Managing New and Emerging Disease, Insect and Weed Problems

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And finally,

- A possible result of overuse/misuse of pesticides is Pesticide Resistance.
- To date, more than 540 insect and mite species worldwide have become resistant to various insecticides.
- Don’t forget IPM

Soybean Rust Update

2006 University of Nebraska-Lincoln
Extension SFMD
Phytotoxicity with Fungicide Tank Mixes

• Triazole injury can occur, but varieties vary in their response.

Why do weeds develop resistance to herbicides?
Genetic Control of Herbicide Resistance

Single gene control  Multi-gene control

What management strategies will help avoid herbicide resistance?

Use glyphosate infrequently

Use with other MOA

Glyphosate

M²⁺ = Metals, like calcium, iron, manganese, etc.

Soybean Insect Update

Keith Jarvi  UNL Northeast Center

2006 University of Nebraska-Lincoln
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Take Home Message

- Be cautious when using seed treatments
- Do not tank mix unless economic levels of insects are present
- Use IPM to minimize negative consequences like pesticide resistance

Recent Issues:

- Insecticidal seed treatments
- Mid-season tank mixes
- Pesticide resistance

Insecticidal Seed Treatments

**GAUCHO®** (Bayer CropSciences)
- imidachloprid
- neonicotinoid

**CRUISER®** (Syngenta)
- thiamethoxam
- a neonicotinoid
The major early season soybean insect pest in Nebraska is the bean leaf beetle (BLB).

Are seed treatments a good choice for early season bean leaf beetle?

For most Nebraska bean fields, early season BLB do not require treatment

Why?
1. Winter conditions often significantly reduce beetle populations
2. It requires considerable feeding to cause yield loss
3. We have not observed high incidence of BPMV early in the growing season.

Some have suggested seed treatments for soybean aphid control

- SBA in Nebraska is a mid-late season pest, usually occurring in late July and August.
- Various studies from Nebraska and other Midwest states have indicated that soybean seed treatments are not efficacious for soybean aphids that occur later in the growing season.

Mid-season tank mixes

- Some have suggested adding an insecticide to a mid-season glyphosate application to “clean-up” the field. We do not recommend this practice.
- Only treat when an insect pest is present and reaches its economic threshold.
Why?

- Unnecessary insecticide use wastes money (remember the difficulty in predicting insect population curves) and can lead to problems by disrupting the natural enemy complex, resulting in pest “flare-ups”.
- In 2004: Relatively cool, saw aphid flare-ups
- In 2005: Hot & dry, saw spider mite flare-ups