



# Potato Progress

Research & Extension for the Potato Industry of  
Idaho, Oregon, & Washington

Andrew Jensen, Editor. [ajensen@potatoes.com](mailto:ajensen@potatoes.com); 509-760-4859

Volume XII, Number 10

June 7, 2012

## Updates on Potato Psyllid and Zebra Chip (ZC)

Andy Jensen, Regional Research Director

Research and education work on potato psyllid and ZC is constantly ongoing in labs and field sites across the Northwest. We will try to keep you updated throughout the year as we learn new things or become aware of questions from industry members that we have not answered.

### Answers to Common Questions Received During Psyllid Workshops

1. **Q.** Is potato psyllid the only insect that transmits *Liberibacter*, the causal agent of ZC, to potato?  
**A.** Yes.
2. **Q.** Is potato psyllid the only psyllid that feeds on potato?  
**A.** In the Northwest, potato psyllid is the only one that we will find reproducing on potato, but other species will be caught on yellow sticky traps in potato fields (see pages 3-6 of this *Potato Progress*). Therefore, the only psyllid nymphs and eggs you will find living on potato will be potato psyllid, but you may sometimes find adults of other species briefly settling on potato plants or getting caught on yellow sticky traps.
3. **Q.** Could greenhouse transplant producers and box store distributors be a source of psyllid and/or ZC?  
**A.** Theoretically, yes. Potato psyllid can be a very difficult pest to manage in greenhouses, and psyllids are likely to be found on greenhouse-produced tomatoes and peppers from time to time.
4. **Q.** When walking through a potato field, will the adult psyllids tend to fly away as I approach?  
**A.** No. Psyllids generally like to stay on their host plant once they've found one. While adult psyllids are capable of hopping and flying some distance, they will generally stay on the plant until the plant is severely shaken or beaten, as for a beating sheet or sweep net sample.
5. **Q.** Is a beating sheet or sweep net sampling method effective for measuring psyllid nymph numbers?  
**A.** No. Psyllid nymphs are generally securely holding onto their host plant. A few nymphs are dislodged in beating samples, but most hold fast to the plant.
6. **Q.** Why was ZC such a problem in 2011 and never before?  
**A.** One important factor in ZC severity and psyllid abundance is the weather. Both the insect and pathogen do best in moderate weather, which we had aplenty last season. Psyllid development and reproduction are severely curtailed in temperatures over 95 F. Another issue appears to be the introduction of the *Liberibacter* causal agent of ZC into the Northwest. Previous to 2011 the potato psyllid was an annual colonist of Northwest potato fields, but no ZC had been seen. It appears that somehow the ZC pathogen became common in parts of the Northwest in 2011, but how this happened is still unknown.

### **Potato Psyllid Overwintering in the Northwest**

As many of you may have heard, a concerted effort on my part and by Silvia Rondon's lab at OSU Hermiston has been underway to determine whether potato psyllid can overwinter locally. We focused our attention on the perennial introduced weed known as bittersweet nightshade (*Solanum dulcamara*; see the photos). This plant is not an agricultural weed, but rather is a common plant along the banks of streams, rivers, lakes, and in perennial gardens. It produces long woody vines, which lose their leaves in late fall, persist through winter, and sprout new stems in spring. Patches of this plant can be large and dense as in the photo.



To make a long story short, we have confirmed successful overwintering by the potato psyllid in both the southern Columbia Basin and southwestern Idaho in association with large patches of bittersweet nightshade. How important this biology is to ZC in the potato crop will require much more study. It is still possible that migration from outside the Northwest is an important part of the story, and there are research efforts underway to answer questions along that line.

### **WSPC-Funded Psyllid Control Trial in Texas**

With funding from the Washington State Potato Commission, Dr. Don Henne of Texas A&M University conducted a small field experiment this winter on potato psyllid control using some common inexpensive insecticides. The treatments were as follows:

- 1 Vydate C-LV, 34 fl oz/ac
- 2 Sevin 33 fl oz/ac
- 3 Lannate 2 pts /ac
- 4 Asana XL 5.8 fl oz /ac
- 5 Baythroid 2.8 fl oz /ac
- 6 Control

Bottom line of the results: no product worked better than the untreated control, meaning that the products we had tested have no useful effect on psyllids.







