed control. For Stomp in the pre-emergence treatment this trend seems also to be there, but the differences are not significant. For the post-emergence treatment there is also a tendency of the doses on the weed control. When common groundsel (SENVU) is excluded in the number of weed the differences between the dosages in weed control become bigger especially in the after emergence treatment. But still these differences are not significant.
There is no difference in weed control between the two formulations applied on the same time in the same dose.

### 3.3.2 Crop growth

During the growth season the crop standing was assessed three times. There were no differences in crop stand between the different treatments.

Overview of experiment H07I3 in Vledder

After harvesting the bulbs were counted and weighed to determine the average bulb weight. The results are shown in table 4.

Table 4: The average harvested bulb-weight (in gr.) per treatment per plot of the trails with lily in Lisse, Julianadorp and Lelystad.

| Treatment | | | Total harvested bulb-weight (gr) of lily in | | |
|---|---|---|---|---|---|
| | Dose | Timing* | Lisse (H07I1) | Julianadorp (H07I2) | Vledder (H07I3) |
| 1. Untreated | - | | 45.72 | 49.95 | 48.73 |
| 2. Untreated, weeded | - | | 49.115 | 51.71 | 52.54 |
| 3. Pendimeth. 400WG | 2 kg/ha | pe | 49.80 | 51.46 | 53.99 |
| 4. Stomp | 2 l/ha | pe | 49.76 | 51.30 | 52.49 |
| 5. Pendimeth. 400WG | 4 kg/ha | pe | 52.38 | 52.17 | 51.55 |
| 6. Stomp | 4 l/ha | pe | 53.89 | 51.90 | 53.10 |
| 7. Pendimeth. 400WG | 2 kg/ha | ae | 50.67 | 51.42 | 54.29 |
| 8. Stomp | 2 l/ha | ae | 50.58 | 49.39 | 53.37 |
| 9. Pendimeth. 400WG | 4 kg/ha | ae | 52.51 | 52.01 | 53.16 |
| 10. Stomp | 4 l/ha | ae | 50.00 | 49.99 | 53.08 |
| *F.prob* | | | *0.113* | *0.263* | *0.249* |
| *L.S.D.* | | | | | |

*) pe = pre-emergence treatment; ae = after emergence treatment

There are no significant differences in harvested bulb-weight between the treatments in all three trials. So it can be concluded that bulbweight is not negatively influenced by the application pre emergence or after emergence op Pendimethalin 440 WG or Stomp in the dosages of 2 or 4 kg(l)/ha.

## 3.4 Conclusions lily trials

- There is no difference in weed control between the two formulations of pendimethalin applied in the same dose at the same time.
- There are no differences in yield between the two formulations of pendimethalin applied in the same dose at the same time.

# 4 Conclusions

There were no differences in efficacy of Stomp and Pendimethalin 400WG in weed control when applied at the same doses at the same application date. Both products had no adverse effects on bulb growth. Glasshouse trials are conducted with the bulbs harvested from the above described trials to see if the herbicide-application in the field has an effect on the flower-production of the bulbs when forced into flowering after harvest in the field. The results will be separately reported

# Appendix 1: Raw data H06t2

**Weed**

| Trial: | H06t2 | 3234015900 | | | | | datum: | 1-6-2006 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rep! | Trt! | Total | POAAN | SENVU | POLPE | CHEAL | STEME | POLCO | URTUR | CAPBU | others | | |
| a | 3 | 4 | | | 2 | | | | 2 | | | | |
| a | 4 | 5 | 1 | | 1 | | | 1 | 1 | | | | 1 |
| a | 1 | 28 | 10 | | | 1 | | 10 | 2 | 1 | | | 4 |
| a | 10 | 3 | | | 3 | | | | | | | | |
| a | 9 | 3 | | | 3 | | | | | | | | |
| a | 2 | 30 | 20 | | 4 | | 1 | 2 | | | | | 3 |
| a | 6 | 3 | | | 3 | | | | | | | | |
| a | 5 | 4 | 1 | | 3 | | | | | | | | |
| a | 8 | 6 | 1 | | 3 | | | 1 | | | 1 | | |
| a | 7 | 6 | 1 | | | 1 | 1 | | | | 2 | | 1 |
| b | 7 | 1 | 1 | | | | | | | | | | |
| b | 4 | 3 | | | 1 | | | | | | 2 | | |
| b | 5 | 0 | | | | | | | | | | | |
| b | 3 | 3 | 1 | | 2 | | | | | | | | |
| b | 9 | 1 | | | 1 | | | | | | | | |
| b | 1 | 9 | 6 | | 2 | | | | | | 1 | | |
| b | 6 | 1 | | | | | | | | | 1 | | |
| b | 10 | 1 | | | | | | | | | 1 | | |
| b | 2 | 13 | 7 | | | | | 2 | | | 2 | | 2 |
| b | 8 | 5 | 1 | | 1 | | | | | | 2 | | 1 |
| c | 7 | 1 | | | | | | | 1 | | | | |
| c | 2 | 25 | 10 | | | | | 6 | 2 | 1 | 4 | | 2 |
| c | 9 | 2 | | | | | | | 1 | | | | 1 |
| c | 1 | 32 | 15 | | | | 2 | 2 | 7 | 1 | 2 | | 3 |
| c | 10 | 2 | | | 2 | | | | | | | | |
| c | 5 | 2 | | | 1 | | | | 1 | | | | |
| c | 8 | 4 | | | 2 | | | | | | 2 | | |
| c | 3 | 6 | 1 | | | | | 1 | 2 | | 1 | | 1 |
| c | 4 | 22 | 4 | | 1 | | | | 1 | | 16 | | |
| c | 6 | 6 | 1 | | 2 | | | | | | 3 | | |
| d | 7 | 19 | | | 2 | | | 3 | 1 | | 13 | | |
| d | 3 | 11 | 1 | | | | | 2 | | | 8 | | |
| d | 8 | 19 | 1 | | | | | 3 | 1 | | 14 | | |
| d | 1 | 52 | 15 | | | | 4 | 15 | 8 | 2 | 4 | | 4 |
| d | 10 | 1 | | | | | | | | | | | 1 |
| d | 4 | 5 | 1 | | | | 1 | | 3 | | | | |
| d | 5 | 1 | | | | | | | 1 | | | | |
| d | 2 | 36 | 9 | | | 1 | | 14 | 3 | 1 | 7 | | 1 |
| d | 6 | 3 | | | | | | | 1 | | 1 | | 1 |
| d | 9 | 5 | 1 | | | | | | 4 | | | | |

**Harvest weight**

| Trt! | Rep! | weigth under 10 | weight above 10 | total weight | nr. saleable |
|---|---|---|---|---|---|
| 1 | A | 4824 | 602 | 5426 | 31 |
| 1 | B | 4893 | 913 | 5806 | 50 |
| 1 | C | 4559 | 817 | 5376 | 41 |
| 1 | D | 4874 | 945 | 5819 | 50 |
| 2 | A | 5005 | 833 | 5838 | 41 |
| 2 | B | 4842 | 867 | 5709 | 46 |
| 2 | C | 4859 | 933 | 5792 | 48 |
| 2 | D | 5160 | 757 | 5917 | 39 |
| 3 | A | 4750 | 891 | 5641 | 48 |
| 3 | B | 5036 | 849 | 5885 | 44 |
| 3 | C | 4930 | 1015 | 5945 | 51 |
| 3 | D | 4890 | 850 | 5740 | 43 |
| 4 | A | 4886 | 741 | 5627 | 38 |
| 4 | B | 4962 | 777 | 5739 | 45 |
| 4 | C | 4909 | 834 | 5743 | 40 |
| 4 | D | 4716 | 1245 | 5961 | 64 |
| 5 | A | 4866 | 867 | 5733 | 44 |
| 5 | B | 4510 | 1016 | 5526 | 53 |
| 5 | C | 4809 | 957 | 5766 | 48 |
| 5 | D | 4505 | 971 | 5476 | 50 |
| 6 | A | 4602 | 938 | 5540 | 48 |
| 6 | B | 4850 | 604 | 5454 | 32 |
| 6 | C | 4871 | 1007 | 5878 | 51 |
| 6 | D | 4592 | 838 | 5430 | 42 |
| 7 | A | 4958 | 726 | 5684 | 37 |
| 7 | B | 4865 | 749 | 5614 | 39 |
| 7 | C | 4783 | 881 | 5664 | 43 |
| 7 | D | 4856 | 861 | 5717 | 45 |
| 8 | A | 5006 | 728 | 5734 | 37 |
| 8 | B | 4773 | 769 | 5542 | 55 |
| 8 | C | 4764 | 977 | 5741 | 50 |
| 8 | D | 4917 | 984 | 5901 | 49 |
| 9 | A | 4634 | 618 | 5252 | 32 |
| 9 | B | 4229 | 1047 | 5276 | 56 |
| 9 | C | 4421 | 995 | 5416 | 50 |
| 9 | D | 4825 | 661 | 5486 | 34 |
| 10 | A | 4442 | 835 | 5277 | 44 |
| 10 | B | 4544 | 809 | 5353 | 42 |
| 10 | C | 4679 | 651 | 5330 | 34 |
| 10 | D | 4636 | 953 | 5589 | 49 |

# Appendix 2: Raw data H06t3

## Weed

| Trial: | H06t3 | 3234015900 | | | | | | datum: | 13-6-2006 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trt! | Rep! | Covering | Total | POAAN | SENVU | POLPE | CHEAL | STEME | URTUR | POLAV | CAPBU | others | | |
| 3 | d | 3 | 22 | 2 | | 5 | 10 | | | | 1 | | | 4 |
| 10 | d | 2 | 19 | | 5 | 6 | 8 | | | | | | | |
| 7 | d | 3 | 20 | 1 | | 3 | 13 | | | | | | | 3 |
| 9 | d | 1 | 13 | | | 7 | 6 | | | | | | | |
| 5 | d | 3 | 20 | | | 7 | 8 | 1 | | | | 1 | | 3 |
| 1 | d | 8 | 48 | | 1 | 5 | 40 | | | | 2 | | | |
| 4 | d | 3 | 22 | | | 9 | 11 | | | 1 | 1 | | | |
| 8 | d | 1 | 10 | | 2 | 3 | 5 | | | | | | | |
| 6 | d | 3 | 20 | | | | 20 | | | | | | | |
| 6 | c | 2 | 15 | | | 7 | 7 | | | | 1 | | | |
| 8 | c | 1 | 14 | | 1 | 7 | 5 | | | | 1 | | | |
| 4 | c | 3 | 16 | 1 | 3 | 11 | | | | 1 | | | | |
| 10 | c | 1 | 11 | | 1 | 7 | 3 | | | | | | | |
| 7 | c | 1 | 15 | 2 | 1 | 6 | 6 | | | | | | | |
| 9 | c | 1 | 14 | 1 | | 9 | 3 | | | | 1 | | | |
| 1 | c | 8 | 41 | | | 3 | 30 | | | | 2 | 1 | | 5 |
| 3 | c | 2 | 14 | 1 | | 6 | 7 | | | | | | | |
| 5 | c | 2 | 17 | 4 | 1 | 9 | 3 | | | | | | | |
| 6 | b | 1 | 12 | 1 | | 6 | 5 | | | | | | | |
| 9 | b | 1 | 15 | 2 | | 4 | 9 | | | | | | | |
| 7 | b | 1 | 21 | 3 | | 6 | 12 | | | | | | | |
| 4 | b | 2 | 20 | | | 5 | 10 | 1 | | | | | | 4 |
| 8 | b | 2 | 15 | 2 | 9 | 4 | | | | | | | | |
| 5 | b | 1 | 9 | | | 7 | 2 | | | | | | | |
| 3 | b | 4 | 18 | | | 4 | 14 | | | | | | | |
| 1 | b | 7 | 42 | 2 | 1 | 2 | 35 | | | | 2 | | | |
| 10 | b | 1 | 13 | | 1 | 6 | 5 | | | | 1 | | | |
| 10 | a | 1 | 11 | | 1 | 8 | 2 | | | | | | | |
| 9 | a | 4 | 23 | | | 2 | 6 | 15 | | | | | | |
| 4 | a | 5 | 35 | | 2 | 12 | 19 | 1 | | | 1 | | | |
| 3 | a | 5 | 33 | | | 11 | 21 | | | | | 1 | | |
| 6 | a | 3 | 19 | | | 8 | 11 | | | | | | | |
| 1 | a | 9 | 58 | 2 | | 9 | 45 | 1 | | | 1 | | | |
| 8 | a | 1 | 16 | 1 | | 8 | 7 | | | | | | | |
| 7 | a | 1 | 23 | | | 12 | 11 | | | | | | | |
| 5 | a | 1 | 22 | | 1 | 9 | 10 | 1 | | | | 1 | | |

**Harvest**

| Trt! | Rep! | weight <10 | weight >10 | total weight | nr. salaeble |
|---|---|---|---|---|---|
| 1 | A | 1894 | 3928 | 5822 | 136 |
| 1 | B | 1743 | 4073 | 5816 | 140 |
| 1 | C | 1688 | 4168 | 5856 | 150 |
| 1 | D | 1474 | 4110 | 5584 | 143 |
| 2 | A | 1663 | 4385 | 6048 | 147 |
| 2 | B | 1525 | 4140 | 5665 | 139 |
| 2 | C | 1796 | 4674 | 6470 | 151 |
| 2 | D | 1655 | 4259 | 5914 | 147 |
| 3 | A | 1838 | 4242 | 6080 | 139 |
| 3 | B | 1910 | 4241 | 6151 | 147 |
| 3 | C | 1541 | 4236 | 5777 | 146 |
| 3 | D | 1579 | 4173 | 5752 | 139 |
| 4 | A | 1900 | 4290 | 6190 | 142 |
| 4 | B | 1483 | 4464 | 5947 | 150 |
| 4 | C | 1808 | 4524 | 6332 | 151 |
| 4 | D | 1786 | 4674 | 6460 | 154 |
| 5 | A | 1717 | 3850 | 5567 | 129 |
| 5 | B | 1926 | 4263 | 6189 | 144 |
| 5 | C | 1705 | 3879 | 5584 | 129 |
| 5 | D | 1571 | 4057 | 5628 | 137 |
| 6 | A | 2003 | 4160 | 6163 | 140 |
| 6 | B | 1645 | 3841 | 5486 | 137 |
| 6 | C | 1882 | 4243 | 6125 | 140 |
| 6 | D | 1785 | 4206 | 5991 | 144 |
| 7 | A | 1620 | 4249 | 5869 | 148 |
| 7 | B | 1350 | 4147 | 5497 | 154 |
| 7 | C | 1888 | 4492 | 6380 | 151 |
| 7 | D | 1861 | 4320 | 6181 | 144 |
| 8 | A | 1557 | 4059 | 5616 | 140 |
| 8 | B | 1694 | 4167 | 5861 | 144 |
| 8 | C | 1701 | 4352 | 6053 | 147 |
| 8 | D | 1785 | 3969 | 5754 | 141 |
| 9 | A | 1815 | 4064 | 5879 | 139 |
| 9 | B | 1700 | 3830 | 5530 | 136 |
| 9 | C | 1984 | 4202 | 6186 | 143 |
| 9 | D | 1584 | 4541 | 6125 | 154 |
| 10 | A | 1811 | 4215 | 6026 | 146 |
| 10 | B | 1895 | 4344 | 6239 | 149 |
| 10 | C | 1784 | 4506 | 6290 | 151 |
| 10 | D | 1676 | 4013 | 5689 | 131 |

# Appendix 3: Raw data H06t4

## Weed

| Trail: | H06t4 | 3234015900 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Field | Trt. | Rep | Covering | Total | POAAN | SENVU | POLPE | CHEAL | STEME | POLAV | MATDI | SONOL | |
| 1 | 8 | d | 1 | 2 | | | | | 1 | | | 1 | |
| 2 | 10 | c | 0 | 0 | | | | | | | | | |
| 3 | 2 | b | 1 | 5 | | | 1 | | | 1 | 2 | 1 | |
| 4 | 8 | a | 1 | 2 | | | 1 | | | 1 | | | |
| 5 | 4 | d | 1 | 1 | | | | | | 1 | | | |
| 6 | 4 | c | 1 | 2 | | | 1 | | | 1 | | | |
| 7 | 4 | b | 0 | 0 | | | | | | | | | |
| 8 | 3 | a | 1 | 1 | | | | | | | | | 1 |
| 9 | 10 | d | 0 | 0 | | | | | | | | | |
| 10 | 7 | c | 1 | 1 | | | | | | | 1 | | |
| 11 | 5 | b | 0 | 0 | | | | | | | | | |
| 12 | 9 | a | 1 | 1 | | | | | | | 1 | | |
| 13 | 9 | d | 0 | 0 | | | | | | | | | |
| 14 | 5 | c | 0 | 0 | | | | | | | | | |
| 15 | 6 | b | 0 | 0 | | | | | | | | | |
| 16 | 6 | a | 1 | 2 | | | | | | 1 | | | 1 |
| 17 | 2 | d | 1 | 2 | | | | | | | 2 | | |
| 18 | 8 | c | 1 | 2 | | | 2 | | | | | | |
| 19 | 7 | b | 1 | 2 | | | | | | 1 | | | 1 |
| 20 | 7 | a | 1 | 1 | | | | | | | 1 | | |
| 21 | 1 | d | 1 | 4 | | | | | | | 2 | | 2 |
| 22 | 6 | c | 0 | 0 | | | | | | | | | |
| 23 | 8 | b | 0 | 0 | | | | | | | | | |
| 24 | 5 | a | 1 | 1 | | | 1 | | | | | | |
| 25 | 5 | d | 0 | 0 | | | | | | | | | |
| 26 | 3 | c | 1 | 2 | | | 1 | | | 1 | | | |
| 27 | 1 | b | 1 | 3 | | | 1 | | | | 1 | 1 | |
| 28 | 4 | a | 1 | 1 | | | | | | | | | 1 |
| 29 | 3 | d | 0 | 0 | | | | | | | | | |
| 30 | 9 | c | 0 | 0 | | | | | | | | | |
| 31 | 3 | b | 0 | 0 | | | | | | | | | |
| 32 | 1 | a | 2 | 4 | | | | 1 | | | 2 | | 1 |
| 33 | 6 | d | 0 | 0 | | | | | | | | | |
| 34 | 1 | c | 1 | 2 | | | | | | 2 | | | |
| 35 | 10 | b | 0 | 0 | | | | | | | | | |
| 36 | 2 | a | 1 | 1 | | | | | | | 1 | | |
| 37 | 7 | d | 1 | 2 | | | | | | 2 | | | |
| 38 | 2 | c | 1 | 2 | | | 1 | | | 1 | | | |
| 39 | 9 | b | 0 | 0 | | | | | | | | | |
| 40 | 10 | a | 0 | 0 | | | | | | | | | |

**Harvest**

| Trt! | Rep! | weight <10 | weight >10 | total weight | nr. of saleable bulbs |
|---|---|---|---|---|---|
| 1 | A | 1872 | 3639 | 5511 | 140 |
| 1 | B | 1851 | 3804 | 5655 | 140 |
| 1 | C | 1919 | 4195 | 6114 | 152 |
| 1 | D | 1809 | 3653 | 5462 | 142 |
| 2 | A | 1539 | 3124 | 4663 | 116 |
| 2 | B | 1668 | 3793 | 5461 | 138 |
| 2 | C | 1923 | 3848 | 5771 | 148 |
| 2 | D | 2147 | 3870 | 6017 | 140 |
| 3 | A | 1816 | 4203 | 6019 | 144 |
| 3 | B | 1882 | 4084 | 5966 | 139 |
| 3 | C | 2098 | 3568 | 5666 | 136 |
| 3 | D | 1979 | 3675 | 5654 | 136 |
| 4 | A | 1995 | 3454 | 5449 | 133 |
| 4 | B | 1603 | 3879 | 5482 | 140 |
| 4 | C | 1752 | 4204 | 5956 | 146 |
| 4 | D | 2210 | 3987 | 6197 | 143 |
| 5 | A | 2007 | 4395 | 6402 | 150 |
| 5 | B | 1728 | 3926 | 5654 | 139 |
| 5 | C | 2085 | 3285 | 5370 | 124 |
| 5 | D | 1814 | 3020 | 4834 | 120 |
| 6 | A | 1803 | 3707 | 5510 | 136 |
| 6 | B | 1707 | 3887 | 5594 | 147 |
| 6 | C | 1366 | 4172 | 5538 | 147 |
| 6 | D | 1642 | 3896 | 5538 | 144 |
| 7 | A | 1801 | 4205 | 6006 | 153 |
| 7 | B | 2123 | 3609 | 5732 | 135 |
| 7 | C | 1878 | 4274 | 6152 | 147 |
| 7 | D | 1645 | 3194 | 4839 | 129 |
| 8 | A | 1835 | 3936 | 5771 | 147 |
| 8 | B | 1823 | 3928 | 5751 | 144 |
| 8 | C | 1775 | 3816 | 5591 | 139 |
| 8 | D | 1613 | 3630 | 5243 | 136 |
| 9 | A | 1654 | 3758 | 5412 | 139 |
| 9 | B | 1854 | 4488 | 6342 | 147 |
| 9 | C | 1861 | 3253 | 5114 | 125 |
| 9 | D | 1821 | 3909 | 5730 | 139 |
| 10 | A | 1962 | 4421 | 6383 | 157 |
| 10 | B | 1667 | 3045 | 4712 | 124 |
| 10 | C | 1698 | 3554 | 5252 | 132 |
| 10 | D | 1689 | 3535 | 5224 | 141 |

# Appendix 4: Application data H06t2

## Form for SPRAY-APPLICATIONS

| Trialnr.: H06t2 | Carried out by: H. van Aanholt |
|---|---|

| spray-nr. | spray-date | spray-time fr. – till | Order of spraying treatments | temp. at 1,5 m height (°C) | cloudiness | wind-direction | windspeed at 2 m height (m/sec) | rain (mm) | | | cropdata | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1 day before | during | 1 day after | wetness | stage | length (cm) |
| 1 | 20-2-06 | 13-14 | 3-5-4-6 | 3 | Fully | NE | 4 | 0 | 0 | 0 | Dry | No emerge | 0 |
| 2 | 16-3-06 | 8:30-9:30 | 7-9-8-10 | 2 | Fully | ENE | 2-3 | 0 | 0 | 0 | Dry | 100% emerge | 2-5 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

**Remarks:**

16/3 about 25% of the tulips slightly spreading leaves. Temperature in the morning after spraying around freezing point.

# Appendix 5: Application data H06t3

## Form for SPRAY-APPLICATIONS

| Trialnr.: H06t3 | Carried out by: C. Bakkum |
|---|---|

| spray-nr. | spray-date | spray-time fr. – till | Order of spraying treatments | temp. at 1,5 m height (°C) | cloudiness | wind-direction | windspeed at 2 m height (m/sec) | rain (mm) | | | cropdata | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1 day before | during | 1 day after | wetness | stage | length (cm) |
| 1 | 27-2-06 | 13-14 | 3-5-4-6 | 4 | Fully | WNW | 5 | 3 | 0 | 1.60 | Dry | No emerge | 0 |
| 2 | 17-3-06 | 8-9 | 7-9-8-10 | 2 | Heavily | ENE | 5 | 0 | 0 | 0 | Dry | 100% emerge | 2-5 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |

**Remarks:**

# Appendix 6 : Application data H06t4

## Form for SPRAY-APPLICATIONS

| Trialnr.: H06t3 | Carried out by: P.W.V. Bakker |
|---|---|

| spray-nr. | spray-date | spray-time fr. – till | Order of spraying treatments | temp. at 1,5 m height (°C) | cloudiness | wind-direction | windspeed at 2 m height (m/sec) | rain (mm) | | | Cropdata | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1 day before | during | 1 day after | wetness | stage | length (cm) |
| 1 | 20-2-06 | 9-10 | 3-5-4-6 | 3 | Fully | NE | 6 | 0 | 0 | 0.2 | Dry | No emerge | 0 |
| 2 | 16-3-06 | 9-10 | 7-9-8-10 | 2 | Fully | ENE | 4 | 0 | 0 | 0 | Dry | 100% emerge | 3-5 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |

**Remarks:**

20/2 sprayed with wind-shield

# Appendix 7: Raw data H06l1

## Weed

| Trial: | H06l1 | 340159 | | | | | | date: | 12-6-2006 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rep! | TRt! | total | covering | POAAN | SENVU | POLPE | CHEAL | STEME | POLAV | POLCO | CAPBU | URTUR | |
| b | 2 | 225 | 10 | 90 | 1 | 2 | 90 | 35 | | 1 | 4 | 2 | |
| b | 4 | 79 | 5 | 70 | | | 1 | 8 | | | | | |
| b | 5 | 33 | 2 | 33 | | | | | | | | | |
| b | 6 | 22 | 1 | 21 | | | | 1 | | | | | |
| b | 7 | 41 | 4 | 31 | | 8 | 1 | 1 | | | | | |
| b | 8 | 43 | 4 | 35 | | 7 | | | 1 | | | | |
| b | 1 | 95 | 8 | 25 | | 6 | 60 | 3 | | | | 1 | |
| b | 3 | 29 | 3 | 27 | | 2 | | | | | | | |
| b | 10 | 22 | 1 | 22 | | | | | | | | | |
| b | 9 | 41 | 2 | 40 | | 1 | | | | | | | |
| a | 10 | 22 | 2 | 20 | | 1 | | | 1 | | | | |
| a | 2 | 90 | 5 | 33 | | 4 | 50 | 2 | | | | 1 | |
| a | 1 | 176 | 10 | 20 | | | 150 | 3 | | 2 | | 1 | |
| a | 4 | 22 | 1 | 17 | | 4 | | | | 1 | | | |
| a | 5 | 21 | 1 | 9 | | 10 | | 1 | | 1 | | | |
| a | 7 | 56 | 7 | 34 | | 22 | | | | | | | |
| a | 6 | 29 | 1 | 26 | | 3 | | | | | | | |
| a | 9 | 24 | 2 | 22 | | 1 | | | | 1 | | | |
| a | 3 | 58 | 4 | 49 | | 3 | 2 | 1 | | 1 | 2 | | |
| a | 8 | 69 | 3 | 65 | 1 | 3 | | | | | | | |
| d | 8 | 72 | 4 | 65 | 1 | 2 | | | 3 | 1 | | | |
| d | 4 | 35 | 2 | 32 | | 1 | 1 | | | | 1 | | |
| d | 10 | 36 | 2 | 33 | | 3 | | | | | | | |
| d | 9 | 44 | 3 | 35 | | 8 | | | 1 | | | | |
| d | 2 | 109 | 8 | 88 | | 5 | 9 | 4 | 1 | 1 | 1 | | |
| d | 1 | 91 | 8 | 60 | | 10 | 11 | 7 | | 1 | | 2 | |
| d | 5 | 41 | 3 | 39 | | 1 | | | | 1 | | | |
| d | 3 | 52 | 4 | 50 | | | | | | 2 | | | |
| d | 6 | 49 | 3 | 47 | | 2 | | | | | | | |
| d | 7 | 93 | 5 | 90 | | 3 | | | | | | | |
| c | 2 | 179 | 10 | 100 | | 2 | 30 | 40 | | | 5 | 2 | |
| c | 1 | 214 | 10 | 100 | | 2 | 50 | 60 | | 1 | | 1 | |
| c | 9 | 60 | 4 | 60 | | | | | | | | | |
| c | 3 | 99 | 5 | 95 | | 1 | | 3 | | | | | |
| c | 6 | 97 | 4 | 90 | | 3 | | 4 | | | | | |
| c | 8 | 92 | 5 | 90 | | 2 | | | | | | | |
| c | 5 | 87 | 5 | 85 | | 1 | | 1 | | | | | |
| c | 7 | 85 | 4 | 80 | | 3 | | | 2 | | | | |
| c | 4 | 95 | 7 | 80 | | 4 | | 9 | | 1 | 1 | | |
| c | 10 | 76 | 4 | 70 | 2 | 4 | | | | | | | |

## Yield

Yield Lily 2006 .project 3234015900 - trial H06L1.

| | | nr. | wght | nr. | wght | nr. | wght | nr. | wght | nr. | wght |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Trt | Rep | -12 | -12 | 12/14 | 12/14 | 14/16 | 14/16 | 16/op | 16/op | dub. | neus |
| 1 | A | 21 | 607 | 81 | 3711 | 36 | 2297 | 5 | 471 | 3 | 240 |
| 1 | B | 24 | 720 | 73 | 3335 | 32 | 2105 | 1 | 76 | 5 | 369 |
| 1 | C | 42 | 1103 | 65 | 2974 | 30 | 2004 | 1 | 114 | 1 | 61 |
| 1 | D | 36 | 989 | 56 | 2236 | 23 | 1350 | 2 | 160 | 1 | 68 |
| 2 | A | 11 | 300 | 75 | 3484 | 52 | 3678 | 5 | 488 | 0 | 0 |
| 2 | B | 43 | 1212 | 57 | 2534 | 40 | 2359 | 7 | 495 | 4 | 228 |
| 2 | C | 25 | 792 | 57 | 2558 | 29 | 1817 | 3 | 293 | 7 | 424 |
| 2 | D | 29 | 741 | 44 | 1933 | 39 | 2265 | 13 | 1087 | 5 | 275 |
| 3 | A | 14 | 414 | 78 | 3603 | 36 | 2499 | 5 | 470 | 3 | 216 |
| 3 | B | 19 | 585 | 65 | 2975 | 38 | 2594 | 8 | 718 | 4 | 262 |
| 3 | C | 19 | 483 | 57 | 2499 | 37 | 2415 | 3 | 269 | 4 | 300 |
| 3 | D | 21 | 544 | 61 | 2482 | 29 | 1724 | 7 | 555 | 3 | 190 |
| 4 | A | 18 | 483 | 79 | 3756 | 36 | 2474 | 6 | 544 | 7 | 527 |
| 4 | B | 40 | 1194 | 53 | 2452 | 24 | 1590 | 8 | 676 | 5 | 273 |
| 4 | C | 30 | 812 | 52 | 2315 | 32 | 1970 | 8 | 679 | 4 | 216 |
| 4 | D | 18 | 477 | 53 | 2307 | 54 | 3315 | 12 | 1049 | 3 | 237 |
| 5 | A | 12 | 308 | 73 | 3411 | 48 | 3259 | 8 | 800 | 3 | 244 |
| 5 | B | 27 | 826 | 66 | 3064 | 38 | 2623 | 9 | 972 | 3 | 248 |
| 5 | C | 12 | 339 | 47 | 2087 | 50 | 3221 | 15 | 1392 | 3 | 221 |
| 5 | D | 28 | 758 | 60 | 2521 | 27 | 1562 | 5 | 454 | 1 | 63 |
| 6 | A | 5 | 147 | 63 | 2960 | 51 | 3425 | 15 | 1572 | 5 | 424 |
| 6 | B | 21 | 682 | 59 | 2812 | 46 | 3129 | 11 | 1048 | 4 | 304 |
| 6 | C | 18 | 537 | 53 | 2336 | 39 | 2526 | 6 | 555 | 3 | 165 |
| 6 | D | 18 | 507 | 62 | 2602 | 40 | 2430 | 7 | 525 | 5 | 282 |
| 7 | A | 21 | 640 | 62 | 2783 | 51 | 3221 | 4 | 404 | 5 | 381 |
| 7 | B | 31 | 928 | 67 | 3331 | 46 | 3143 | 6 | 639 | 3 | 273 |
| 7 | C | 13 | 318 | 54 | 2232 | 41 | 2866 | 22 | 1960 | 2 | 104 |
| 7 | D | 30 | 841 | 53 | 2107 | 23 | 1350 | 2 | 158 | 5 | 311 |
| 8 | A | 15 | 441 | 61 | 2705 | 56 | 3402 | 5 | 467 | 5 | 364 |
| 8 | B | 28 | 857 | 69 | 3189 | 32 | 2321 | 8 | 726 | 4 | 215 |
| 8 | C | 22 | 595 | 57 | 2610 | 34 | 2178 | 11 | 1029 | 4 | 401 |
| 8 | D | 13 | 368 | 71 | 2977 | 46 | 2706 | 5 | 377 | 8 | 621 |
| 9 | A | 11 | 325 | 55 | 2656 | 63 | 4458 | 7 | 683 | 2 | 116 |
| 9 | B | 33 | 938 | 57 | 2626 | 33 | 2271 | 8 | 635 | 5 | 314 |
| 9 | C | 16 | 476 | 56 | 2473 | 33 | 2150 | 10 | 910 | 3 | 178 |
| 9 | D | 18 | 454 | 57 | 2399 | 47 | 2832 | 8 | 644 | 3 | 157 |
| 10 | A | 18 | 439 | 79 | 3681 | 38 | 2590 | 7 | 727 | 7 | 503 |
| 10 | B | 26 | 735 | 69 | 3141 | 36 | 2390 | 10 | 869 | 3 | 221 |
| 10 | C | 25 | 748 | 62 | 2676 | 34 | 2120 | 10 | 891 | 7 | 386 |
| 10 | D | 32 | 821 | 51 | 2158 | 36 | 2517 | 7 | 539 | 3 | 227 |

# Appendix 8 : Raw data H06I2

## Weed

| Trt! | Rep! | covering | Total | Total-SENVU | CHEAL | SENVU | POLPE | POLAV | SOLNI | POAAN | others |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | a | 5 | 20 | 14 | 2 | 6 | 10 | | 2 | | |
| 1 | b | 5 | 15 | 12 | 2 | 3 | 9 | | | | 1 |
| 1 | c | 3 | 15 | 11 | 3 | 4 | 6 | 1 | | | 1 |
| 1 | d | 4 | 19 | 17 | 4 | 2 | 9 | | 3 | | 1 |
| 3 | a | 3 | 7 | 7 | 1 | | 5 | | | 1 | |
| 3 | b | 2 | 9 | 9 | 3 | | 5 | | 1 | | |
| 3 | c | 1 | 8 | 8 | 1 | | 6 | | 1 | | |
| 3 | d | 1 | 3 | 2 | | 1 | | | | 1 | 1 |
| 4 | a | 1 | 3 | 3 | 1 | | 2 | | | | |
| 4 | b | 1 | 7 | 5 | | 2 | 4 | | | | 1 |
| 4 | c | 1 | 5 | 5 | | | 5 | | | | |
| 4 | d | 2 | 4 | 3 | | 1 | 2 | | | 1 | |
| 5 | a | 1 | 4 | 4 | | | 3 | | | 1 | |
| 5 | b | 1 | 2 | 0 | | 2 | | | | | |
| 5 | c | 1 | 1 | 0 | | 1 | | | | | |
| 5 | d | 1 | 4 | 4 | 3 | | | 1 | | | |
| 6 | a | 1 | 5 | 4 | 1 | 1 | 2 | 1 | | | |
| 6 | b | 1 | 2 | 0 | | 2 | | | | | |
| 6 | c | 1 | 2 | 2 | | | | | | 2 | |
| 6 | d | 1 | 1 | 1 | | | | 1 | | | |
| 7 | a | 2 | 5 | 2 | | 3 | 2 | | | | |
| 7 | b | 1 | 3 | 0 | | 3 | | | | | |
| 7 | c | 2 | 9 | 8 | 1 | 1 | 5 | | | 2 | |
| 7 | d | 1 | 6 | 2 | | 4 | 1 | | | 1 | |
| 8 | a | 2 | 7 | 4 | 1 | 3 | 3 | | | | |
| 8 | b | 1 | 2 | 1 | 1 | 1 | | | | | |
| 8 | c | 2 | 8 | 8 | 1 | | | 1 | 2 | 3 | 1 |
| 8 | d | 1 | 3 | 2 | 1 | 1 | | | | | 1 |
| 9 | a | 2 | 5 | 0 | | 5 | | | | | |
| 9 | b | 1 | 5 | 0 | | 5 | | | | | |
| 9 | c | 1 | 2 | 0 | | 2 | | | | | |
| 9 | d | 1 | 2 | 2 | | | 1 | | | 1 | |
| 10 | a | 2 | 7 | 2 | | 5 | 2 | | | | |
| 10 | b | 1 | 2 | 0 | | 2 | | | | | |
| 10 | c | 1 | 2 | 2 | | | 1 | | | | 1 |
| 10 | d | 1 | 1 | 0 | | 1 | | | | | |

## Yield

Yield Lily 2006 project 3234015900 trial H06l2

| | | nr. | wght | nr. | wght | nr. | wght | nr. | wght | nr. | wght | nr. | wght |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trt | Rep | -12 | -12 | 12/14 | 12/14 | 14/16 | 14/16 | 16/op | 16/op | dub. | neus | fusarium | fusar. |
| 1 | A | 11 | 222 | 70 | 2768 | 67 | 3876 | 12 | 1032 | 0 | 0 | 0 | 0 |
| 1 | B | 15 | 330 | 73 | 2812 | 55 | 3133 | 9 | 759 | 3 | 188 | 0 | 0 |
| 1 | C | 3 | 144 | 61 | 2251 | 61 | 3423 | 24 | 1988 | 0 | 0 | 0 | 0 |
| 1 | D | 10 | 274 | 58 | 2298 | 68 | 3815 | 22 | 1791 | 0 | 0 | 0 | 0 |
| 2 | A | 7 | 148 | 65 | 2483 | 62 | 3603 | 18 | 1441 | 2 | 132 | 0 | 0 |
| 2 | B | 6 | 146 | 66 | 2443 | 60 | 3354 | 22 | 1758 | 0 | 0 | 0 | 0 |
| 2 | C | 4 | 81 | 57 | 2195 | 71 | 4165 | 19 | 1834 | 2 | 130 | 0 | 0 |
| 2 | D | 11 | 256 | 62 | 2490 | 72 | 4309 | 12 | 1037 | 2 | 106 | 0 | 0 |
| 3 | A | 9 | 181 | 60 | 2290 | 70 | 4087 | 17 | 1382 | 2 | 118 | 1 | 20 |
| 3 | B | 12 | 269 | 62 | 2470 | 49 | 2735 | 28 | 2434 | 2 | 171 | 3 | 62 |
| 3 | C | 12 | 266 | 64 | 2440 | 52 | 2958 | 29 | 2274 | 0 | 0 | 0 | 0 |
| 3 | D | 10 | 210 | 70 | 2750 | 59 | 3624 | 16 | 1477 | 1 | 53 | 0 | 0 |
| 4 | A | 12 | 257 | 55 | 2061 | 52 | 2959 | 34 | 2695 | 1 | 45 | 1 | 19 |
| 4 | B | 10 | 198 | 70 | 2642 | 59 | 3415 | 10 | 867 | 4 | 185 | 0 | 0 |
| 4 | C | 7 | 164 | 71 | 2779 | 56 | 3294 | 20 | 1666 | 1 | 110 | 0 | 0 |
| 4 | D | 10 | 251 | 49 | 1982 | 80 | 4774 | 14 | 1249 | 1 | 60 | 0 | 0 |
| 5 | A | 9 | 192 | 57 | 2105 | 56 | 3087 | 32 | 2562 | 1 | 82 | 0 | 0 |
| 5 | B | 10 | 209 | 61 | 2386 | 51 | 2798 | 36 | 2968 | 0 | 0 | 0 | 0 |
| 5 | C | 17 | 392 | 55 | 2114 | 52 | 2860 | 31 | 2550 | 0 | 0 | 0 | 0 |
| 5 | D | 5 | 125 | 58 | 2261 | 71 | 4199 | 18 | 1486 | 1 | 68 | 0 | 0 |
| 6 | A | 14 | 290 | 53 | 2050 | 59 | 3472 | 24 | 1971 | 2 | 205 | 2 | 62 |
| 6 | B | 11 | 271 | 62 | 2473 | 60 | 3430 | 18 | 1519 | 1 | 93 | 0 | 0 |
| 6 | C | 8 | 192 | 58 | 2262 | 76 | 4428 | 13 | 1137 | 1 | 70 | 2 | 79 |
| 6 | D | 11 | 280 | 52 | 2043 | 66 | 3793 | 24 | 1999 | 1 | 81 | 0 | 0 |
| 7 | A | 16 | 335 | 59 | 2309 | 60 | 3490 | 25 | 1982 | 1 | 74 | 0 | 0 |
| 7 | B | 6 | 131 | 55 | 2054 | 67 | 3795 | 21 | 1730 | 1 | 79 | 0 | 0 |
| 7 | C | 21 | 457 | 57 | 2113 | 54 | 3133 | 20 | 1614 | 1 | 87 | 0 | 0 |
| 7 | D | 5 | 124 | 65 | 2645 | 55 | 3263 | 29 | 2449 | 1 | 106 | 2 | 51 |
| 8 | A | 11 | 215 | 74 | 2893 | 48 | 2838 | 19 | 1525 | 2 | 88 | 0 | 0 |
| 8 | B | 14 | 348 | 60 | 2337 | 57 | 3115 | 23 | 1858 | 2 | 140 | 0 | 0 |
| 8 | C | 13 | 280 | 69 | 2569 | 47 | 2584 | 24 | 1889 | 3 | 220 | 0 | 0 |
| 8 | D | 8 | 180 | 63 | 2446 | 72 | 4073 | 16 | 1381 | 0 | 0 | 0 | 0 |
| 9 | A | 14 | 285 | 57 | 2151 | 63 | 3624 | 22 | 1824 | 1 | 104 | 0 | 0 |
| 9 | B | 9 | 185 | 45 | 1706 | 72 | 4063 | 28 | 2276 | 1 | 72 | 0 | 0 |
| 9 | C | 11 | 253 | 63 | 2417 | 55 | 3121 | 27 | 2199 | 3 | 241 | 0 | 0 |
| 9 | D | 11 | 234 | 53 | 2132 | 66 | 3746 | 24 | 2027 | 2 | 167 | 0 | 0 |
| 10 | A | 10 | 222 | 74 | 2930 | 53 | 2886 | 17 | 1384 | 2 | 136 | 0 | 0 |
| 10 | B | 15 | 318 | 65 | 2585 | 56 | 3151 | 17 | 1365 | 1 | 93 | 0 | 0 |
| 10 | C | 6 | 120 | 66 | 2597 | 64 | 3640 | 16 | 1336 | 1 | 52 | 0 | 0 |
| 10 | D | 8 | 174 | 57 | 2330 | 68 | 3840 | 22 | 1820 | 2 | 125 | 1 | 26 |

# Appendix 9 Raw data H06I3

**Weed**

| Trt! | Rep! | total | CHEAL | POAAN | STEME | SOLNI | POLPE | others |
|---|---|---|---|---|---|---|---|---|
| 1 | a | 16 | 2 | 6 | 3 | 1 | 2 | 2 |
| 1 | b | 24 | 3 | 16 | | 2 | | 3 |
| 1 | c | 34 | 10 | 16 | 4 | | 2 | 2 |
| 1 | d | 28 | 10 | 11 | 2 | 1 | | 4 |
| 2 | a | 15 | 2 | 7 | | 5 | | 1 |
| 2 | b | 3 | | 2 | | 1 | | |
| 2 | c | 4 | 1 | 2 | 1 | | | |
| 2 | d | 4 | | 2 | | | | 2 |
| 3 | a | 2 | | | | | 1 | 1 |
| 3 | b | 9 | | 8 | | 1 | | |
| 3 | c | 8 | 1 | 7 | | | | |
| 3 | d | 8 | 1 | 5 | | | 2 | |
| 4 | a | 5 | | 5 | | | | |
| 4 | b | 8 | | 7 | | | 1 | |
| 4 | c | 6 | 1 | 4 | | | | 1 |
| 4 | d | 7 | | 6 | | | | 1 |
| 5 | a | 6 | | 5 | | | | 1 |
| 5 | b | 1 | | 1 | | | | |
| 5 | c | 3 | | 2 | | | | 1 |
| 5 | d | | | | | | | |
| 6 | a | 3 | | 3 | | | | |
| 6 | b | 5 | 1 | 4 | | | | |
| 6 | c | 5 | | 5 | | | | |
| 6 | d | 2 | | 2 | | | | |
| 7 | a | 6 | 1 | 4 | | | | 1 |
| 7 | b | 7 | 1 | 6 | | | | |
| 7 | c | 7 | 2 | 5 | | | | |
| 7 | d | 9 | 3 | 6 | | | | |
| 8 | a | 9 | | 9 | | | | |
| 8 | b | 8 | 1 | 6 | | | 1 | |
| 8 | c | 5 | 1 | 4 | | | | |
| 8 | d | 8 | | 7 | | | | 1 |
| 9 | a | 3 | | 3 | | | | |
| 9 | b | 7 | | 7 | | | | |
| 9 | c | 4 | 1 | 2 | | | 1 | |
| 9 | d | 5 | 2 | 2 | | | 1 | |
| 10 | a | 1 | | 1 | | | | |
| 10 | b | 10 | | 9 | | | 1 | |
| 10 | c | 5 | 3 | 1 | | | | 1 |
| 10 | d | 9 | | 8 | | | 1 | |

## Yield

Yield Lily 2006 project 3234015900 trial H06l3

| | | nr. | wght | nr. | wght | nr. | wght | nr. | wght | nr. | wght | nr. | wght |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trt | Rep | -12 | -12 | 12/14 | 12/14 | 14/16 | 14/16 | 16/op | 16/op | dub. | neus | fusarium | fusar. |
| 1 | A | 7 | 155 | 30 | 1109 | 49 | 2548 | 51 | 3802 | 10 | 549 | 0 | 0 |
| 1 | B | 5 | 110 | 49 | 1694 | 38 | 1886 | 45 | 3146 | 13 | 698 | 0 | 0 |
| 1 | C | 15 | 291 | 59 | 1988 | 54 | 2674 | 14 | 945 | 12 | 511 | 0 | 0 |
| 1 | D | 11 | 210 | 58 | 2108 | 42 | 2151 | 35 | 2524 | 6 | 317 | 0 | 0 |
| 2 | A | 6 | 113 | 30 | 1078 | 50 | 2576 | 49 | 3850 | 15 | 1007 | 0 | 0 |
| 2 | B | 6 | 131 | 41 | 1478 | 46 | 2291 | 45 | 3531 | 12 | 640 | 0 | 0 |
| 2 | C | 6 | 100 | 39 | 1282 | 64 | 3274 | 29 | 2155 | 17 | 884 | 0 | 0 |
| 2 | D | 8 | 156 | 34 | 1180 | 59 | 2865 | 43 | 3075 | 5 | 243 | 0 | 0 |
| 3 | A | 5 | 101 | 35 | 1230 | 55 | 2850 | 52 | 3977 | 7 | 372 | 0 | 0 |
| 3 | B | 6 | 100 | 31 | 1127 | 57 | 2889 | 49 | 3662 | 13 | 741 | 0 | 0 |
| 3 | C | 7 | 156 | 47 | 1629 | 58 | 2982 | 30 | 2173 | 14 | 761 | 0 | 0 |
| 3 | D | 8 | 176 | 29 | 1077 | 44 | 2368 | 56 | 4217 | 13 | 730 | 0 | 0 |
| 4 | A | 6 | 143 | 22 | 758 | 54 | 2748 | 54 | 4250 | 14 | 773 | 0 | 0 |
| 4 | B | 6 | 112 | 39 | 1324 | 61 | 2919 | 37 | 2614 | 12 | 679 | 0 | 0 |
| 4 | C | 4 | 75 | 35 | 1236 | 51 | 2622 | 46 | 3221 | 16 | 836 | 0 | 0 |
| 4 | D | 14 | 244 | 31 | 1042 | 50 | 2498 | 47 | 3393 | 11 | 898 | 0 | 0 |
| 5 | A | 10 | 203 | 31 | 1075 | 48 | 2479 | 52 | 3764 | 10 | 630 | 0 | 0 |
| 5 | B | 6 | 146 | 38 | 1466 | 49 | 2374 | 52 | 3885 | 11 | 886 | 0 | 0 |
| 5 | C | 6 | 82 | 35 | 1234 | 59 | 3029 | 43 | 3091 | 11 | 667 | 1 | 27 |
| 5 | D | 7 | 150 | 57 | 1917 | 42 | 2018 | 32 | 2341 | 12 | 707 | 0 | 0 |
| 6 | A | 4 | 61 | 29 | 955 | 38 | 1913 | 59 | 4258 | 17 | 905 | 0 | 0 |
| 6 | B | 9 | 156 | 32 | 1068 | 43 | 2132 | 47 | 3698 | 11 | 636 | 3 | 95 |
| 6 | C | 8 | 146 | 39 | 1344 | 56 | 2927 | 35 | 2638 | 18 | 1185 | 0 | 0 |
| 6 | D | 5 | 97 | 38 | 1347 | 58 | 2915 | 39 | 2942 | 9 | 492 | 1 | 49 |
| 7 | A | 5 | 90 | 25 | 949 | 39 | 2093 | 65 | 5104 | 11 | 773 | 0 | 0 |
| 7 | B | 6 | 146 | 36 | 1409 | 48 | 2567 | 48 | 3757 | 14 | 781 | 0 | 0 |
| 7 | C | 7 | 150 | 39 | 1351 | 50 | 2494 | 35 | 2697 | 17 | 869 | 0 | 0 |
| 7 | D | 12 | 236 | 47 | 1642 | 47 | 2365 | 35 | 2460 | 12 | 669 | 0 | 0 |
| 8 | A | 2 | 41 | 35 | 1233 | 53 | 2736 | 45 | 3533 | 12 | 666 | 0 | 0 |
| 8 | B | 7 | 151 | 35 | 1277 | 50 | 2571 | 46 | 3431 | 15 | 919 | 0 | 0 |
| 8 | C | 12 | 246 | 46 | 1725 | 54 | 2842 | 34 | 2519 | 12 | 783 | 0 | 0 |
| 8 | D | 13 | 234 | 28 | 1024 | 55 | 2754 | 47 | 3647 | 13 | 960 | 1 | 34 |
| 9 | A | 3 | 67 | 34 | 1155 | 42 | 2097 | 59 | 4359 | 18 | 1184 | 0 | 0 |
| 9 | B | 5 | 87 | 33 | 1190 | 46 | 2272 | 61 | 4546 | 11 | 599 | 0 | 0 |
| 9 | C | 8 | 137 | 30 | 1014 | 40 | 1863 | 59 | 4199 | 11 | 512 | 0 | 0 |
| 9 | D | 12 | 220 | 45 | 1518 | 47 | 2378 | 35 | 2629 | 14 | 797 | 0 | 0 |
| 10 | A | 5 | 110 | 32 | 1194 | 43 | 2246 | 54 | 4156 | 14 | 1009 | 0 | 0 |
| 10 | B | 12 | 227 | 30 | 1009 | 46 | 2348 | 48 | 3792 | 11 | 562 | 0 | 0 |
| 10 | C | 12 | 263 | 43 | 1546 | 49 | 2583 | 38 | 2754 | 11 | 582 | 0 | 0 |
| 10 | D | 10 | 190 | 41 | 1462 | 50 | 2581 | 39 | 2803 | 16 | 1072 | 0 | 0 |

# Appendix 10 : Application data H06l1

| Trialnr.: H06l1 | Carried out by: H. v. Aanholt |
|---|---|

| spray-nr. | spray-date | spray-time fr. – till | Order of spraying treatments | temp. at 1,5 m height (°C) | cloudiness | wind-direction | windspeed at 2 m height (m/sec) | rain (mm) | | | cropdata | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1 day before | during | 1 day after | wetness | stage | length (cm) |
| 1 | 26-4-06 | 9-10 | 3-5-4-6 | 11 | fully | SW | 2 | 0.2 | 0 | 0 | - | - | - |
| 2 | 15-5-06 | 9:30-10:30 | 7-9-8-10 | 17 | fully | ESE | 2-3 | 0 | 0 | 0 | dry | 90% emerge | 0-5 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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**Remarks:**

# Appendix 11 : Application data H06I2

| Trialnr.: H06I2 | Carried out by: J. Wijnker |
|---|---|

| spray-nr. | spray-date | spray-time fr. – till | Order of spraying treatments | temp. at 1,5 m height (°C) | cloudiness | wind-direction | windspeed at 2 m height (m/sec) | rain (mm) | | | cropdata | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1 day before | during | 1 day after | wetness | stage | length (cm) |
| 1 | 20-4-06 | 9-10 | 3-5-4-6 | 11 | fully | SW | 3-4 | 1.3 | 1 | 0.6 | - | No emerge | - |
| 2 | 12-5-06 | 9;30-10:30 | 7-9-8-10 | 18 | veil | NE | 3 | 0 | 0 | 0 | dry | spreading | 3-5 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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**Remarks:**

# Appendix 12 : Application data H0613

| Trialnr.: H0613 | Carried out by: B. Buitenwerf |
|---|---|

| spray-nr. | spray-date | spray-time fr. – till | Order of spraying treatments | temp. at 1,5 m height (°C) | cloudiness | wind-direction | windspeed at 2 m height (m/sec) | rain (mm) | | | cropdata | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1 day before | during | 1 day after | wetness | stage | length (cm) |
| 1 | 26-4-06 | 9-10 | 3-5-4-6 | 12 | Heavily | WNW | 3 | 0 | 0 | 0 | - | No emerge | - |
| 2 | 31-05-06 | 8-9 | 7-9-8-10 | 10 | Fully | NNW | 4 | 3 | 0 | 0.4 | dry | 100% emerge | 3-10 cm |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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**Remarks:**