



Great Lakes Fruit, Vegetable & Farm Market EXPO

Michigan Greenhouse Growers EXPO

December 9 - 11, 2014

DeVos Place Convention Center, Grand Rapids, MI



Sweet Corn

Tuesday afternoon 2:00 pm

Where: Grand Gallery (main level) Room A & B

MI Recertification credits: 2 (1B, COMM CORE, PRIV CORE)

OH Recertification credits: 1.5 (presentations as marked)

CCA Credits: PM(1.5) CM(0.5)

Moderator: Hal Hudson, Extension Horticulture Educator, MSU Extension, Caro, MI

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|---------|--|
| 2:00 pm | Sweet Corn Weed Control Update (OH: 2C, 0.5 hr) <ul style="list-style-type: none">• Mark VanGessel, Plant and Soil Sciences Dept., Univ. of Delaware |
| 2:30 pm | Sweet Corn Diseases Update (OH: 2B, 0.5 hr) <ul style="list-style-type: none">• Richard Raid, Everglades Research and Education Center, The Univ. of Florida |
| 3:00 pm | Sweet Corn Insect Control Update (OH: 2B, 0.5 hr) <ul style="list-style-type: none">• Richard Weinzierl, Crop Sciences Dept., Univ. Illinois |
| 3:30 pm | Sweet Corn Genetics in 2015 and Looking Ahead <ul style="list-style-type: none">• Derrill Kregel, Rispens Seeds, Inc., Beecher, IL |
| 4:00 pm | Session Ends |



Cooperative Extension
COLLEGE OF AGRICULTURE &
NATURAL RESOURCES



Sweet Corn Weed Control Update

Mark VanGessel
University of Delaware, Georgetown

Topics

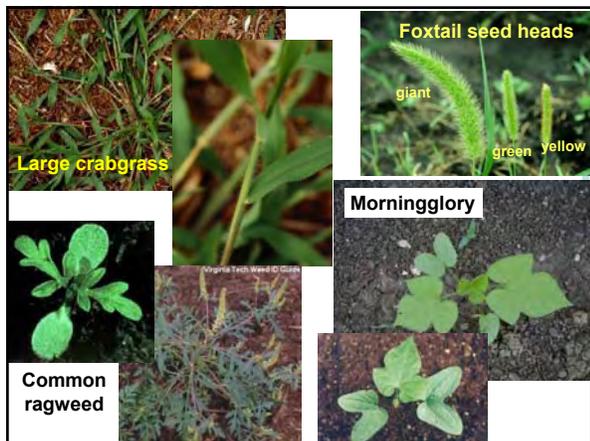
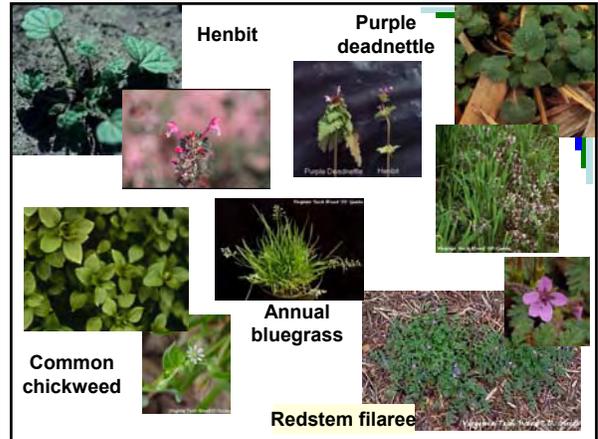
- Know your weeds
- Non-chemical
- POST herbicide considerations
- Perennial weed control

Cost-effective and successful weed control starts with identifying the weeds

This herbicide “made my crop”

This product controlled all my weeds

This product is the best herbicide





Integrated Approaches

- row spacing
- planting dates
- irrigation management
- crop rotation
- nutrient management
- seeding rates



Integrated Approaches

- cover crops
- tillage
- prevention
 - keeping field edges and drive rows weed-free
 - preventing field to field AND within-field movement
- stop seed production
- scout



Sweet Corn Herbicides



<ul style="list-style-type: none"> • SOIL-applied** <ul style="list-style-type: none"> – Atrazine – Dual II Magnum – Bicep II Magnum – Outlook / GuardsmanMax – Micro-Tech / Bullet – Harness / Surpass NXT – Harness Xtra / Keystone NXT – Zidua / Anthem – Callisto / Lumax / Lexar – Prowl – Eradicane 	<ul style="list-style-type: none"> • POST <ul style="list-style-type: none"> – Aim – 2,4-D – Accent – Atrazine – Basagran / Laddok – Callisto – glyphosate – Impact / Armezon – Laudis – Liberty 280 – Stinger – Permit / Sandea
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Pyroxasulfone

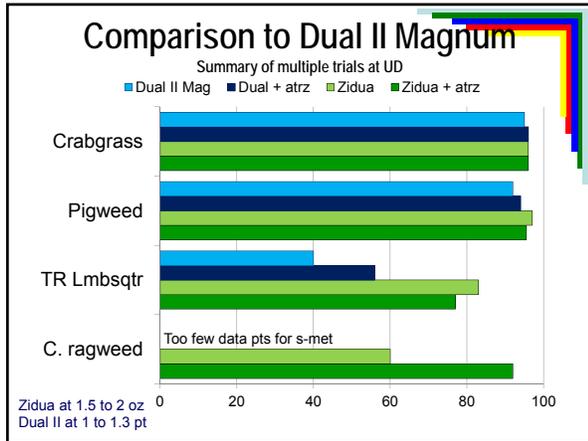
- Available in sweet corn BASF and FMC
- Inhibits synthesis of long-chain fatty acids
 - similar to s-metolachlor, acetochlor, etc.; Group 15
 - in UD screening program since 2003
 - soil-applied applications through early POST



Pyroxasulfone for Sweet Corn

- Zidua from BASF
 - 85 WDG: single active ingredient
- Anthem from FMC
 - 2 SE: pyroxasulfone plus Cadet
 - Anthem ATZ is pyroxasulfone plus Cadet plus atrazine





- ### Thoughts on Pyroxasulfone
- “Enhanced chloroacetamide”
 - Dual, Harness, Outlook, Intro etc.
 - Better residual, more broadleaf activity
 - In most situations, it will not be a stand alone herbicide
 - Sweet corn stunting on coarse-textured soils observed
 - typically in ~10%, does not influence yields
 - Rotational restrictions are cumbersome for vegetable production

Postemergence Options

- Broad spectrum
- Good crop safety
- Beware of rotational issues
- Rotational flexibility
- Narrow spectrum

Special Situations

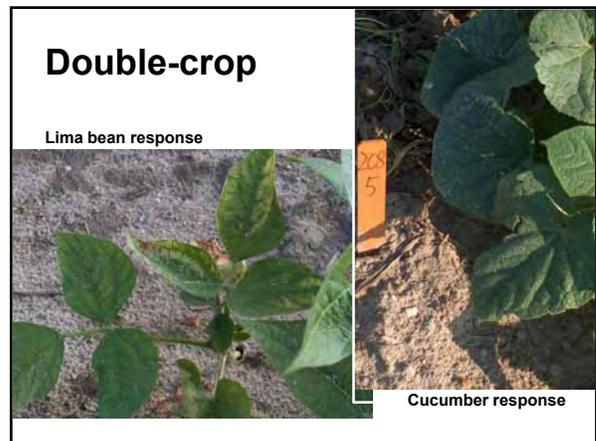
Replant Considerations

Replacing atrazine with another product will not necessarily eliminate rotational concerns. Several other products have stringent crop rotation restrictions as well. Only a few herbicides have short residuals for a multitude of crops include:

Atrazine		Impact	
Small grains	NY	Small grains	3 months
Soybean	NY	Soybean, alfalfa,	9 months
Alfalfa, potato, pea, tomato, snap bean, clover, cucurbits	SY	pea, potato	18 months
		Most other crops	

The Impact label provides “rotational crop guidelines” rather than “rotational restrictions”.
... planting earlier than the recommended interval may result in crop injury.”

Laudis	
Small grains	4 months
Soybean	8 months
Alfalfa, potato, pea, tomato, snap bean, sorghum	10 months
Cucurbits, others	18 months



Double-cropped snap bean injury



Remember

- PHI (beware doesn't relate to timing of application)
 - Callisto, Impact: 45 days
 - Liberty 280: 50 days
 - Cadet: 40 days
 - Aim, atrazine, Basagran, Laudis: not specified
- Replanting intervals / Rotation restrictions
- Remember potential interactions with OP insecticides

Questions ??



Sweet Corn Disease Update

Richard N. Raid
University of Florida

Under favorable environmental conditions, foliar fungal diseases may pose serious threats to sweet corn yield and quality. By destroying valuable photosynthetic leaf tissue, they may significantly decrease ear size and weight, hindering tip-fill, and by infecting the husk, they may drastically decrease ear appearance, reducing marketability. Major foliar diseases are the leaf blights and rusts.

Northern (NCLB) and southern (SCLB) corn leaf blights, caused by *Exserohilum turcicum* and *Bipolaris maydis*, respectively, both produce grey to brown necrotic lesions on sweet corn foliage. Of the two, NCLB is usually more prevalent, inciting large elliptically shaped lesions that may reach several inches in length. Both diseases tend to start in the lower plant canopy and work their way up. SCLB lesions are much smaller and more rectangular in shape. Rust diseases form numerous small pustules that are characterized by orange to brown masses of infectious spores. Common rust lives up to its name and is indeed the more common. It thrives by infecting rapidly expanding leaf tissue. Leaves tend to become less susceptible following full expansion. New foliar lesions are rare following tassel push, but pustules on ear husks and flags are not uncommon. Southern rust, a warmer temperature pathogen, is less prevalent but is fully capable of infecting expanded leaves. It may build to high levels late in the season but is relatively rare in the northern U.S.

This presentation will provide results of numerous fungicide trials conducted under the extremely favorable conditions of south Florida. In general, results indicate that fungicides of the strobilurin class are most effective against rust diseases, but are also quite efficacious when used on blights. Conversely, fungicides belonging to a second fungicide class, the sterol inhibitors, are more effective against the blights, but also work on rusts. Pre-mixtures containing both of these classes have proven very effective in managing both blights and rusts. This talk will present data on many of the newest sweet corn fungicides, comparing efficacies, and providing tips on application timing.