Weed Control in Vine Crops: Consider All Your Options

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Topics

• Pumpkins with rye cover crops
• Watermelon Plastic culture
  – Application timing for row middles
Reminders

• Read the label !!
  – Do Not Rely on Someone Else to Tell You What Is In the Label
  – *Pesticide label is a legal document*
  – Changes may not be publicized
• Must be labeled for the crop
• Directions for use (how, where, when)
• PHI (pre-harvest interval)
• REI (re-entry interval)
Pumpkins

• Increasing acres producing pumpkins on rye mulch
• Still many questions on weed control
  – How much weed control does the rye provide?
  – Does mulch influence herbicide performance?
Effect of Cover Crop For Weed Control Requires Lots of Rye Biomass
M/M

• Rye seeded in the fall at 2 bu/A
  – + spring N (50 or 80 lbs N)
  – Sprayed with glyphosate ~ 14 days preplant
  – Rye rolled preplant

• Stale seedbed
  – Glyphosate in March
  – Roto-tilled and cultipacked 3 – 4 wks preplant
  – Non-selective herbicide at planting

• Conventional tillage
  – Glyphosate in March
  – Roto-tilled and cultipacked at planting
• Hand-seeded ‘Magician’
• Sprayed herbicide treatments
  – Untreated
  – Curbit 40 fl oz/A
  – Strategy + Curbit
    = Curbit at 40 fl oz/A  Command at 8 fl oz/A

• 4 WAP broadleaf weeds treated with hand-held hooded sprayer Aim at 2 fl oz/A
• Drip irrigation
• Strip plot with 4 reps
Cultural Practices and Herbicides

Palmer amaranth control

- None
- Curbit 40 fl oz
- Strategy + Curbit

Pmpkn1-13
4 WAP

Ilsd= 7
Cultural Practices and Herbicides
large crabgrass + giant foxtail control

Annual grass control (%)

- None
- Curbit 40 fl oz
- Strategy+Curbit

Conv. Till
Stale Seedbed
NT Rye Lo
NT Rye Hi

Pmpkn1-13
4 WAP

lsd= 14
Cultural Practices and Herbicides

Palmer amaranth control

- None
- Curbit 40 fl oz
- Strategy+Curbit

Pmpkn1-13
Pre-harvest

PmPmkn1-13 Pre-harvest

lsd = 23
Cultural Practices and Herbicides

morningglory control

- None
- Curbit 40 fl oz
- Strategy+Curbit

Morningglory control (%)

Conv. Till  |  Stale Seedbed  |  NT Rye Lo  |  NT Rye Hi
---|---|---|---
None | Curbit 40 fl oz | Strategy+Curbit

Pmpkn1-13 Pre-harvest

Isd= 11
Cultural Practices and Herbicides
large crabgrass + giant foxtail control

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<th>Method</th>
<th>Conv. Till</th>
<th>Stale Seedbed</th>
<th>NT Rye Lo</th>
<th>NT Rye Hi</th>
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<td>Strategy+Curbit</td>
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Pmpkn1-13 Pre-harvest

Isd= 7
Cultural Practices and Herbicides

Yield – total fruit per plot

- None
- Curbit 40 fl oz
- Strategy+Curbit

Number fruit / 25'

lsd= 0.5
# Rye Mulch

## Advantages
- Cleaner fruit
  - Disease
  - Dirt
- Moisture conservation
- Weed control
- Soil health

## Disadvantage
- Planting
- Additional management
  - Fertility CC
  - Fertility crop
- Pre-plant moisture loss
- Cultivation
Stale Seedbed

Advantages

- Doesn’t limit rotations
- Compatible with herbicides and cultivation

Disadvantages

- Additional tillage
- Exposed soils
- Care to limit soil disturbance
Scout 4 WAP

- Decision to control emerged weeds
- Cultivation
- POST herbicide
  - Sandea for selected broadleaves
  - Poast or Select Max for grasses
Watermelon Herbicides

- Prowl H₂O
- Curbit EC
- Prefar 4-E
- Strategy
- NovaSource
- Sinbar
- Sandea
- Dual Magnum
- Chateau
- Command
- Poast
- Select MAX
Getting the Most Out of the Herbicides

- Watermelon products have residual activity
- None are “broad-spectrum”
  - all have serious “holes”
- Under plastic
  - Dual, Prefar, Sinbar, Sandea
Benefit of Later Application on Residual Activity

Application

Lay plastic

Transplanting

Four weeks of residual control

Grass herbicide
- Dual, Prowl, Strategy

Broadleaf herbicide
- Sandea, Sinbar, Chateau

Non-selective
Benefit of Later Application on Residual Activity

Four weeks of residual control

Application

Lay plastic

Transplanting

Grass herbicide
Dual, Prowl, Strategy

Broadleaf herbicide
Sandea, Sinbar

Non-selective
Benefit of Later Application on Residual Activity

Grass herbicide
- Dual, Prowl, Strategy
Broadleaf herbicide
- Sandea
Non-selective

Four weeks of residual control

Application

Lay plastic

Transplanting
Summary

• Stale-seed bed may have a fit in some situations
  – Fits well with an integrated approach to weed management

• Rye cover crop can be beneficial for weeds but requires large amounts of rye residue and careful field selection
  – Not compatible with mechanical weed control

• If not satisfied with weed control in plasticulture, re-evaluate timing of application
Questions ??