

POTATO PSYLLID CONTROL IN PACIFIC NORTHWEST POTATOES

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Potato psyllids have been known to occur in potatoes for years, however during 2011 the first detection of zebra chip, a psyllid vectored disease, was found throughout the Idaho, Oregon and Washington potato industry. No control recommendations existed for this insect pest in PNW potatoes. Schreiber, Jensen and Rondon developed the first set of management guidelines for potato psyllids for the Washington, Oregon and Idaho potato industry.

Schreiber conducted a set of four efficacy trials in Washington in 2012; a 9 treatment and an 11 treatment brace of chemigation trials, a 22 treatment at planting/season long program trial and a 38 treatment foliar only efficacy trial. Of the eighty treatments, 60 yield data useful in the management of potato psyllid. General conclusions drawn from the trial was that 1) psyllid pressure was light throughout the trial, 2) psyllids appeared to have a very low rate of infectivity by the bacteria that causes zebra chip, 3) a large number of products seem to have some degree of efficacy against psyllids in a low pressure situation.

In 2013, Schreiber conducted a set of six efficacy trial in Washington; 1) an 8 treatment at planting time trial, 2) a 30 treatment season long foliar trial, 3) a 28 treatment season long foliar trial, 4) a 19 treatment two application “according to the label” trial, 5) an 8 treatment chemigation trial and 6) a 16 treatment three application “according to the label” trial at a location distant from the aforementioned trial. The total number of treatments was 116.

The first five trials were conducted at the USDA ARS site near Paterson in southern Benton County, Washington. The psyllid pressure was approximately double that of 2012, however disease (zebra chip) pressure was virtually nonexistent. Most products tested in a season long manner with applications starting prior to psyllid establishment were successful in keeping insect numbers to a minimum. Products applied by chemigation were effective at reducing psyllid numbers but did not appear as efficacious as when applied by ground. Thousands of tubers were cut and over two under plants and tubers were assayed in a laboratory and not a single incidence of zebra chip was detected.

Applications for most insecticides at the location in southern Benton County were initiated prior to establishment of psyllid populations and most were applied from late June through early September. The sixth trial was located in northern Franklin County and was initiated subsequent to psyllid population establishment. The population at the Franklin County site was heavier than at the southern Benton County trial site. In general, control at the Franklin County site was poorer than at the Benton County site despite the products use being the same. A comparison

between results from the two location indicate that while many products have efficacy against psyllid when applied in a program initiated prior to establishment those products may not be as effective when applied in a rescue scenario, particularly in a heavy pressure situation.

During the course of the trial, greenhouse whitefly infested the plots. Data were collected on this pest species. In general, products with efficacy against potato psyllid had efficacy against greenhouse whitefly infesting potatoes. This is the first occurrence this scientist has seen of this pest in potatoes.

Implications for modifying control recommendations for potato psyllid will be discussed.