

Sweet Corn Weed Management

Calvin Odero
Everglades Research & Education Center

Sweet corn weed control

- Process of limiting weed infestation and minimizing weed competition
 - **Goal:** minimal effect of weeds on crop growth and yield
- Degree of control is a matter of **economics**, i.e. balance between **cost of control** and **yield loss**

What constitutes an effective weed control program?

- Identify the weed(s)
- Select proper control measure(s)
- Use an integrated approach (use multiple tools)
 - Mechanical control
 - Cultural control
 - Chemical control



 **Common weed seedlings in sweet corn**



Fall panicum (*Panicum dichotomiflorum*)

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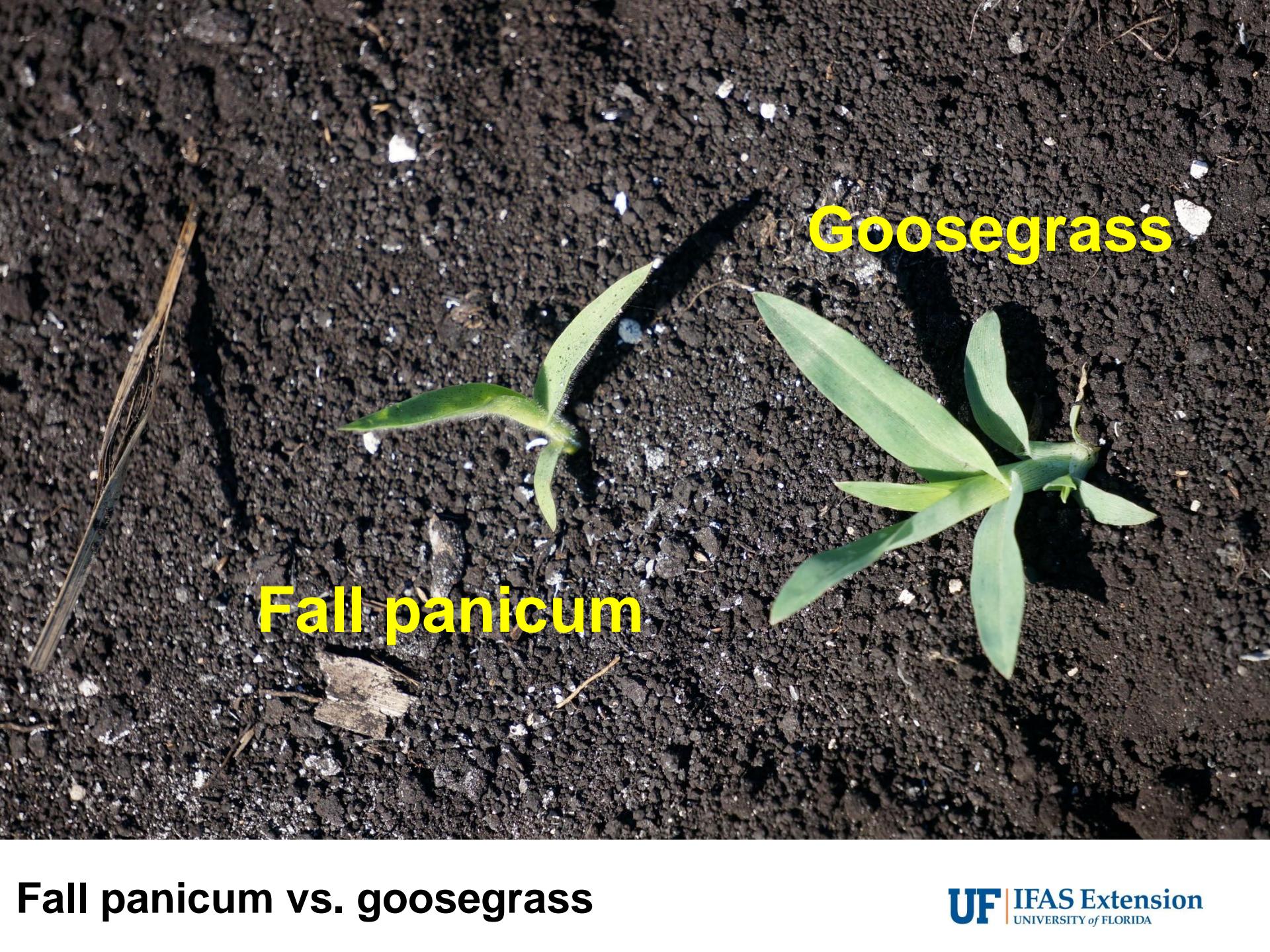
Goosegrass (*Eleusine indica*)

A close-up photograph of dark, textured soil. Two small, pale green seedlings are visible; one is positioned near the center-left and the other is further up and to the right. The lighting creates highlights on the soil's surface.

Goosegrass

Fall panicum

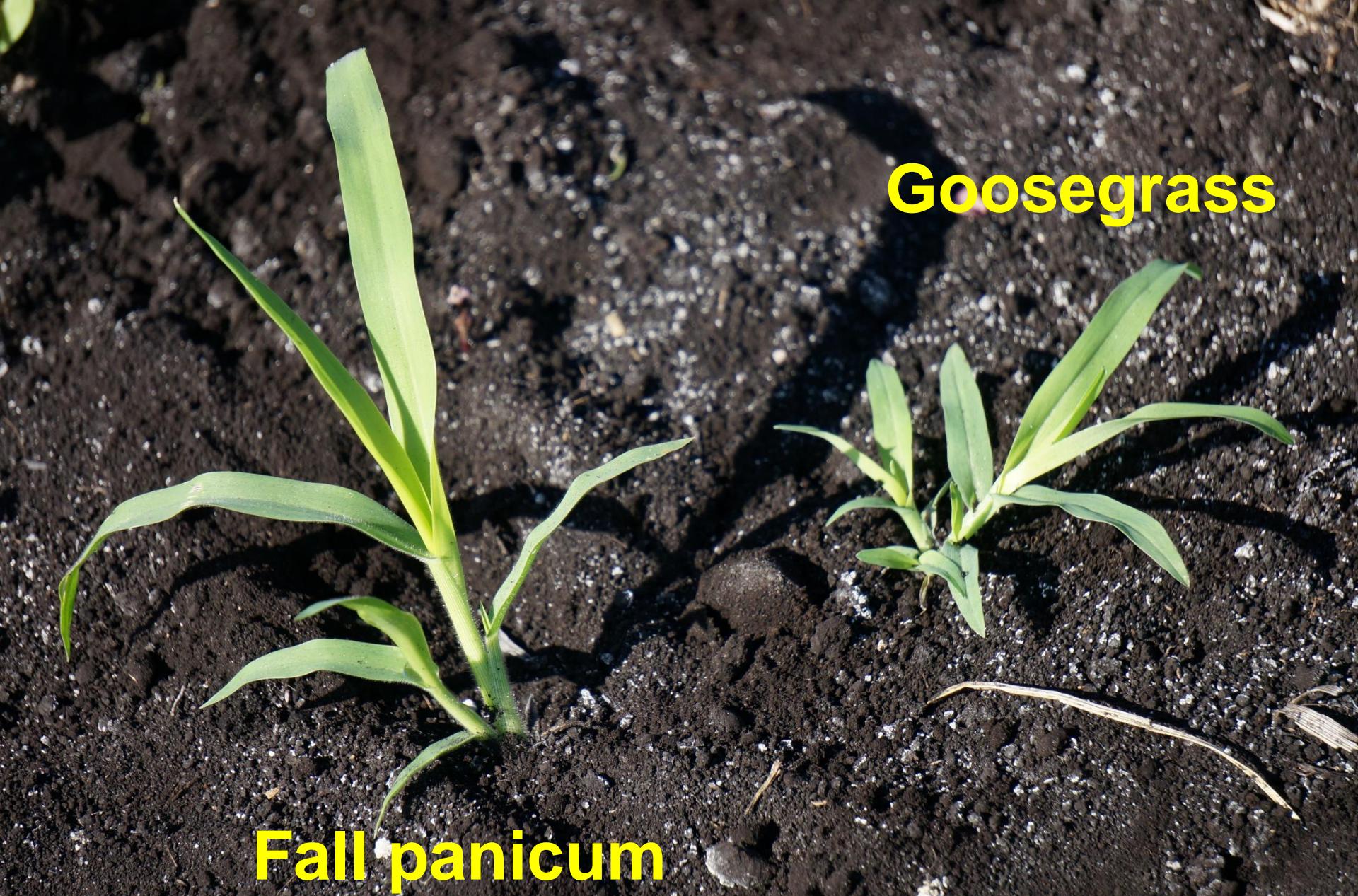
Fall panicum vs. goosegrass

A close-up photograph of dark, textured soil. Two young grass plants are growing; the one on the left has long, thin, yellowish-green leaves, while the one on the right has broader, more rounded green leaves. A single, dry, tan blade of grass lies to the left of the first plant.

Goosegrass

Fall panicum

Fall panicum vs. goosegrass



Goosegrass

Fall panicum

Fall panicum vs. goosegrass



Crowfootgrass (*Dactyloctenium aegyptium*)



Southern crabgrass (*Digitaria ciliaris*)



Crowfootgrass

Goosegrass

Goosegrass vs. crowfootgrass



Yellow nutsedge (*Cyperus esculentus*)

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Purple nutsedge (*Cyperus rotundus*)

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Purple nutsedge

Yellow nutsedge

Purple vs. yellow nutsedge



Purple nutsedge

Yellow nutsedge

Purple vs. yellow nutsedge



Yellow nutsedge



Purple nutsedge

Purple vs. yellow nutsedge



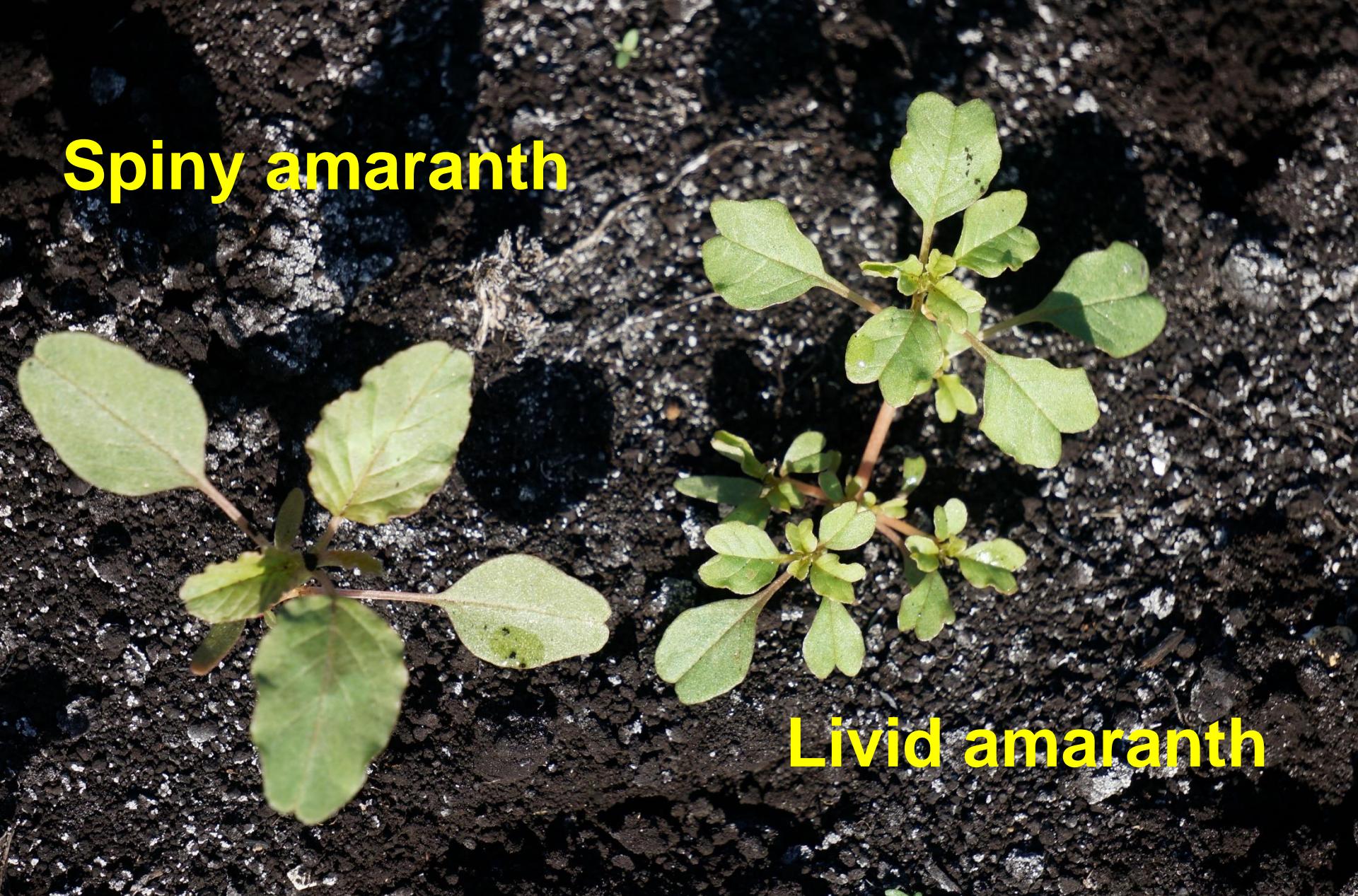
Common lambsquarters (*Chenopodium album*)



Spiny amaranth (*Amaranthus spinosus*)



Livid amaranth (*Amaranthus blitum*)



Spiny amaranth

Livid amaranth

Spiny vs. livid amaranth



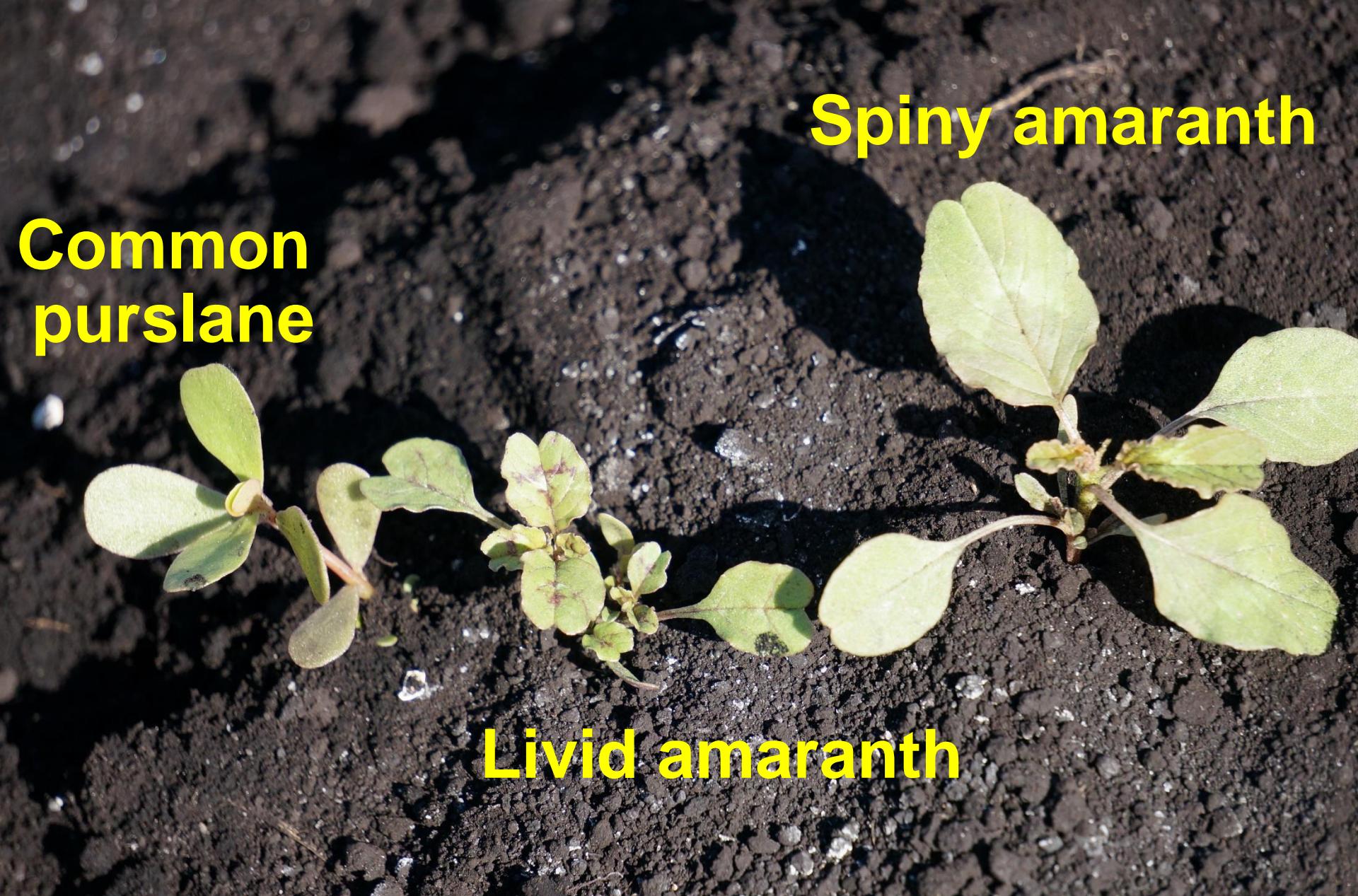
Common purslane (*Portulaca oleracea*)



**Common
purslane**

Spiny amaranth

Spiny amaranth vs. common purslane



Spiny amaranth

**Common
purslane**

Livid amaranth

Common purslane vs. livid & spiny amaranth



American black nightshade (*Solanum americanum*)



Ragweed parthenium (*Parthenium hysterophorus*)



Common ragweed (*Ambrosia artemisiifolia*)



Common ragweed



Ragweed parthenium

Common ragweed vs. ragweed parthenium

Mechanical cultivation

- ➲ Cultivation is an economical means of suppressing weed growth
- ➲ Effective when used alone or in combination with herbicides
- ➲ Cultivation when weeds are not present is not recommended



Mechanical cultivation



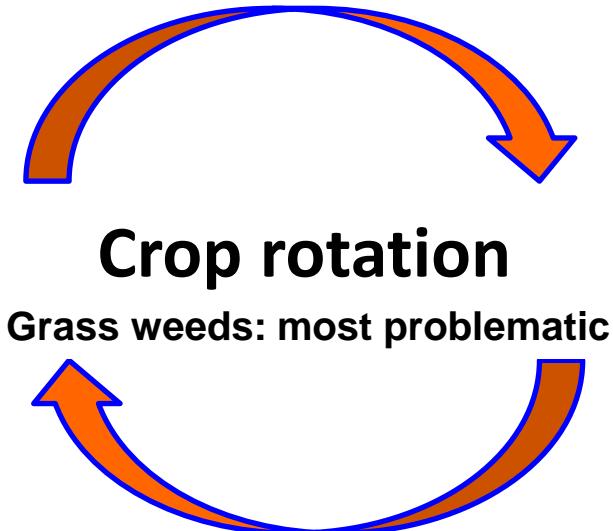
Mechanical cultivation



Rice



Sugarcane



Sod



Sweet corn

Cultural cultivation

Crop rotation

- Allows for breaking of life cycles
- Allows for rotation of herbicides and other control programs

Fertilizer management

Competitive cultivars

Seeding rate



Preemergence herbicides

Preemergence/preplant herbicides

Herbicide	Trade name	Timing	Rate	WSSA MOA
Atrazine	AAtrex	Preemergence	2-6 pt/A	Group 5
Mesotrione	Callisto	Preemergence	6-7.7 fl oz/A	Group 27
S-metolachlor	Dual II Magnum	Preemergence	1-1.67 pt/A	Group 15
Pendimethalin	Prowl H ₂ O	Preemergence	2-4 pt/A	Group 3
Flufenacet	Define	Preemergence	13-18 fl oz/A	Group 15
Dimethenamid-P	Outlook	Preemergence	12-18 fl oz/A	Group 15
EPTC	Eradicane	Preemergence	4.75-7.33 pt/A	Group 8
Simazine	Princep	Preemergence	2 qt/A	Group 5
Carfentrazone	Aim	Preplant burndown	0.5-1 fl oz/A	Group 14
Paraquat	Gramoxone	Preplant burndown	2-4 pt/A	Group 22
Pelargonic acid	Scythe	Preplant burndown	3-10% v/v	Group 26
Pyraflufen	ET	Preplant burndown	0.5-2 fl oz/A	Group 14
Glyphosate	Several	Preplant burndown	See label	Group 9

AAtrex 4L (Atrazine)

Rate

- Mineral soil: 2 – 4 pt/A
- Muck soil: 4 – 6 pt/A

Annual broadleaf weed and some grasses

Apply to moist soil after planting

Tank-mix: Dual Magnum (grass control)

Callisto 4 SC (Mesotrione)

- 🐊 Rate: 6 – 7.7 fl oz/A
- 🐊 Annual broadleaf weed control
- 🐊 Rainfall needed within 7 days before or after application
- 🐊 Tank-mix: Dual Magnum (grass control)

Dual Magnum 7.62 EC (S-metolachlor)

- 🐊 Rate: 1 – 1.67 pt/A
- 🐊 Annual grass and some broadleaf weed control, suppression of sedges
- 🐊 Weed control increased with 0.5- to 1.0-inch rainfall/irrigation
- 🐊 Tank-mix: Atrazine or Callisto (broadleaf weed control)



Untreated control



Atrazine (4 pt/A)



Dual Magnum (1.67 pt/A)



Dual Magnum (1.67 pt/A) + Atrazine (4 pt/A)

Preemergence

Postemergence herbicides

Herbicide	Trade name	Timing	Rate	WSSA MOA
Atrazine	AAtrex	<1.5 inch weed <12 inch corn	2-6 pt/A	Group 5
Mesotrione	Callisto	30 inch corn/V8	3 fl oz/A	Group 27
Bentazon	Basagran	Weed size	1.5-2 pt/A	Group 5
Halosulfuron	Sandeia	Over-the-top Spike to layby	0.6-1 oz/A	Group 2
Carfentrazone	Aim	≥V14 >V8 - direct spray	0.5-1 fl oz/A	Group 14
Tembotriione	Laudis	Emergence to V7	3 fl oz/A	Group 27
Topramezone	Armezon	Weed size	0.75-1 fl oz/A	Group 27
S-metolachlor	Dual II Magnum	≥40 inch corn	Up to 2 pt/A	Group 15
Pendimethalin	Prowl H ₂ O	>4 inch to V8	2-4 pt/A	Group 3



Postemergence herbicides

AAtrex 4L (Atrazine)

Rate

- Mineral soil: 2 – 4 pt/A
- Muck soil: 4 – 6 pt/A

Annual broadleaf weed control and some annual grasses

Apply to weeds <1.5 inches tall before corn >12 inches tall

Tank-mixes: Callisto, Laudis, Armezon

Basagran 4L (Bentazon)

- 🐊 Rate: 1.5 – 2 pt/A
- 🐊 Annual broadleaf and sedge weeds control
- 🐊 Two applications for sedge control
- 🐊 Tank-mix: Armezon

Callisto 4 SC (Mesotrione)

- 🐊 Rate: 3 fl oz/A
- 🐊 Annual broadleaf control
- 🐊 Include a COC or NIS
- 🐊 Slight bleaching may occur
- 🐊 Tank-mix: AAtrex

Armezon 2.8 SC (Topramezone)

- 🐊 Rate: 0.75 – 1 fl oz/A
- 🐊 Annual broadleaf and grass control
- 🐊 Include a COC or MSO and a nitrogen fertilizer (UAN at 1.5 qt/A or AMS at 8.5 lb/100 gal) Slight bleaching may occur
- 🐊 Tank-mix: AAtrex

Laudis 3.5 EC (Tembotrione)

- 🐊 Rate: 3 fl oz/A
- 🐊 Annual broadleaf and grass control
- 🐊 Include a COC or MSO and a nitrogen fertilizer (UAN at 1.5 qt/A or AMS at 8.5 lb/100 gal)
- 🐊 Slight bleaching may occur
- 🐊 Tank-mix: AAtrex

Sandea 75 DF (Halosulfuron)

- 🐊 Rate: 0.6 – 1 oz/A
- 🐊 Sedge and broadleaf weed control
- 🐊 Apply from spike to layby stage
- 🐊 Avoid the plant whorl with sequential application
- 🐊 Include NIS



Untreated control



Callisto (3 fl oz/A)



Callisto (3 fl oz/A) + Atrazine (1 pt/A)



Callisto (3 fl oz/A) + Atrazine (4 pt/A)

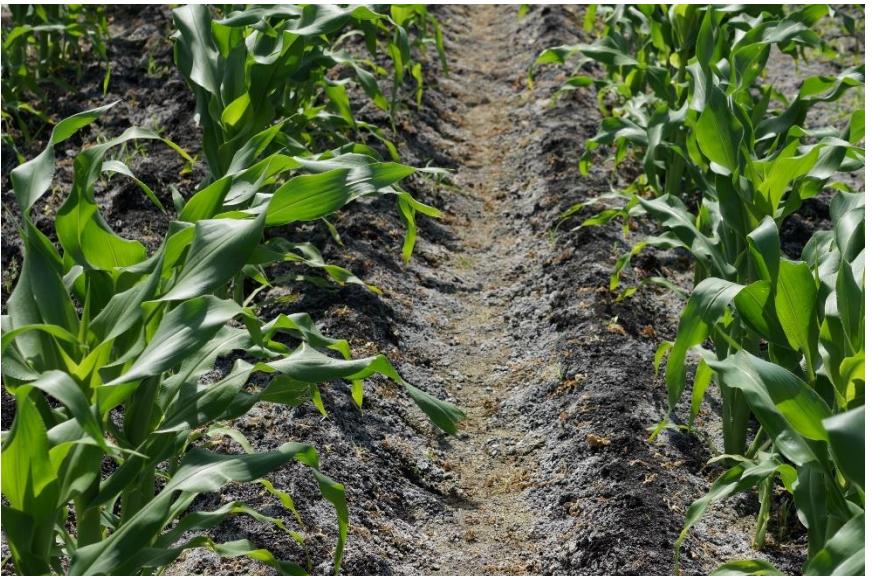
Postemergence



Untreated control



Armezon (1 fl oz/A)



Armezon (1 fl oz/A) + Atrazine (1 pt/A)



Armezon (1 fl oz/A) + Atrazine (4 pt/A)

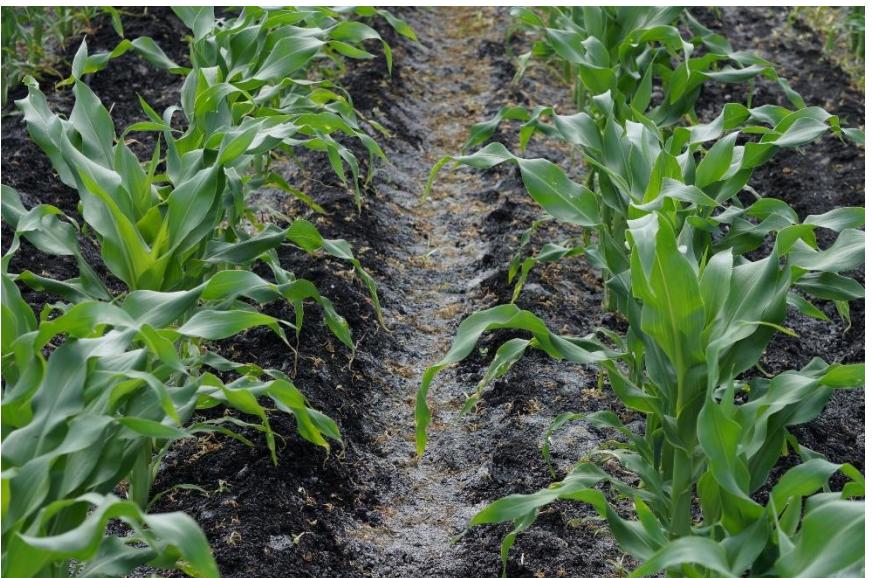
Postemergence



Untreated control



Armezon (1 fl oz/A)



Armezon (1 fl oz/A) + Basagran (2 pt/A)



Laudis (3 fl oz/A)

Postemergence

Remember for chemical weed control

- Do it right
 - Proper herbicide(s)
 - Proper herbicide rate(s)
 - Proper placement of material
 - Proper time of application
 - Proper manner of application
- READ THE HERBICIDE LABEL, IT'S THE LAW



Calvin Odero
dcodero@ufl.edu; 561-993-1509

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