




2010 Great Plains Vegetable Growers Conference
January 8, 2010
St. Joseph, MO

Update on New Conventional Insecticides for Vegetables

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Overview of Presentation


- Introduction.
- Arthropod (Insect and Mite) Pests.   
- New Conventional Pesticides (Insecticides and Miticides).
- Questions and Discussion. 



Common Arthropod Pests

- **Chewers**
 - Caterpillars: cabbageworms, corn earworm, cutworms, and hornworms
 - Beetles: Colorado potato beetle, cucumber beetle, flea beetles, striped cucumber beetle, and white grubs
 - Grasshoppers
- **Suckers**
 - Aphids
 - Spider mites
 - Squash bug
 - Leafhoppers
- **Borers**
 - Squash vine borer

Caterpillars

Tobacco Budworm 

Imported Cabbageworm  

Beet Armyworm

European Corn Borer





Tomato Hornworm



© MFB 06

**Diamondback
Moth**

Larvae



Adult



Colorado Potato Beetle Adult



Colorado Potato Beetle Larvae



Flea Beetles



Striped Cucumber Beetle



Spotted Cucumber Beetle



Grasshoppers



Grasshoppers
in the News!!



Aphids On Cucumber



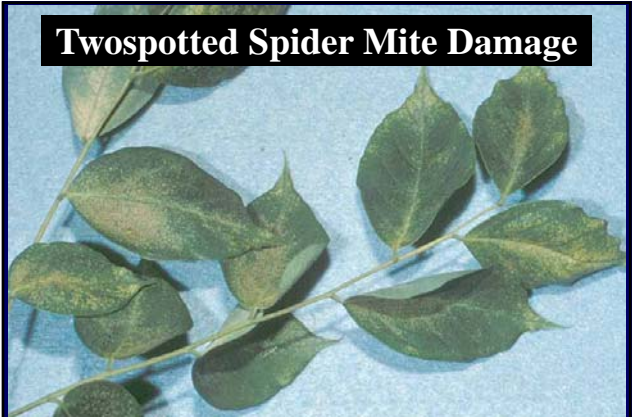
Aphid Feeding



Twospotted Spider Mite



Twospotted Spider Mite Damage



Squash Bug



Leafhoppers



Harlequin Bug



Lygus Bug



Fleahoppers



Squash Vine Borer



Adult



Larvae

New Conventional Pesticides

VETICA™
INSECTICIDE

- Vetica

- Oberon

- Synapse

- Brigadier

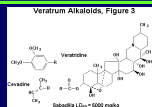
- Intrepid

- Radiant

- Rimon

- Ecotec*

Dow AgroSciences
Intrepid®
2F
INSECTICIDE
Trademark of Dow AgroSciences LLC



Brigadier
INSECTICIDE

Dow AgroSciences
Radiant™
SC
INSECTICIDE
Trademark of Dow AgroSciences LLC

Rimon™
INSECTICIDE

Vetica® VETICA™ INSECTICIDE

- Company: Nichino America, Inc.
- Active ingredients: **Flubendiamide (3.8%) and buprofezin (26.4%)**.
- Active on caterpillars (e.g., armyworm, cabbage looper, tobacco budworm, and diamondback moth) and certain sucking insects such as mealybugs, whiteflies, and leafhoppers.
- Contact insecticide with suppressive activity on certain insect pests.
- Modes of action: Ryanodine receptor modulator and chitin synthesis inhibitor.
- Registered for use on leafy green vegetables (e.g., cabbage), cucurbits, and fruiting vegetables (e.g., okra, eggplant, and tomato).

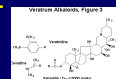
Oberon® 2SC

- Company: Bayer CropScience.
- Active ingredient: **Spiromesifen (23.1%)**.
- Contact insecticide and miticide.
- Active on all mite (e.g., twospotted spider mite) life stages; however, immature (e.g., larvae and nymphs) mite life stages are more susceptible than adults. Also, active on whitefly (e.g., greenhouse and sweet potato) nymphs.
- Maximum number of applications per cropping season=3. Also, takes 4 to 10 days to be effective.
- Registered for use on leafy green vegetables (e.g., cabbage), cucurbits, and fruiting vegetables (e.g., eggplant, pepper, and tomato).



Synapse™ WG

- Company: Bayer CropScience.
- Active ingredient: **Flubendiamide (24%)**.
- Labeled for control of caterpillar pests including armyworm, cabbage looper, diamondback moth, imported cabbage worm, and tobacco budworm.
- Insecticide must be ingested by insect; causing rapid cessation of feeding followed by death.
- Mode of action: Ryanodine receptor modulator.
- Registered for use on leafy green vegetables (e.g., cabbage), cucurbits, and fruiting vegetables (e.g., okra, eggplant, and tomato).



Brigadier®

- Company: FMC Corporation.
- Active ingredients: **Bifenthrin (11.3%) and imidacloprid (11.3%)**.
- Contact and systemic insecticide.
- Labeled for control of a wide-range of chewing and sucking insect pests including aphids, caterpillars, beetles, thrips, leafhoppers, and lygus and squash bug.
- Registered for use on eggplant, head lettuce, potato, and tomato.

Brigadier
INSECTICIDE

Intrepid® 2F

- Company: Dow AgroSciences.
- Active ingredient: **Methoxyfenozide (22.6%)**.
- Labeled for control of caterpillar pests including armyworm, cabbage looper, and imported cabbageworm.
- Mode of action: Mimics action of molting hormone of larvae. After ingestion of the active ingredient, larvae undergo an incomplete and lethal premature molt.
- Registered for use on leafy green vegetables (e.g., cabbage), root and tuber vegetables, cucurbits, and fruiting vegetables (e.g., okra, eggplant, and tomato).

Dow AgroSciences
Intrepid®
2F
INSECTICIDE

Radiant™ SC

- Company: Dow AgroSciences.
- Active ingredient: Spinetoram (11.7%).
- Labeled for control or suppression of foliar-feeding insect pests such as caterpillars, Colorado potato beetle, leafminers, and thrips.
- Minimal impact on predatory mites and beneficial insects.
- Spray solution pH needs to be between 5.0 and 9.0.
- Registered for use on leafy green vegetables (e.g., cabbage), corn, cucurbits, fruiting vegetables (e.g., okra, eggplant, and tomato), root and tuber vegetables, and herbs.



Rimon® 0.83EC

- Company: Chemtura Corporation.
- Active ingredient: Novaluron (9.3%).
- Insect growth regulator: Chitin synthesis inhibitor.
- Labeled for control or suppression of caterpillars, thrips, whiteflies, lygus and stink bugs.
- Insecticide must be ingested and/or contact insect pests to be effective.
- Insecticide has no direct effect on adults.
- No direct effect on beneficial insects and/or predatory mites.
- Registered for use on leafy green vegetables (e.g., cabbage) and tomatoes.



Ecotec®

- Company: Brandt Consolidated Inc.
- Active ingredient: Rosemary oil (10%) and peppermint oil (2%).
- Contact insecticide/miticide with activity on aphids, thrips, whiteflies, mites, and early stages of caterpillars (e.g., cabbage looper and armyworm).
- Can be applied to crops any time up to and including day of harvest.
- Registered for use on leafy green vegetables (e.g., cabbage), cucurbits, root and tuber vegetables, and herbs.

Factors Responsible for "Poor" Control or Regulation of Insect and Mite Pests

- Spray timing: age structure of insect or mite pest population.
- Spray coverage.
- pH of spray solution.
- Frequency of applications.
- Rate used.
- Migration of insects from surrounding areas.



Thank You For Your Attention!



Contact Information



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**Questions or What's Bugging
You??**

