# EFFECTIVENESS OF REGENT® AS A SEED TREATMENT FOR EARLY SEASON THRIPS SUPPRESSION IN DRY BULB ONION

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## Introduction

Seed treatments are commonly used for seedling protection from fungi such as those that cause damping off in onions. Some of the newer seed treatments used in other crops are designed to give control of insects, such as maggots or wireworm. One of these products is Regent® (fipronil). It appears to be effective on onion and seed corn maggot as well as wireworm. There have been suggestions that the product may also suppress early season thrips populations. This trial was designed to determine what level of thrips suppression might be expected.

## Materials and Methods

A two-bed block was set aside to study the impact of Regent as a seed treatment. The onion variety 'Charismatic' (Seminis, Payette, ID) was treated with two rates of Regent, 0.5 and 1.0 oz/lb of seed. Regent insecticide was applied as a seed coating by Seminis, and planted on March 24 with two double rows on a 44-inch bed. The double rows were spaced 2 inches apart. The seeding rate was 137,000 seeds/acre. The soil type was an Owyhee silt loam and the crop was furrow irrigated.

The trial was a randomized complete block design with two rates of Regent plus an untreated check. No insecticide applications were made to the trial area other than Regent seed treatment. The thrips on 15 plants/plot were visually counted on a weekly basis.

## Results and Discussion

Thrips populations for different treatments are shown in Table 1. Five weeks in June and early July showed significantly lower thrips populations in the Regent-treated plots as well as in the season average. All Regent-treated plots had lower thrips numbers until July 27, although not all weeks were statistically different. This information is shown graphically in Figure 1.

Jumbo, colossal plus supercolossal, and total yield were all higher with the seed treatments, but only total yield at the 1.0-oz rate (Table 2) was significantly different.

## Conclusions

Regent, when used as a seed treatment, offers potential for early season thrips suppression. Because it is a different chemistry from any of the currently available insecticides, if registered, it will offer hope that growers will at last be able to mix insecticide chemistries enough to limit resistance development.

Table 1. Weekly thrips counts on onions grown from Regent-treated seed by month. Malheur Experiment Station, Oregon State University, Ontario, OR, 2006.

| June | 1 Jun | 6 Jun | 14 Jun | 20 Jun | 29 Jun |
|---|---|---|---|---|---|
| Untreated | 14.1 | 23.7 | 30.2 | 29.2 | 20.9 |
| 0.5 oz | 3.6 | 8.9 | 17.5 | 15.5 | 17.4 |
| 1.0 oz | 4.2 | 9.5 | 19.5 | 19.7 | 16.7 |
| LSD (0.05) | 5.9 | 11.5 | 8.3 | NS | NS |

| July | 3 Jul | 11 Jul | 17 Jul | 21 Jul | 24 Jul | 27 Jul |
|---|---|---|---|---|---|---|
| Untreated | 18.3 | 17.8 | 23.9 | 16.6 | 13.9 | 15.2 |
| 0.5 oz | 9.9 | 10.4 | 19.6 | 13.7 | 12.5 | 16.1 |
| 1.0 oz | 11.4 | 11.2 | 21.9 | 17.6 | 13.6 | 15.1 |
| LSD (0.05) | 3.8 | 3.1 | NS | NS | NS | NS |

| August | 3 Aug | 7 Aug | Season average |
|---|---|---|---|
| Untreated | 9.8 | 13.3 | 19.0 |
| 0.5 oz | 8.2 | 10.7 | 12.6 |
| 1.0 oz | 9.9 | 12.7 | 14.1 |
| LSD (0.05) | NS | NS | 2.6 |

Table 2. Effects on onion yield with Regent seed treatments. Malheur Experiment Station, Oregon State University, Ontario, OR, 2006.

| Treatment | Medium | Jumbo | Colossal & super | Total yield |
|---|---|---|---|---|
| | ---------- cwt/acre ---------- | | | |
| Untreated | 118.0 | 461.8 | 80.8 | 660.6 |
| 0.5 oz | 84.1 | 562.9 | 110.9 | 757.8 |
| 1.0 oz | 111.0 | 648.5 | 155.5 | 914.9 |
| LSD (0.05) | NS | NS | NS | 210.7 |

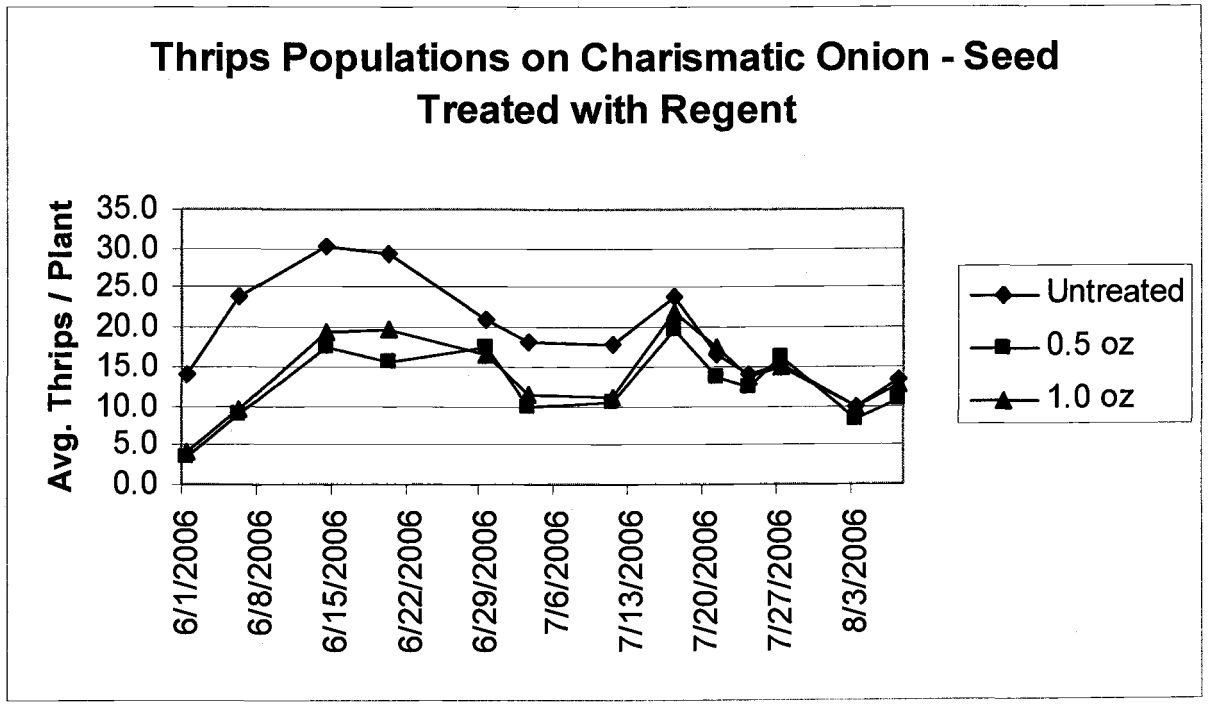


Figure 1. Thrips populations on 'Charismatic' onion seed treated with Regent. Malheur Experiment Station, Oregon State University, Ontario, OR, 2006.