Buggy Bird Seed is Bad for Business

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Rejected shipments

Diminish value of brands & reputation:
- Your name, reputation, product brand.
- Your customer’s brand
- Retailer’s brand

Brand on package is at risk forever, long after it is out of your control.

Food safety risks in distribution and retail.

“Quality Protection for the Food & Commodity Industries”™
IPM for the Commodity and Food Processing Industries

- Objective: Provide you with an overview of current technology.
- Food processors have the same concerns and regulatory interests as you, and more.
- No silver bullets in IPM:
  - Lots of tools & techniques
  - Lots of job functions

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Trapping & Monitoring
Some of the greatest advancements in IPM over past 15 years

- Certain pests are controlled by trapping. Others just monitored.
- Not only are they trapped, but also counted.
- Bar code software for managing data.
- Data-based management decisions.
- Audit standards require trend reports.
Fogging

Filling the air with small aerosol droplets

- Fogging has become an important alternative to fumigation! But NOT old fashioned pyrethrin fogging.
- Old standard - Pyrethrin alone is a poor value.
- Insect growth regulators and dichlorvos (vapona, DDVP) are current professional tools.
Phosphine Fumigation
Still a standard but problems mounting

- Reactive, not proactive. No residual, but population rebound may be delayed
- Use of tablets and pellets in grain has been *too easy*. Poor attention to details.
- Resistance is emerging.
- Tragic accidents, fires, and other safety concerns...Label changes, buffer zones.
- Days are numbered for DIY fumigation. Becoming a professional service.

“Quality Protection for the Food & Commodity Industries”™
Residual insecticide protectants applied directly to grains and seeds.

Be sure bird seed is specifically listed on protectant insecticide label.

No animal health benefits or claims, so exempt from feed labeling requirements.
Insect Growth Regulator (IGR)
Protectants
Especially methoprene (Diacon IGR)

- Juvenile hormone mimics, not toxic in the usual sense.
- Methoprene very benign toxicologically – Exempt from requirement for a tolerance!
- Diverse sensitive uses.
- About 15 years experience in bird seed and grain industries. Wide acceptance and growing.

“Quality Protection for the Food & Commodity Industries”™
Diacon IGR

- Broad spectrum
- Long residual*
- Versatile applications
- Economical

*Long term protection even if your product is not managed well in distribution and retail!

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Versatile Diacon Applications

- Treat grain streams at binning in water solutions or dust control mineral oil.
- Ready to use dry formulation (Diacon D IGR) option for grain treatments at binning.
- Treatment in batch mixers in water solution or vegetable oil polish treatments.
- Mix with binder material in production of birdseed cake products.
- Low cost & high value tank mix addition to facility treatments: empty bin treatments, crack & crevice sprays, aerosol fogging.

See paper among WBFI resources on treatment system design.
New grain protectant labeled for bird seed

Sensat

- Label lists bird seed.
- New class of chemistry and mode of action.

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Protectant Packaging

- Lots of improvements in packaging: More robust, attractive, more resistant to insect penetration & breakage.
- Insects can still locate tiny imperfections. Lower quality large bags?
- New technology: methoprene IGR in packaging printing inks and coatings.
- Not a DIY treatment – Packaging supplier option.
- Apprehension diminishing in food processing!
Protectant Netting
Expansion of concept of mosquito bed netting

- Futuristic. Under development.
- Long-residual pyrethroid insecticides in net fabric. Several years service life.
- Demo in an organic tobacco warehouse:
  - Immediate movement into a warehouse space with walls and ceiling curtained with net.

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Pheromone Mating Disruption for Moths

- Same IMM + 4 pheromone as in monitoring traps.
- Except - much higher output and 6 month svc. life.
- Exempt from tolerance, economical, organic certification.

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How Mating Disruption Works
Too much female sex attractant confuses the males; delays or prevents viable mating!
Mating Delay or Disruption

- Female IMM only live about 10 days as adults.
- Sterile if not bred within 3 days.
- “Cidetrak IMM” is leading product
Simple Formula

- Flexibility in placement rates and patterns...
- Simple Formula:
  One Pgk./36 per 250,000 – 300,000 cubic ft.
  - Place as evenly as practical.
  - Season long performance for about the cost of one fogging.
- One caution: wear gloves when handling so you don’t become a walking moth lure!
Rodent Management

- Bait stations and traps outdoors, traps only indoors.
- Sanitation & harborage elimination to extent possible.
- Response to sightings

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Rodenticide Baits
Consider bait palatability to compete with highly attractive bird seed

- Rodents detect taste of active ingredients. Bait formulations attempt to counteract disagreeable taste with attractive bait matrix.
- Soft baits are generally more attractive than paraffin types.
- Least offensive active ingredient is an anti-coagulant, difethiolone.
- Most palatable bait is First Strike Soft Bait

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Cutting to the chase –
Recommendation for a solid insect control program for bird seed products.

- Do the best you can with sanitation indoors and out, including equipment interiors.
- Maintain high standards of quality (including no insects!) from ingredient suppliers.
- Monitor incoming supplies, and pest population levels throughout your facility. Map and document. Develop the capability to produce trend graphs, and use to make management decisions.
- Consider a one-two punch chemical program: **Diacon** to treat grain masses and/or seed mixes, and in facility treatments to minimize insect development, plus protection of your product in distribution and retail. **Cidetrak**: Additional low cost prevention of IMM egg production and laying in your facility.

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Cidetrak IMM is registered for sale and use in both the US (EPA Reg # 51934-9) and Canada (PCP # 32161).

Diacon IGR is registered in the US (EPA # 2724-427) but not in Canada. However, the active ingredient in Diacon has Codex tolerances for international acceptance of most treated commodities internationally. So, there should be no problem shipping US treated commodities to Canada or elsewhere!
Summary

- Integrate all possible tools and techniques.
- Select pesticides for best safety, economy & effectiveness.
- Note that certain products and technologies here are beyond expertise/awareness of many small pest control providers.
Thanks for your attention

Happy to take questions any time

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