**2005 Insecticide Seed Treatment Efficacy against Flea Beetles on Canola Trial B**

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**Materials and Methods**

Trials assessing the different insecticide seed treatments were conducted in research plots located at the North Central Research Extension Center (REC) in Minot and the Langdon REC in Langdon. *Brassica napus* cv. Hyola 357 Magnum was seeded on 17 May in Langdon and 11 May in Minot. The seeding rate was approximately 14-17 pure live seeds per sq. foot. A RCB experimental design with four replicates was used. Experimental plots were 3.5-4.1 ft. (7 rows) x 20-22 ft. To evaluate flea beetle injury, assessments were taken at approximately 15-16, 21, and 29-30 Days After Planting (DAP) using the following rating scheme: 1 = 0-3 pits per seedling; 2 = 4-9 pits per seedling; 3 = 10-15 pits per seedling; 4= 16-25 pits per seedling; 5 = >25 pits per seedling; and 6 = dead. Percent coverage (% of land area in plot that was covered with canola seedlings) was estimated on 29-30 DAP. Roundup (1 pt./acre) + AMS was applied for weed control early in the season. Plots were harvested on 10 August in Minot and 30 August in Langdon. Variables were subjected to ANOVA and means compared using Fisher's PLSD at the 5% significance level.

**Results and Discussion**

**Flea Beetle Injury Ratings and Yield (Table 1-2):**

Flea beetle populations were generally higher at Minot than Langdon during 2005. Insecticide seed treatments had a significantly lower injury rating than the untreated check, and there were no significant differences between any of the insecticide seed treatments for 15, 21 and 30 DAP ratings at Minot, and 16 DAP rating at Langdon. No second injury rating at 21 DAP was taken at Langdon due to wet plots. At 29 DAP in Langdon, Prosper 400 and Helix xtra had a significantly lower injury rating than the experimental insecticide treatment A and the untreated check. In addition, the experimental insecticide treatment A had a significantly lower injury rating than the untreated check. At Minot, all of the insecticide seed treatments had a significantly higher yield than the untreated check. There were no significant differences in yield at Langdon. Overall, the insecticide seed treatment averaged 273 lb/acre more than the untreated check: 289 lb/acre more for Helix xtra, 288 lb/acre more for Prosper 400, and 243 lb/acre more for experimental insecticide treatment A.

**Table 1. Minot.**

| Treatment/ formulation | Rate g AI/100 kg | 15 DAP[a] Rating 1 1-6[b] | 21 DAP[a] Rating 2 1-6[b] | 30 DAP[a] Rating 3 1-6[b] | 30 DAP[a] % Coverage | Yield lb/acre |
|---|---|---|---|---|---|---|
| Untreated check | | 2.9 a | 3.3 a | 4.3 a | 45 a | 1131 a |
| Prosper 400 | 400 | 1.0 b | 1.0 b | 1.8 b | 73 b | 1582 b |
| Helix xtra | 400 | 1.0 b | 1.0 b | 1.8 b | 65 ab | 1623 b |
| Exp. A | | 1.0 b | 1.0 b | 2.4 b | 64 ab | 1547 b |
| ***LSD(P=.05)*** | | ***0.2*** | ***0.4*** | ***0.7*** | ***16.4*** | ***252*** |
| ***CV*** | | ***8.5*** | ***16.0*** | ***18.1*** | ***16.7*** | ***10.7*** |
| ***Grand Mean*** | | ***1.5*** | ***1.6*** | ***2.5*** | ***61.6*** | ***1471*** |

**Means within a column followed by the same letter are not significantly different (ANOVA, Fisher's PLSD, P<0.05).**
**[a] DAP = Days After Planting**
**[b] Injury Rating: 1= 0-3 pits per seedling, 2= 4-9 pits per seedlings; 3= 10-15 pits per seedling; 4= 16-25 pits per seedling; 5= >25 pits per seedling; and 6= dead seedling.**

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**Table 2. Langdon**

| Treatment/ formulation | Rate g AI/100 kg | 16 DAP[a] Rating 1 1-6[b] | 29 DAP[a] Rating 3 1-6[b] | 29 DAP[a] % Coverage | Yield lb/acre |
|---|---|---|---|---|---|
| Untreated check | | 2.8 a | 2.1 a | 83 a | 2716 |
| Prosper 400 | 400 | 1.8 b | 1.1 c | 98 b | 2840 |
| Helix xtra | 400 | 1.5 b | 1.1 c | 99 b | 2802 |
| Exp. A | | 1.6 b | 1.6 b | 95 b | 2786 |
| ***LSD(P=.05)*** | | ***0.5*** | ***0.3*** | ***6.6*** | ***NS*** |
| ***CV*** | | ***17.6*** | ***13.6*** | ***4.3*** | ***4.8*** |
| ***Grand Mean*** | | ***1.9*** | ***1.5*** | ***93.4*** | ***2786*** |

**Means within a column followed by the same letter are not significantly different (ANOVA, Fisher's PLSD, P<0.05).**
**[a] DAP = Days After Planting**
**[b] Injury Rating: 1= 0-3 pits per seedling, 2= 4-9 pits per seedlings; 3= 10-15 pits per seedling; 4= 16-25 pits per seedling; 5= >25 pits per seedling; and 6= dead seedling.**