Development of a National Spray Application Work Group

Gwen Hoheisel, WSU Extension
Steve Castagnoli, OSU Extension
Franz Niederholzer, UC Extension
Past 20 years no one formally assigned to application technology R&E in PNW
A little work in OR
Some with research & education efforts in other regions
All giving different messages.
PROBLEM: WASHINGTON

116,000 hectares WA
2010-2014: 81 drift incidents exposing 301 people
48 incidents & 157 people exposed = airblast sprayers in orchards
Risk of more state regulations

Ranking Source: NAAS 2015 Survey
2 main activities:
1) train Extension faculty and consultants, and
2) disseminate information to producers so that they improve their spray applications

15 people trained in NY, Landers
2013-2014
No-cost
Must conduct 1 farmer training
TRAIN-THE-TRAINER GRANT

• Novice to Experienced
• Biological degrees, not engineering
• Engineering lessons learned
  – the function of sprayer components
  – new sprayer designs
  – role of air & technologies to reduce off-target drift
• Enhance their education included:
  – techniques for demonstrating drift
  – use of fluorescent tracers at night to show coverage
  – use of a vertical “Patternator”
  – faster sprayer calibration techniques
IMPACTS - EDUCATORS

• 5 states and British Columbia, Canada (Washington, Oregon, California, Pennsylvania, New Hampshire)
• 3 additional grants
• Monthly calls, shared materials
• Additional Train-the-trainer course.
  – Gil and Langenakens
2014-2015 By the Numbers….

- 50% of trainees active
- 39 workshops: 1577 producers attending 3,640 hectares of fruit & vegetable farms
- 42 shorter presentations reaching approximately 2923 producers
- 86 individual sprayers calibrations used 2980 hectares of farmland.
- WA – 1 day BMP sprayer course
SPRAYER COURSE

Hands-on; Spanish and English

3-yrs running, $50-80/person
Multiple sessions/yr
Long Term Impacts?
IMPACT OF WA SPRAYER COURSE

Impact survey, phone interviews

Continuing work...

Who:

• Grower-185 hectares & consultant-590 hectares
• Apples, pears, cherries, wine grapes, blueberries, hops
# IMPACT OF WA SPRAYER COURSE

## Basic Maintenance and Calibration

<table>
<thead>
<tr>
<th></th>
<th>Hoses &amp; Pumps</th>
<th>Pressure gauges</th>
<th>Nozzle output</th>
<th>speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>38%</td>
<td>38%</td>
<td>36%</td>
<td>54%</td>
</tr>
<tr>
<td>After</td>
<td>69%</td>
<td>69%</td>
<td>64%</td>
<td>92%</td>
</tr>
</tbody>
</table>

## Optimization

<table>
<thead>
<tr>
<th></th>
<th>Direct air: Use of ribbons</th>
<th>Used WSP</th>
<th>Reduce air: (GUTD, donut)</th>
<th>Ceramic nozzles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>38%</td>
<td>1%</td>
<td>0%</td>
<td>54%</td>
</tr>
<tr>
<td>After</td>
<td>69%</td>
<td>31%</td>
<td>33%</td>
<td>92%</td>
</tr>
</tbody>
</table>
NEXT STEPS

• Education on adjusting water volume
• LWA
• Evaluation and education on drift reduction sprayers
THE CHALLENGE

Gordon Training International, USA


Questions?

Funded by
Western Sustainable Ag Research and Extension Grant (EW13-022)
Specialty Crop Block Grant (K1782)