

2006 SMFD

Managing New and Emerging, Disease, Insect and Weed Problems

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Managing New and Emerging Disease, Insect and Weed Problems

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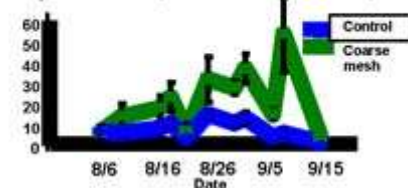
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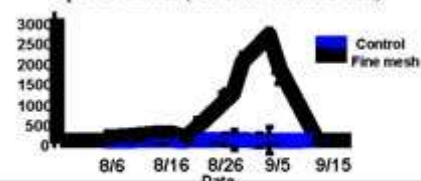
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06smfd-problems001

Aphid Number (Control vs. Coarse Mesh)



Aphid Number (Control vs. Fine Mesh)



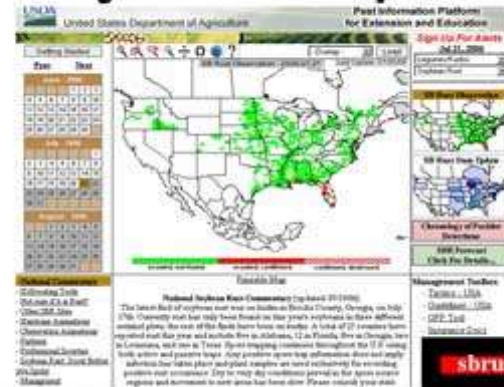
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And finally,

- **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**

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Soybean Rust Update



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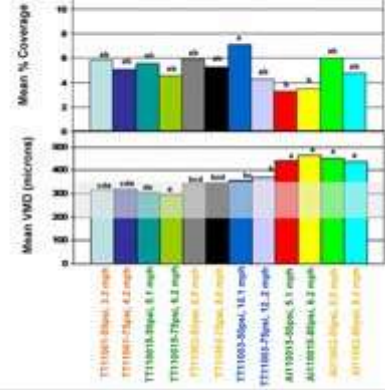
Phytotoxicity with Fungicide Tank Mixes

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



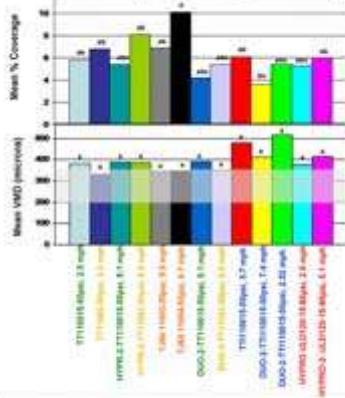
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10 Gallon Application @ 90 Canopy



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20 Gallon Application @ 90 Canopy



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Why do weeds develop resistance to herbicides?

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Genetic Control of Herbicide Resistance

Single gene control

Multi-gene control

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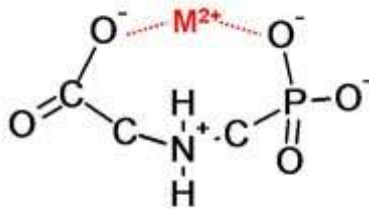
What management strategies will help avoid herbicide resistance?

Use glyphosate infrequently

Use with other MOA

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Glyphosate



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

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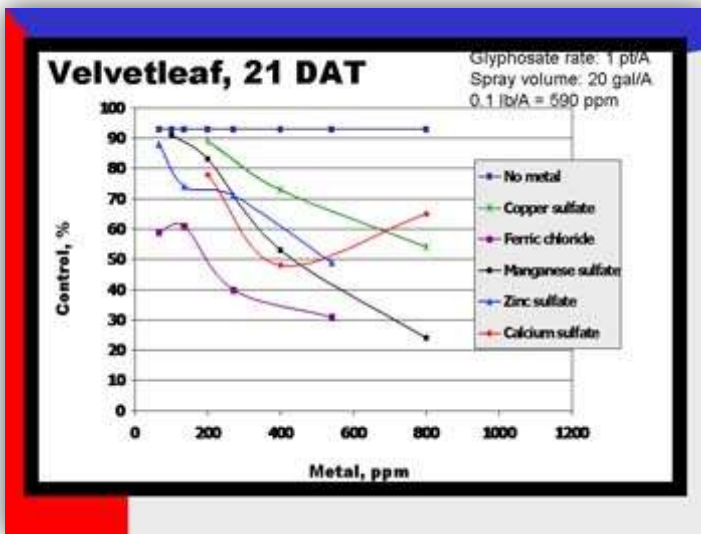
Soybean Insect Update



Soybean Management Field Days

Keith Jarvi UNL Northeast Center

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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**

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Recent Issues:

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

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Insecticidal Seed Treatments

GAUCHO® (Bayer CropSciences)

- **imidachloprid**
- **neonicotinoid**

CRUISER® (Syngenta)

- **thiamethoxam**
- **a neonicitinoid**

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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?

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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.

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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.



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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.

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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**

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