WEED ID, CLASSIFICATION & MANAGEMENT

Limited Commercial Landscape Maintenance (LCLM)
Limited Lawn & Ornamental
Pesticide Applicator Certification Workshop

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PALM BEACH COUNTY FLORIDA

What is a weed?

Photo: L Albrecht

Customers want weed-free landscapes

Weed Types

- Grass
- Broadleaf
- Sedges

- You must identify the weed properly to control it!

Grasses

- **Blades longer than wide**
- Parallel Veins
- Hollow, rounded stems with nodes (joints)

Photo: UF/Erin Harlow

Weed Types: Grasses

- Examples:
  - Crabgrass
  - Goosegrass
  - Bermudagrass
  - Torpedograss
  - Many others

Goosegrass/Photo: L. Albrecht

Weed Types: Broadleaf

- **Net-like veins**
- Veins connect to main vein (midrib)
- Veins connect to each other
- Many have brightly colored flowers

Florida Pusley, UF/Erin Harlow

Weed Types: Broadleaf

- Examples:
  - Chickweed
  - Florida pusley
  - Henbit
  - Florida betony
  - Common purslane
  - Spurges
  - Chamberbitter
  - Dollarweed

Dollarweed/Photo: L. Albrecht

Weed Types: Sedges

- Look similar to grass
- **Stems are solid, triangular shaped**
- Leaves form in clusters of three
- Some are indicators of wet sites

Purple Nutsedge, UF/Erin Harlow

Sedges

- **Sedges – solid, triangular stem**

UF/Erin Harlow

Weed Types: Sedges

- Examples:
  - Yellow nutsedge
  - Purple nutsedge
  - Globe sedge

Yellow Nutsedge
Photo: UF/Erin Harlow

Weed Life Cycles

Annual

Biennial

Perennial

Weed Cycles: Annuals

- Germinate from seed
- Mature and reproduce in one year or less
- Reproduce only by seed
- Most susceptible to post emergent herbicide during seedling stage

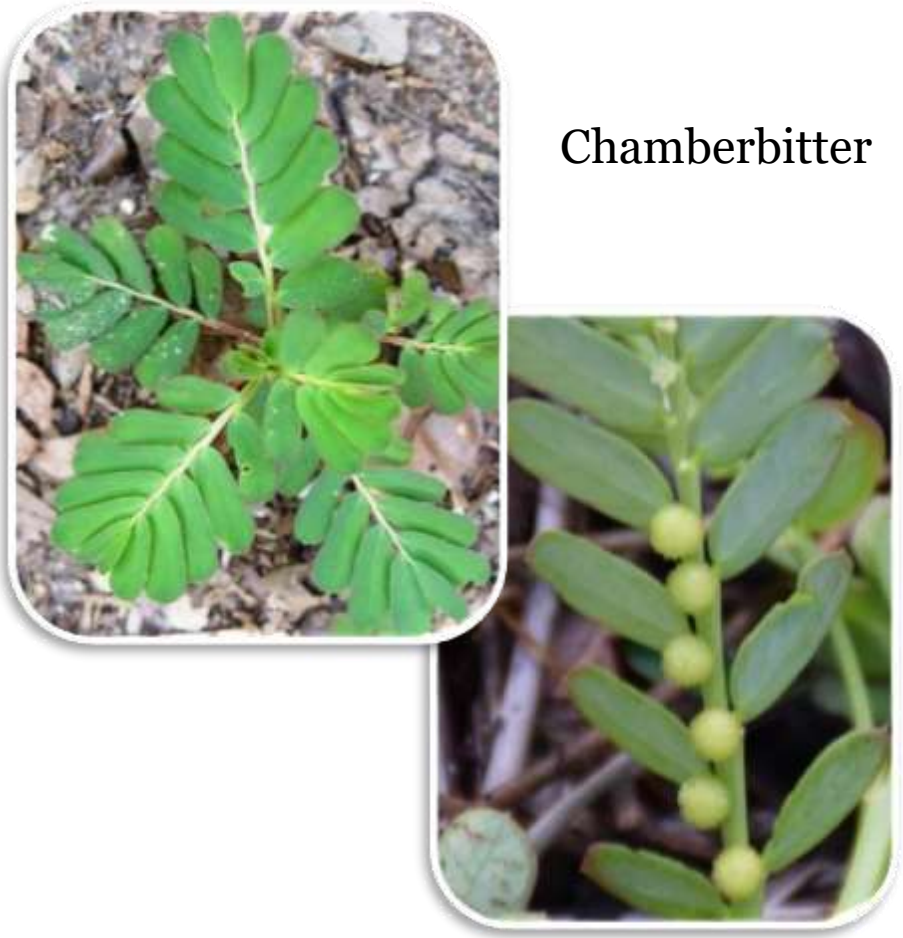
Photo: L. Albrecht

Weed Cycles

Crabgrass: an annual in most of Florida (north, central), but perennial in southern Florida

Weed Cycles:
Warm Season Annuals

- Germinate in the spring, continue through summer and fall
  - Chamberbitter
  - Crabgrass (note: crabgrass considered an annual for test)
  - Spotted spurge



Chamberbitter

Weed Cycles: Cool Season Annuals

- Germinate in fall
- Usually die in the spring or early summer

  - Henbit
  - Common chickweed
  - Wild geranium
  - Hairy Bittercress

Carolina geranium

Weed Cycles: Biennials

- Usually have a two year cycle
- First year develop roots & basal leaves (close to the ground)
- Second year develop flowers & seed

Weed Cycles: Perennials

- Live more than 2 years
- Reproduce by rhizomes, tubers, bulbs, stolons & seed
- Perennial weeds may go dormant during winter in northern Florida

Dollarweed

Photo: L. Albrecht

Grass Weed Identification

Crabgrass

Goosegrass

Photos: L Albrecht

Crabgrass

Goosegrass

Photos: UF/Erin Harlow

Goosegrass


Crabgrass

Bermudagrass
a Perennial

UF/L A

Broadleaf Weed Identification

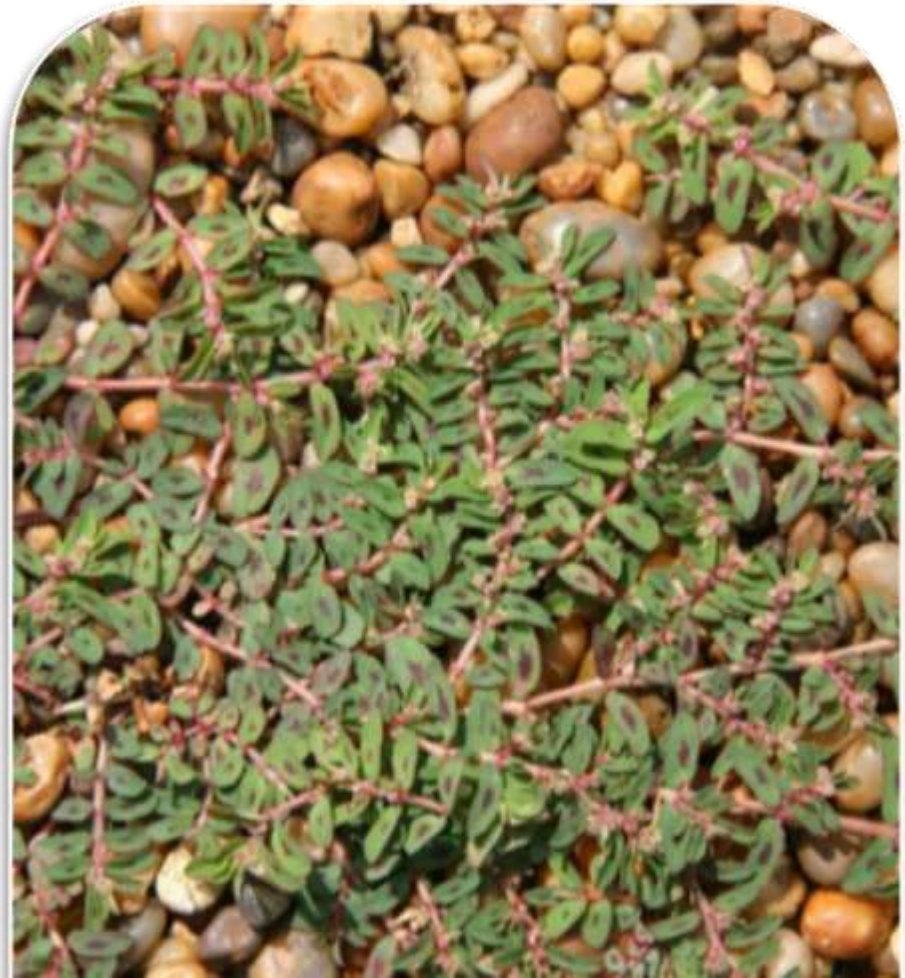
Henbit

Florida Betony

Henbit


Florida Betony

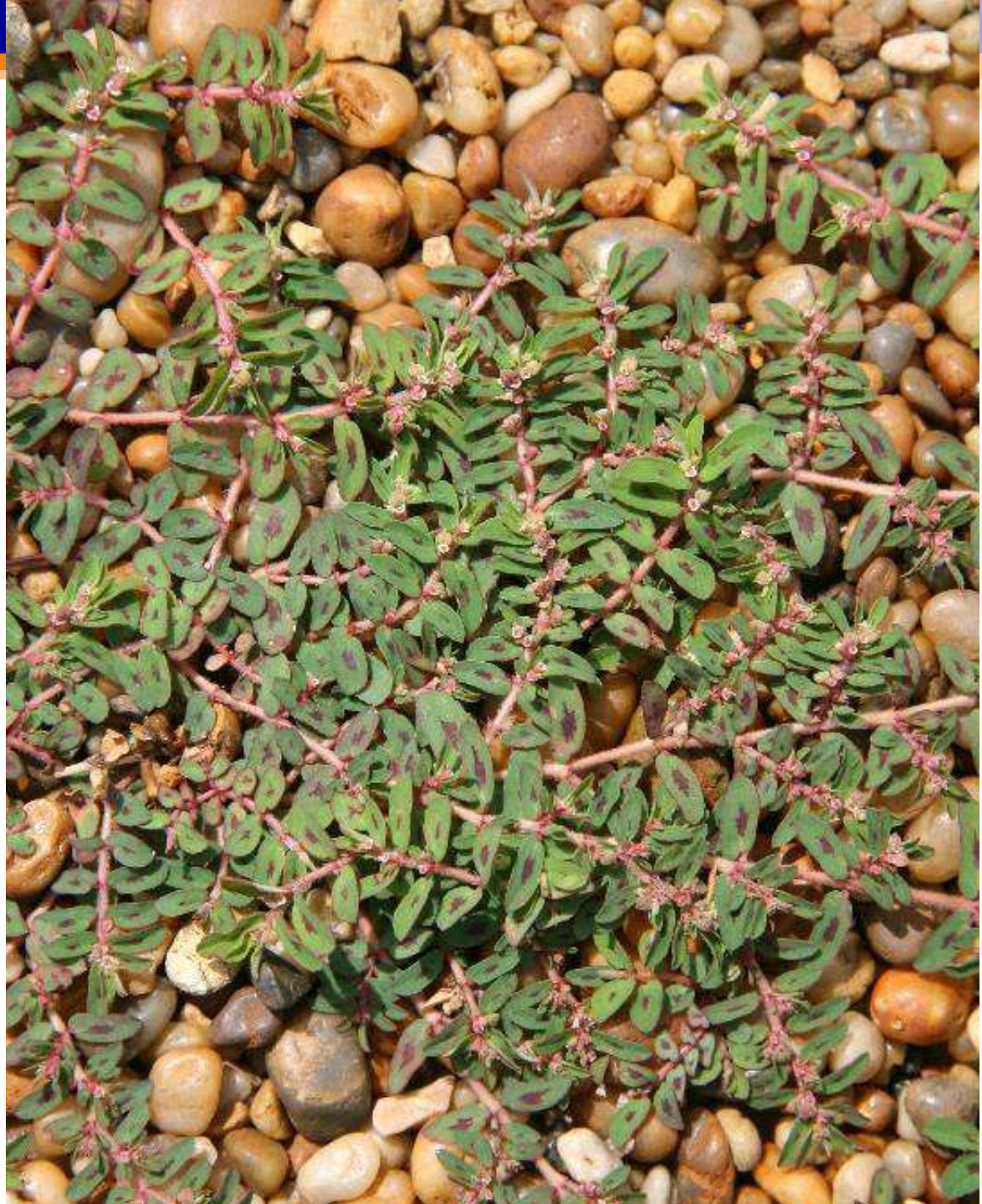
Spurge



Chamberbitter

Photos: UF E. Harlow (lower), T. DelValle (upper)

Spurge



Chamberbitter

Chickweed

Florida Pusley

Photos: E. Harlow, UF

Common chickweed


Florida Pusley


Common Purslane

Purple Nutsedge

Globe Sedge


Purple
Nutsedge

Weed Management

An Integrated Approach

Prevention & Sanitation

Photo: L Albrecht

Cultural Weed Control

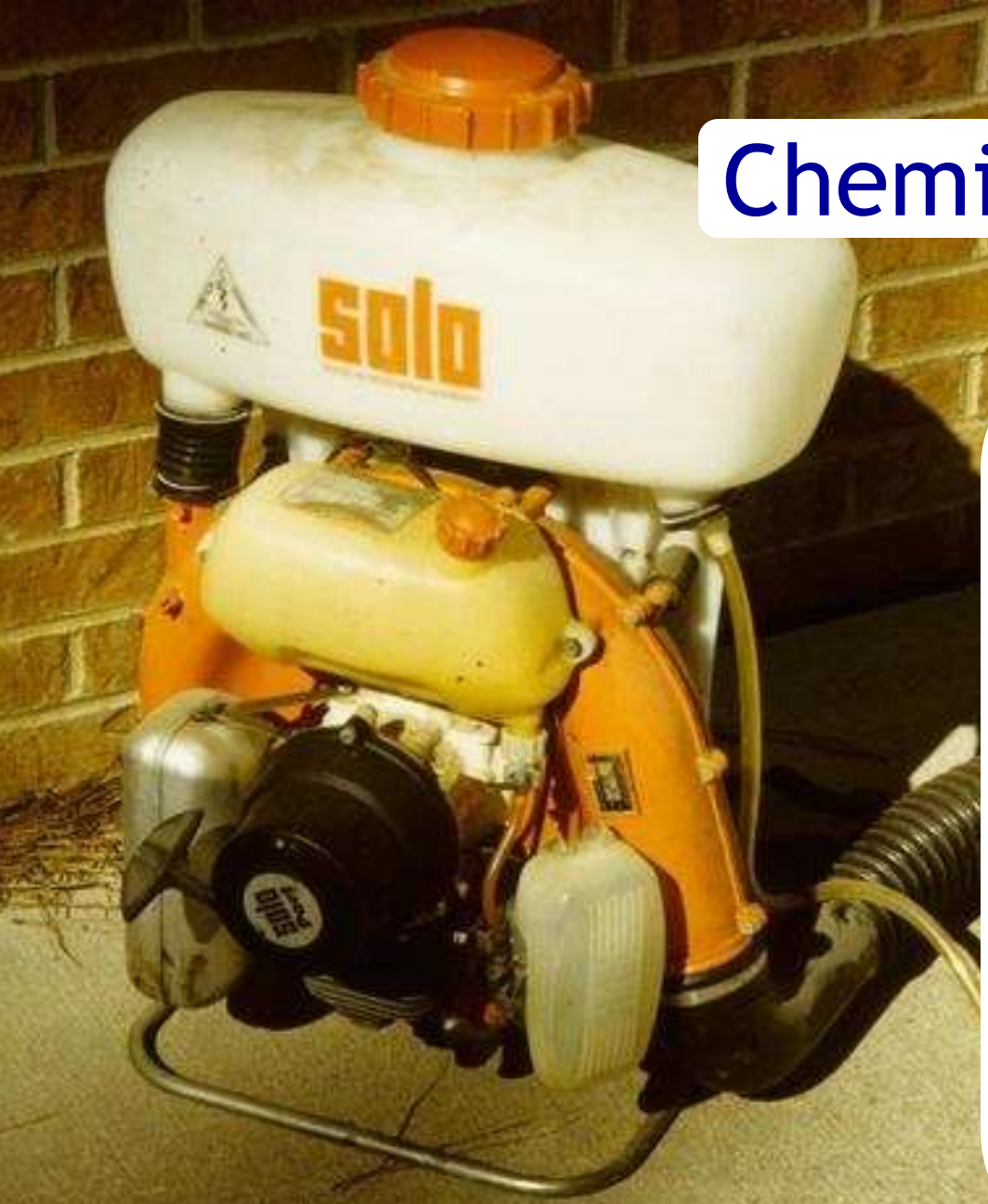
Photo: Cesar Asuaje


Mulching:
Controls some weeds
Moderates soil temp
Reduces moisture loss
Photo: L Albrecht

Physical / Mechanical Weed Control

- Hand- pulling
- Most effective method for some weeds

Chemical Weed Control



- Must correctly ID weeds *before* selecting herbicide
- Must consider site/method
- Need to be properly applied
- Read & follow all label directions

oto: James H. Miller, USDA Forest Service, Bugwood.org

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Herbicide Classification

- Preemergent/Postemergent
- Selective/ Non-selective
- Contact/ Systemic

Application Timing - Preemergence

- Used to control annual grasses and broadleaves
  - **Applied before weed seed germination –** best time to control weeds in landscape beds
  - Check temperature
  - Adequate soil moisture is needed for activation before and after preemergent is applied

Photo: Horizon Distributors

Preemergence Application Timing

- Generally effective for controlling weeds for **6** to 12 weeks after application
- Do not work well on perennials weeds
- Additional application should follow **6** to 9 weeks after initial application (check label)
- Do not use preemergent herbicides where turf is going to be established for 2 to 4 months prior to seeding (check label)

Preemergence Timing: South Florida

February 1
or when day temps 65° to 70°F for 4-5 consecutive days (goosegrass later than crabgrass)
Late October to early November
or when night temperatures drop to 55° to 60°F for 4-5 consecutive days

Avoiding Injury with PRE Herbicides

- Water in after application (at least ¼” in.)
- Do not apply to tender new growth
- Ensure granules are not trapped in foliage
- Make directed applications where possible

Postemergence Application Timing

Active on emerged and growing plants

Kill them young

Use targeted spray

Avoid application when:

- Weed is under drought stress
- Weed is producing seed heads
- Weed will be mowed before the chemical will have time to take effect (up to several days after application)

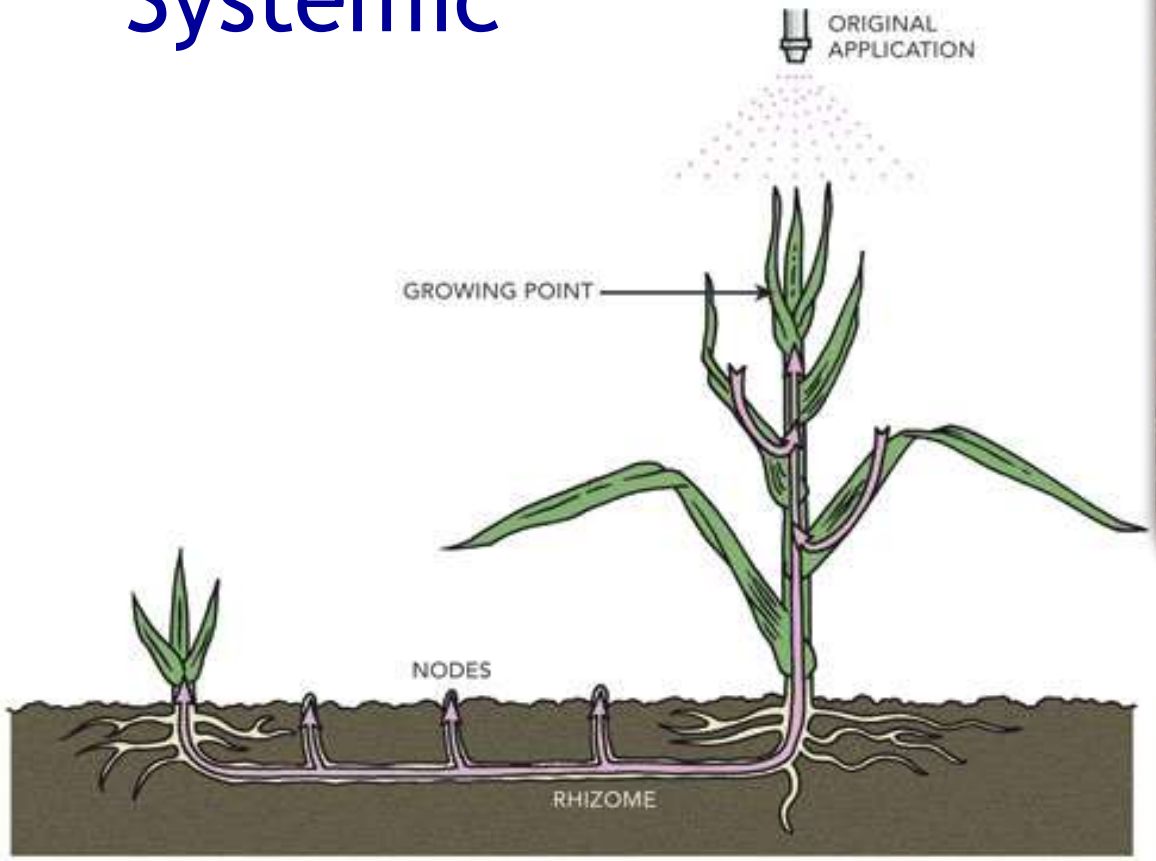
When is the best time to manage emerged weeds?

Selective: Beggarweed in Juniper bed, before and 2 weeks after Lontrel app.

Non-selective: Glyphosate damage from a leaking wand

Selective VS. Non-selective

Systemic

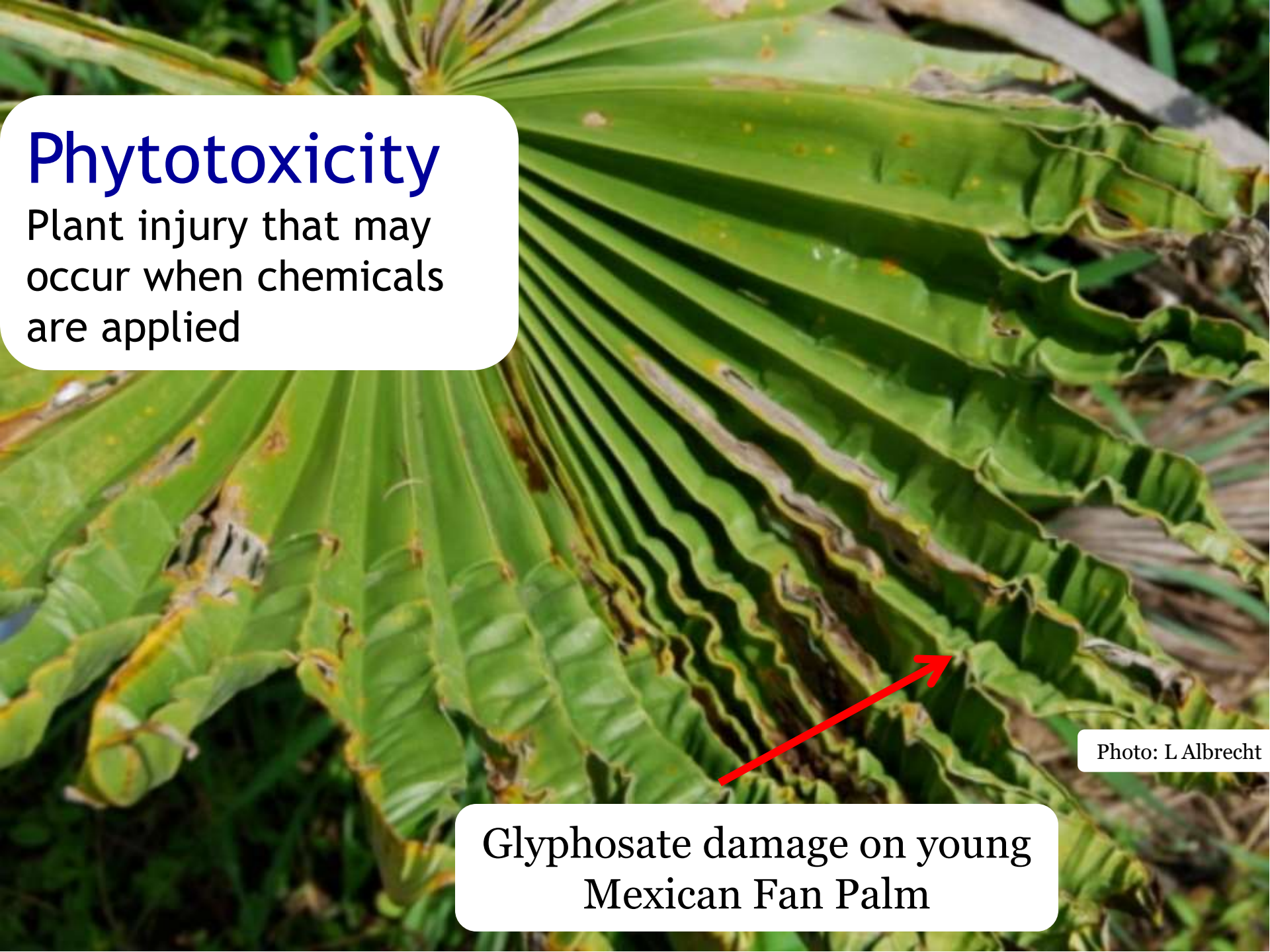


Contact

Photo: Ohio State University

Herbicides

- Once applied there is no cure
  - Wash plant material immediately
  - May assist in diluting herbicide
- Keep out of water bodies, sewers, etc.



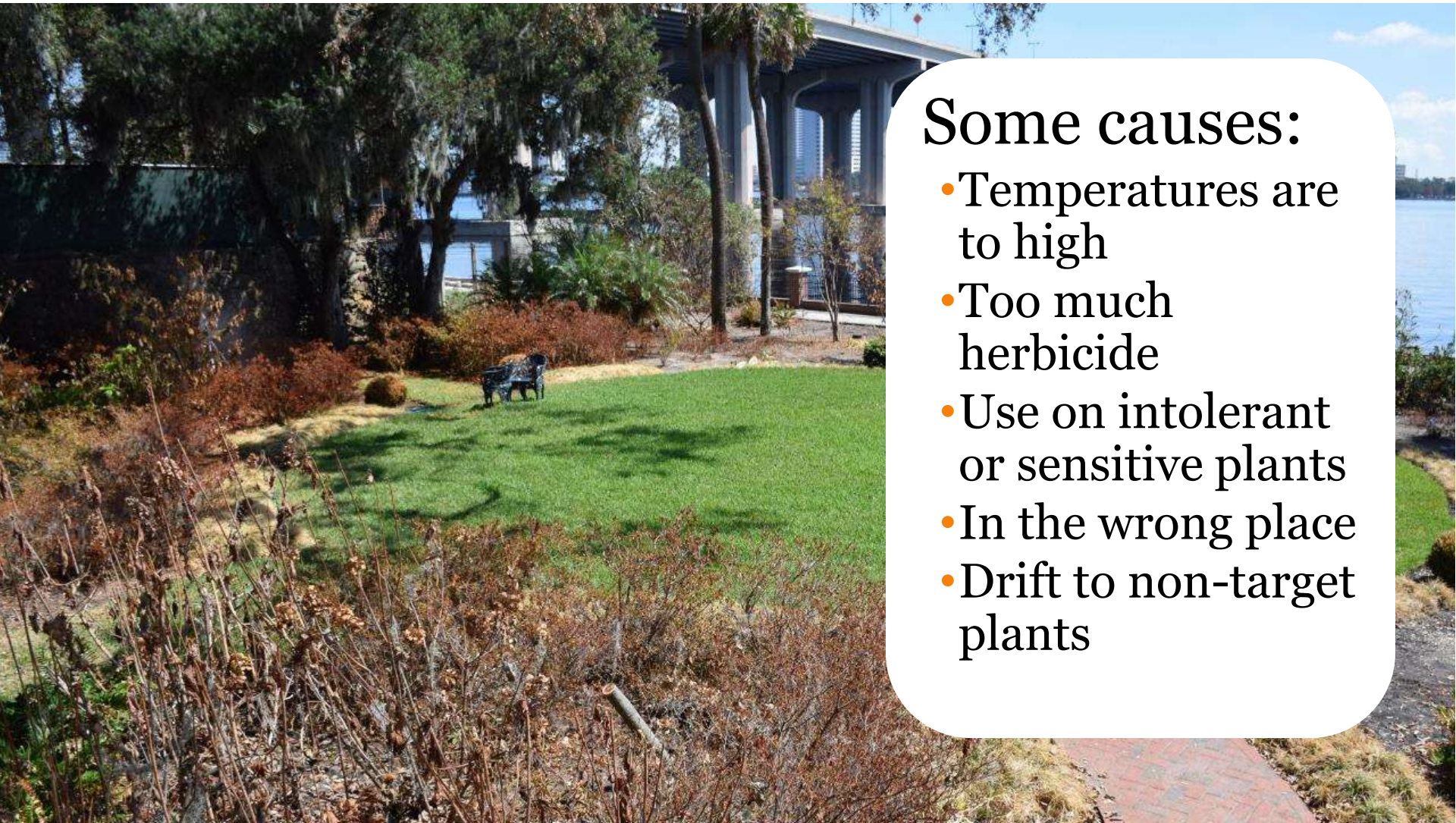
Phytotoxicity

Plant injury that may occur when chemicals are applied

Photo: L Albrecht

Glyphosate damage on young Mexican Fan Palm

Herbicide Phytotoxicity



Some causes:

- Temperatures are to high
- Too much herbicide
- Use on intolerant or sensitive plants
- In the wrong place
- Drift to non-target plants

Phytotoxicity

- Symptoms:
  - Poor germination
  - Death of plant tissue
  - Yellowing
  - Stunted, delayed growth
  - Distorted plant parts
  - Dead spots on leaves

Some herbicides

Post-emergent		Pre-emergent
Selective	**Non selective**	
Fluazifop	Glyphosate	Pendimethalin
Bentazon	Others	Prodiamine
Halosulfuron		Oryzalin
Others		Others
Atrazine, 2-D (mostly turf)		

Some selective, pre-emergent herbicides

- Pendimethalin
- Prodiamine

Post-emergent, selective herbicide

- Fluazifop
  - Contact
  - Grass weeds
  - Example: Fusilade II

Post-emergent, non-selective

- **Glyphosate**
- Systemic
- Use as directed spray

- Example
  - Roundup® and others
  - Use Rodeo® or similar glyphosate product near water bodies

What is this weed?

a. Henbit
b. Florida betony
c. Chickweed
d. Spurge

- Henbit

- Florida Betony

What is this weed?

a. Chickweed
b. Spurge
c. Common purslane
d. Chamberbitter

What is this weed?

a. Crabgrass
b. Goosegrass
c. Torpedograss
d. Bermudagrass

What is this weed?

a. Purple nutsedge
b. Yellow nutsedge
c. Globe amaranth
d. Torpedograss

What type of weed is this?

a. Grass
b. Broadleaf
c. Sedge
d. None of the above

What type of weed is this?

a. Grass
b. Broadleaf
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d. None of the above

Annual weeds are most susceptible to post-emergent herbicides at what stage?

a. Seed
b. Seedling
c. Before flowering
d. After flowering

Pendimethalin and Prodiamine are examples of which type of herbicide?

a. Selective pre-emergent
b. Selective post-emergent
c. Non-selective pre-emergent
d. Non-selective post-emergent

Fluazifop is an example of which type of herbicide?

a. Selective pre-emergent
b. Selective post-emergent
c. Non-selective pre-emergent
d. Non-selective post-emergent

Damage to non-target plants after herbicide application is called…

a. Photosynthesis
b. Photosenscence
c. Phytonecrosis
d. Phytotoxicity