Beekeeper Liason with Growers on Pesticides

Australian Bee Congress

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Relationship, Relationship, Relationship…

- Who are you dealing with… Owner, manager, PCA?
- Try to work high as possible in food chain.
- Develop trust and rapport.
- You are not expected to know everything but want to be included or at least informed about pesticide applications while your bees are present.

Honey location vs pollination contract

- You will have more influence if grower needs your hives.
- Do you have a written contract or a handshake?
- Personal relationship will still be important either way.
- Never assume land owners don't care about your bees but also don't forget their first responsibility is to protect their crop.
- Sometimes the best option is to find a new location or pollination contact.

40 years of crop pollination

Almonds… 18,000 hives to 3 growers

Blueberries… 14,000 hives to 3 growers

Cranberries… 8,000 hives to 200 growers

Use different approaches with large growers. They will be more interested in data or research demonstrating adverse effects of certain products. Ask them to support research on their farms. Develop connection with pesticide suppliers to learn what products are common. Encourage them to call you with questions.

Avoid Chicken little approach…

- Make sure growers are aware of beekeeper problems but no whining!!!
- Ask reasonable questions.
- Learn about products grower is likely to use.
- Most of agriculture is trying to control or kill insects… we are in the minority since we are trying to keep them alive.
- Try to offer alternative options.

Exposure???

- Time delivery and pickup to miss applications.
- Daytime vs nighttime applications.
- Short residual products vs extended residual (systemic products).
- Tank mixing?
- More than just insecticides… fungicides, herbicides, growth regulators, inert ingredients?
- What is a "bee safe" product
- Neighboring crops?

Timing pickup and delivery

- Absolute best to miss all pesticide applications.
- Can you bring bees when 20% bloom and remove at 80% petal fall?
- Almond growers often keep hives too long.
- Blueberry growers found that crop was still good if hives released before last bloom.
- Pesticide application intensifies once fruit is set.

Blueberry pollination and fungicides

- Grower 1 says "We don't need your bees if we can't use fungicide while they are here"
- Grower 2 begins to spray fungicide at night.
- Offer Grower 2 a discount or charge Grower 1 an extra fee for damages.
- Long term relationships with growers encourage cooperation.

Almond pollination and fungicides

- Bees stop working in the late afternoon
- Research shows daytime fungicide application hinders pollination.
- Almond Board encourages halt of all applications during bloom.
- If fungicide is needed, best to apply at night.

Learn about residual impacts

- How long is a pesticide actively killing?
- Short residual products applied at night may be less harm to bees while crop is in bloom.
- Systemic products may not show immediate damage but can be much more of a problems to colony health.

Tank mixing

- Very common to mix products together.
- Most toxicity data is done ONLY on single active ingredient.
- Research shows that mixing fungicide and insecticide together can increase toxicity many fold.
- No regulation on tank mixing in the US
- Talk to your grower about what they mix together and if they can avoid mix when bees are present.

More than just insecticides…

- Fungicide can kill beneficial bacteria in bee gut plus synergize with insecticides to make them "hotter".
- Growth regulators often tested on adult bees with little effect.
- Systemic products that don't kill worker bees on contact are brought back to the hive and fed to brood.
- Personal experience with almond and blueberry pollination chemical exposure keeps hives from spring time growth for many months.
- Recent research shows that adjuvants and other inert ingredients impact honey bee health.
- Bees have a very basic system to detox pesticides and is easily overwhelmed.

Bee safe products

- Often more costly than traditional products.
- Growth regulators and some systemic insecticides are advertised this way.
- Testing often done on adult bees.
- Many products are not tested on all stages of brood development.
- Still better to minimize exposure.

Neighboring crops

- Bees fly over two miles in each direction.
- Almonds are often surrounded by grapes, peaches, plums, citrus, and many vegetable crops that could be blooming at same time.
- Many instances of bee kills by neighboring crop applications.
- Corn dusting is a prime example.
- Important to scout surrounding area to know risks.

Learning about products

- Visit pesticide suppliers and learn what products are common.
- Attend grower meetings to keep up on new pests and products.
- Subscribe to University or industry newsletters.
- Use the internet to read labels.
- Ask other beekeepers about past problems.

Head off to the Bush?

- Most US beekeepers cannot avoid commercial agriculture.
- Crop pollination income is greater than honey production income.
- 90 million acres of corn, 90 million acres of soybeans, 80 million acres of cotton plus many other crops.
- Beekeepers are in the minority and often don't own or control the land where their bees are.
- We must adapt and work around pesticides.

Relationship is key!!!

- Most growers are sensitive to minimizing damage to pollinators.
- Their first responsibility is to protect their crop.
- They will choose best products and method of application available if they understand key issues,
- Minimize exposure to bees by choosing short residual products applied at night while bees are present.
- Encourage growers to support crop research to find safer products.