



Cooperative Extension

COLLEGE OF AGRICULTURE &
NATURAL RESOURCES



Weed Management in Processing Sweet Corn and Lima Beans



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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



- **SOIL-applied**

- Atrazine
- Dual II Magnum / Bicep II Mag
- Outlook / Guardsman Max
- Micro-Tech / Bullet
- Harness / Surpass NXT
- Harness Xtra / Keystone NXT
- Zidua / Anthem / Anthem ATZ
- Lumax / Lexar / Zemax
- Prowl
- Eradicane

- **POST**

- Aim / Cadet
- 2,4-D
- Accent Q
- Atrazine
- Basagran / Laddok
- Callisto
- glyphosate
- Impact / Armezon
- Laudis
- Liberty 280
- Stinger
- Permit / Sandea

Sweet Corn Herbicides

used in Delaware



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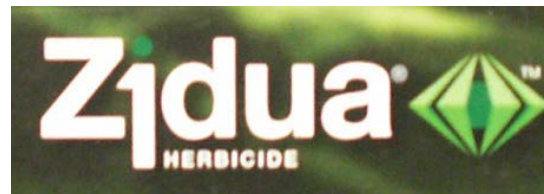
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Pyroxasulfone for Sweet Corn

Group 15

- 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 or LCFAI”
 - Dual, Harness, Outlook, Micro-Tech 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

IMPACT[™]
Herbicide

Armezon[™]
HERBICIDE



 **Callisto**[®]

 **AAtrrex**[®] **Nine-O**[®]

Basagran[®]
Herbicide

Aim[®] **EC**
HERBICIDE


CADET[®]
HERBICIDE

Sweet corn injury with “burning-type” herbicides

Silver King

Overland

61304

Basagran + Cadet + COC

1.5 pt + 0.9 oz + 1%



Silver King



Overland

Remember

- Observe application timing to avoid crop injury
 - **Stated on the label**



Remember

- Observe application timing to avoid crop injury
- Application timing $\neq$ effective weed control
 - **Timing needs to be based on weed size**



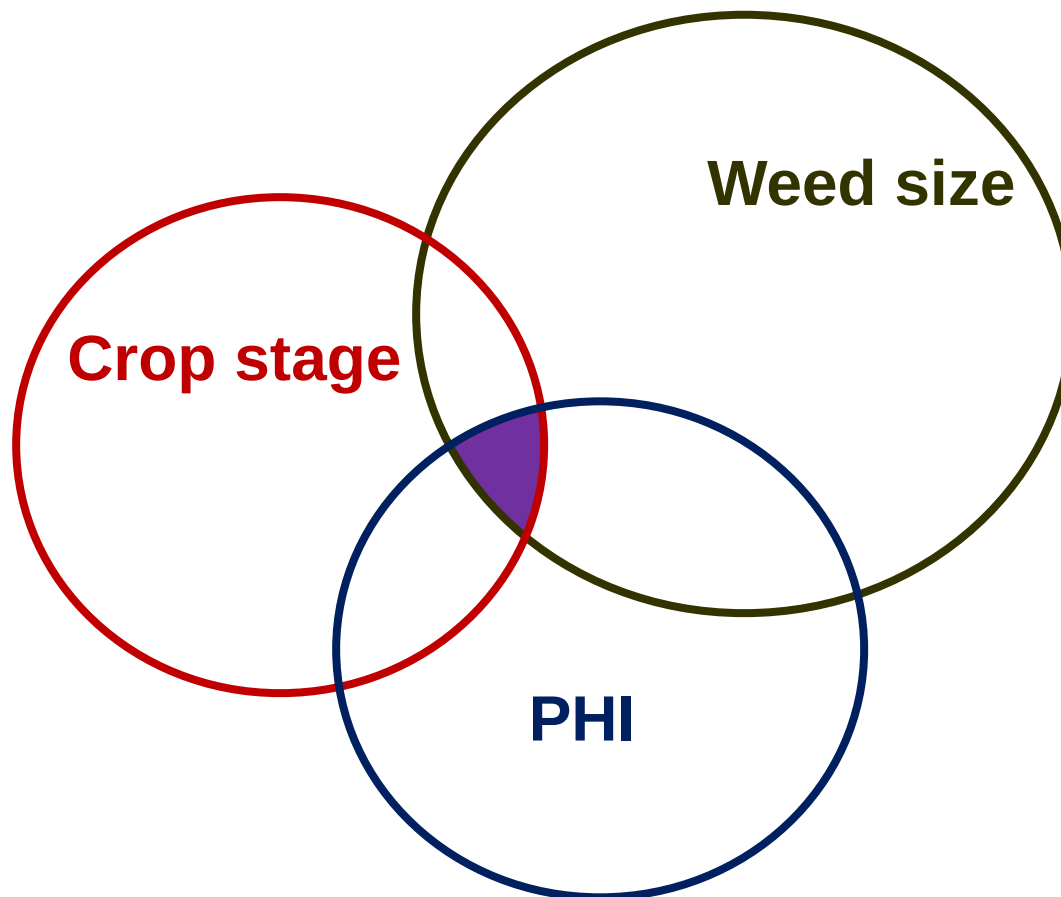
Remember

- Observe application timing
- Application timing $\neq$ effective weed control
- PHI (beware doesn't relate to timing of application)
 - Callisto, Impact: 45 days
 - Liberty 280: 50 days
 - Cadet: 40 days
 - Roundup: 7 days
 - Aim, atrazine, Basagran, Laudis: not specified

Remember

- Observe application timing
- Application timing $\neq$ effective weed control
- PHI (beware doesn't relate to timing of application)
 - Callisto, Impact: 45 days
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- Replanting intervals / Rotation restrictions

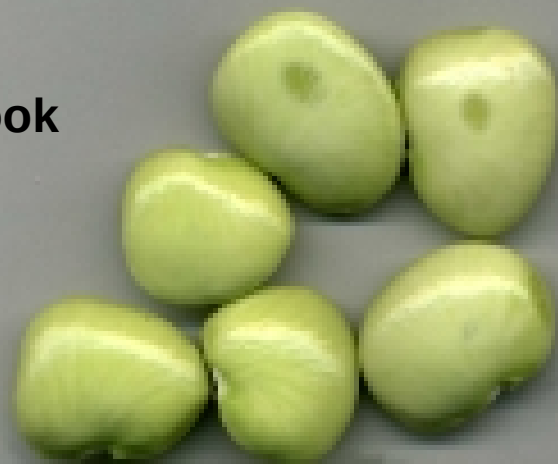
Balancing All These Timings



Double-cropping



Fordhook



Pole lima



Baby limas



Lima beans ≠ Snap beans

Lima beans

Phaseolus lunatus

- 70 to 80 days
- Semi-vining
- Planting dates May 15 to July 20
- 3 to 4 plants per foot
- N recs 60 to 90 lbs
- Very sensitive to PPO (group 14 herbicides)
- Positive response to cultivation

Snap beans

Phaseolus vulgaris

- 50 to 60 days
- Bush growth habit
- Planting dates April 20 to Aug 10
- 6 to 10 plants per foot
- N recs 40 to 80 lbs
- Not as tolerant of ALS (group 2 herbicides)
- Response to cultivation not as evident

Edible Legumes Herbicides[#]

- **SOIL-applied**

- Dacthal
- Dual Magnum
- Command
- Eptam^{PPI}
- Pursuit
- Prowl^{PPI}
- Reflex
- Spartan Charge
- Sandea
- Treflan^{PPI}

- **POST**

- Basagran
- Raptor
- Reflex
- Sandea
- Assure II / Targa
- Poast
- Select Max

[#]Generic formulations maybe available
Some require states to have 24c labels

Lima Bean Herbicides[#]

- **SOIL-applied**

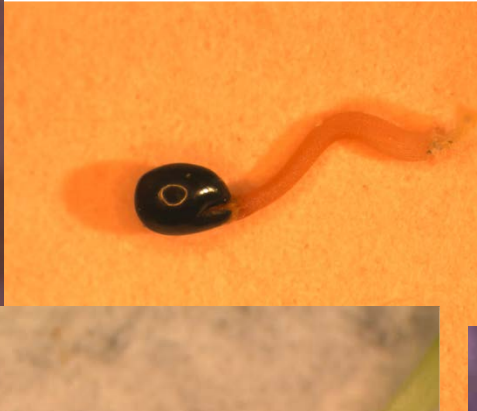
- Dacthal
- Dual Magnum
- Command
- Eptam^{PPI}
- **Pursuit**
- Prowl^{PPI}
- Reflex
- Spartan Charge (24c)
- **Sandea**
- Treflan^{PPI}

- **POST**

- Basagran
- **Raptor**
- Reflex
- **Sandea**
- Assure II / Targa
- Poast
- Select Max

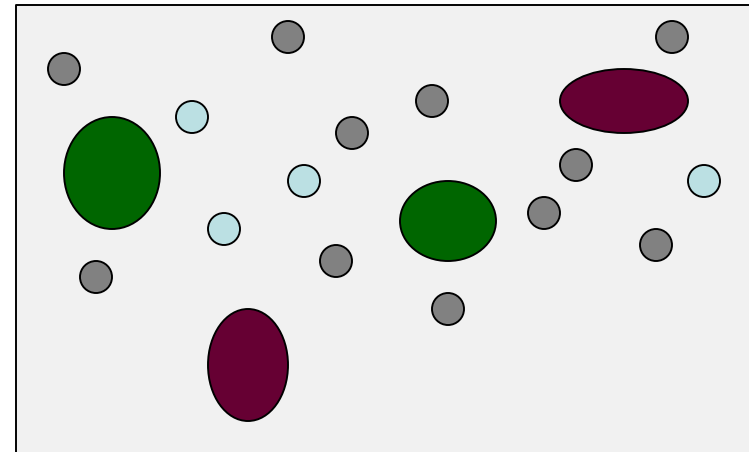
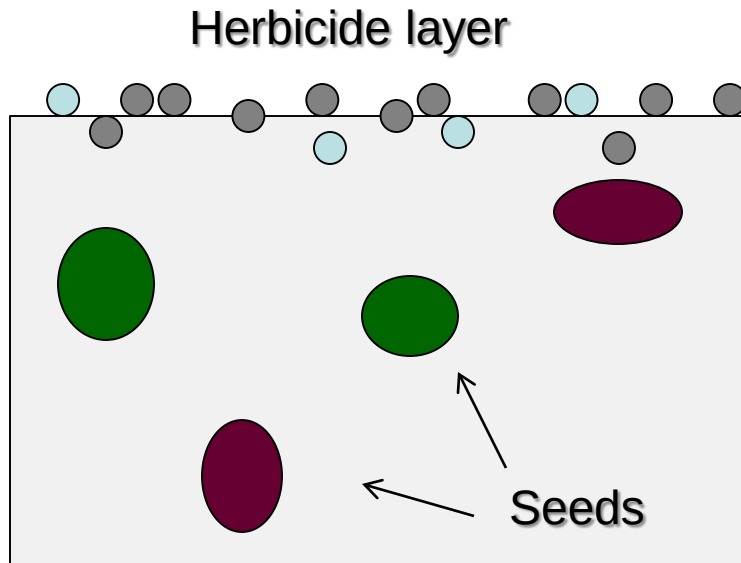
[#]Generic formulations maybe available
Group 2 herbicides (ALS/IMI)
Some require states to have 24c labels

Soil-applied Herbicides



Virginia Tech W

Soil-applied Herbicides Need to be Incorporated



Mechanical incorporate versus rain/irrigation ??

Notes

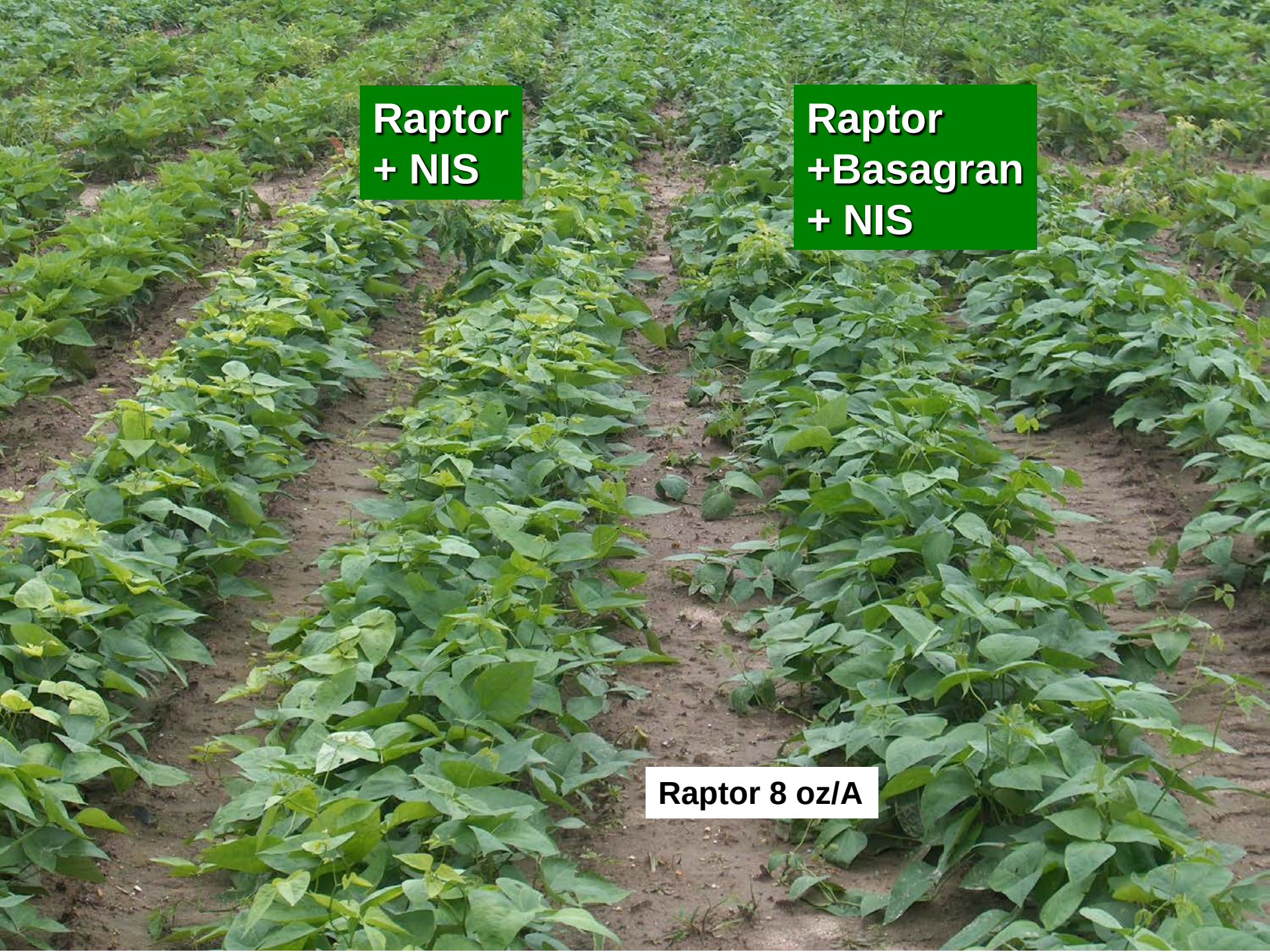
- Most soil-applied products caution about use under cool, wet conditions
 - concerns for early-planted crops
- Most POST require beans to be at 1st trifoliate stage or later AND recommend weeds no larger than 2 to 3" tall

Often Need POST Applications





- imazamox - 0.031 lb ai/A
- 4 fl oz/A of Raptor 1 L
 - at least 1 fully expanded trifoliate
- Use NIS (no COC or N)
- Use Basagran (8 to 16 oz) to reduce risk of injury
- Snaps more sensitive to Raptor than limas
- Rotations: 3 to 18 mos



**Raptor
+ NIS**

**Raptor
+ Basagran
+ NIS**

Raptor 8 oz/A



Wide-spread ALS-R pigweed



**Sandea
Raptor
Pursuit**

What should you do first?



1. Spray
control weeds in the row
control weeds while <3"
2. Cultivate

Lima Bean Basagran fb cultivation



Note: Amaranthus are the primary weed

Cultivation at 2nd Trifol + 7





5360



Comments

- Timeliness of cultivation just as important as timeliness of herbicide treatment

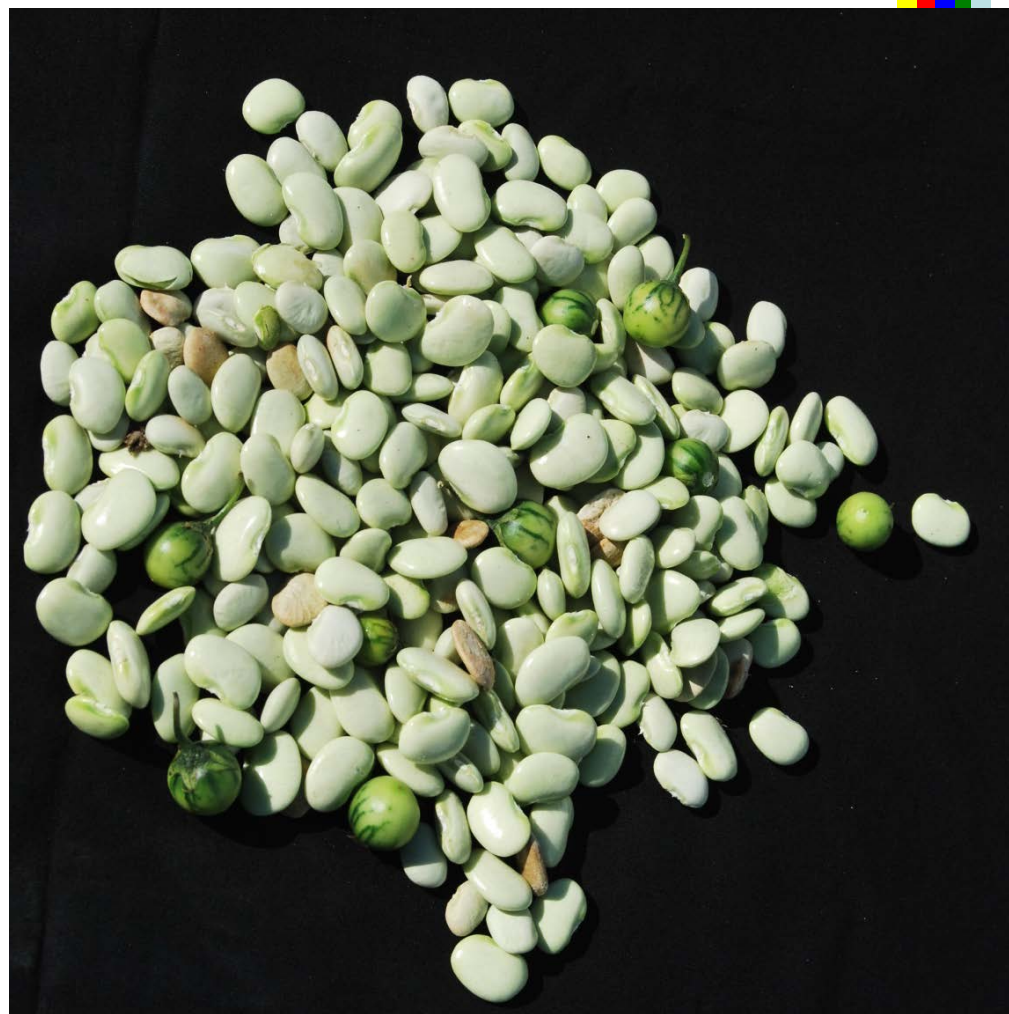


Cover crops



Perennial Weeds

- No effective chemical control in crop
- Scout fields the previous season
 - Do not plant limas in those fields
 - Manage horsenettle in rotational crops



Questions ??

