Organic Pest Management

How can IR-4 help?

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An overview of needs

- **Needs for organic vegetable growers**
  - Abby Seaman with input from others at the Northeast Biopesticides meeting
  - Spotted wing drosophila (small fruit)
  - Brown marmorated stink bug (tomatillos, bell and specialty peppers, tomatoes)
  - Striped cucumber beetle
  - Crucifer flea beetles
  - Solanaceous flea beetles (potato, tobacco)
  - Systena flea beetles (red headed flea beetle)
  - Cabbage and onion maggots
  - Leafminers in spinach, chard, beets
  - Potato leafhopper
  - Japanese beetle
  - Swede midge (cruciferous crops esp. broccoli)
  - Late blight
  - Cucurbit downy mildew
  - Cercospora leaf blight on beet, chard
  - In general: effective fungicides other than copper across crop groups (exception powdery mildews have a number of effective options)
  - Four lined plant bug
  - Basil downy mildew
  - Brown leaf mold in high tunnel and greenhouse (used to be Fulvia)
Overview of Needs, WI

- Efficacy testing – Alternatives to copper
- Fungal and bacterial management
  - Potential removal of streptomycin and oxytetracycline

- Weeds – potential weed control chemicals have difficulty getting organic approval
  - Maybe not an IR-4 issue
Overview of Needs

- Caterpillar pests are pretty well covered
- Hemipteran pests are a particularly difficult to manage with organic pesticide sprays
- An organic-approved useful herbicide is desperately needed
Possible Pesticide Projects

- These existing labels could possibly be expanded to other commodities.

- Keep in mind that efficacy data are often lacking.

- The need for efficacy data was a common theme from all correspondents.
Spinosad

- One of the few really effective chemicals available to organic growers

- Labeled on a long list of commodities but not everything

- Need something to rotate to retard resistance
Regalia - Biofungicide

- Marketed for fungal/bacterial diseases
  - E.g., powdery mildew, leaf spot

- Listed on label – artichoke, asparagus, caneberries, bush berries, bulb vegetables, some cereal grains, citrus, cole crops, and many others.
  - Not many commodities that are not covered.
Grandevo - bioinsecticide

- Chromobacterium

- Labeled for alfalfa/forages, artichoke, asparagus, banana, brassica, bulb veg., blueberries, cane berries, etc.

- Not labeled for every kind of citrus, every kind of fruiting vegetable, every kind of vegetable
Label interpretation

- Leaves of Root and Tuber Vegetables
  - Beets and turnips

- Oilseed Crops
  - Canola, safflower, sunflower
Venerate - bioinsecticide

- *Burkholderia* spp.
- Registration pending in several states
- Labeled crops similar to Grandevo
Azera

- Azadirachtin + pyrethrum
- Labeled crops very extensive
Previsto

- Fixed copper fungicide
  - Proposed replacement for fire blight control

- Additional work may not be necessary
Hydrogen peroxide + peroxyacetic acid

- Sanitizer – disinfectant
- Mostly post-harvest uses
Weed Management

- Corn gluten meal
  - Potential pre-emergent activity on some weeds
  - Efficacy questionable

- Citric acid/acetic acid products/Pelargonic acid
  - Dehydrate top foliage