

Field tour increases grower awareness of drip irrigation benefits in onion

The Situation

Thrips are one of the most damaging and difficult to control insect pests in onions. The Idaho/Oregon Onion Marketing/Research Committee has identified thrips control as one of their top three research needs. Conventional onion spray programs have relied on the foliar application of insecticides for many years. Growers commonly make 5 to 8 applications of insecticides during the season to control thrips. Thrips populations in the Treasure Valley of Idaho and Oregon have been documented to rapidly develop resistance to these products, resulting in more frequent and heavier use of pesticides. The wide scale adoption of drip irrigation in onion in this region opens up new possibilities for thrip control.

Growers have been using oxamyl (Vydate L) and methomyl (Lannate) applied via drip irrigation to augment their conventional spray programs. Industry reports indicate that this practice not only aides in insect control, but also improves plant health and bulb size. Research is ongoing to understand how the application of insecticides through drip systems could be used to control thrips and reduce costs while delaying or limiting the development of resistance in thrip populations. Additionally, these trials may help demonstrate water quality protection from pesticide runoff, integrated pest management techniques, and supply data for potential pesticide registrations for drip chemigation of onion. The goal of this field tour, and other associated Extension events is to increase grower knowledge about thrips control through drip systems and increase the likelihood they will adopt these BMP's in the future.

Our Response

Extension Educators Jerry Neufeld and Ronda Hirnyck collaborated with Extension Specialists, Dr.



Drip irrigated onions in early June. Photo by Jerry Neufeld

Mike Thornton and Dr. Jim Barbour, at the Parma R&E Center, and Jim Klauzer with Clearwater Supply Company, to obtain grant funds for a multi-insecticide drip irrigation onion trial. The onion trial was located at the Parma R&E Center and contained 11 insecticide treatments, all targeted for onion thrip control. Insecticide treatments were applied either by chemigation through the drip irrigation system or by foliar application. The summer of 2013 was the third year this field trial was conducted.

Throughout the last two growing seasons, data was collected on thrip counts and emergence dates, beneficial insects present in each plot, and timing and rates of pesticides used. These data were summarized and displayed on two posters at a summer field tour of the onion plots. These data have also been presented at onion producer meetings over the last two years, and field tours held during the three years of the demonstration project. The 2013 field tour was

held in August at the Parma R&E Center in collaboration with the Natural Resource Conservation Service, allied industry and pesticide registrants.

Program Outcomes

A survey was administered during the 2013 field tour to determine impacts from conducting a field tour. The following impacts were measured:

As a result of the field tour:

- 90% of the growers indicated an increase in knowledge of thrip management using chemigation treatments
- 79% plan to use information they learned from the tour for their own farm management decisions
- 72% gained knowledge of the benefits of drip irrigation for water conservation and water quality protection
- 62% learned about NRCS programs to help offset initial costs of installing drip irrigation

In addition we learned:

- Most growers have adopted drip irrigation for onion production. It was reported that 76% of the onions planted in 2013 are irrigated with drip irrigation.
- 66% of the growers are still interested in learning more about drip irrigation and the benefits of using drip systems.
- All growers who participated in the tour indicated that the tour was worth their time, and they acquired quality and useful information for the farming operations.

Before the completion of this project we intend to survey growers to measure the impacts from the use of BMP's they learned about through our extension efforts.

FOR MORE INFORMATION

Jerry Neufeld, Extension Educator—Crops
University of Idaho Extension, Canyon County
501 Main Street
Caldwell, ID 83605
Phone: 208.459.6003
Fax: 208.454.6349
E-mail: jerryn@uidaho.edu

Ronda Hirnyck, Ext. Pesticide Coordinator
University of Idaho Extension
322 East Front Street
Boise, ID 83702
Phone: 208.364.4046
Fax: 208.364-4035
E-mail: rhirnyck@uidaho.edu

17-13jneufeld-onion.pub
10/13