EVALUATION OF NECK LENGTH AND INSECTICIDE TREATMENTS FOR THRIPS CONTROL IN STORED ONIONS

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Introduction

Controlling thrips in onions has become increasingly difficult over the past decade. Consequently, the maturing crop has a higher population of thrips than in prior years. Harvesting procedures have also changed for processed onions; some onions are topped while the necks are immature, cured for 1-2 days, and then brought into storage for heat curing. This process has increased the problem of thrips damage in storage. Thrips continue to feed near the neck region in stored bulbs, causing damage during the storage period. Reports from New Zealand (Monty Spencer, personal communication) indicate that longer neck length after topping helped lower thrips injury.

Materials and Methods

The treatment area was marked out of a commercial onion field. The treatments were in a latin square design with five treatments and five replications. The plot size was two beds wide by 15 ft in length. All treatments were made on September 12, after which 20 bulbs from each plot were harvested and placed into mesh bags made of "no-thrips insect screen". This material has a mesh size of 81 x 81 with a hole opening size of 0.0059 x 0.0059 inches and a thread size of 0.15 mm. The treatments were:

- 1-inch neck left on onion
- 3-inch neck left on onion
- 3-inch neck plus Warrior insecticide treatment after topping
- 3-inch neck plus Lannate and MSR insecticide treatment after topping
- 5-inch neck left on onion

After harvest the onions were placed into commercial onion storage at McCain Foods. Storage conditions were the same as used for commercial onions.

The onions were removed from storage on March 28, warmed for 2 days, and evaluated for thrips damage and decay on March 30.

Results and Discussion

There were no observed thrips on any of the onions. There was scarring around the neck region of the bulbs and this was scored on a scale of 0-10 with 0 meaning no damage and 10 being completely scarred. Black mold was the principle decay organism present and it was evaluated for severity with 0 equaling no disease present and 10 being completely decayed.

Table 1. Evaluation of stored Spanish onions for thrips damage and disease severity. Ontario, OR. 2001.

The insecticide treatments of Warrior or Lannate plus MSR resulted in significantly less thrips damage than the other treatments. Neck length did not influence thrips damage.

Although there was a trend towards less black mold with increasing neck length, this was not statistically significant.