



# Life Styles of the Infamous & Weedy



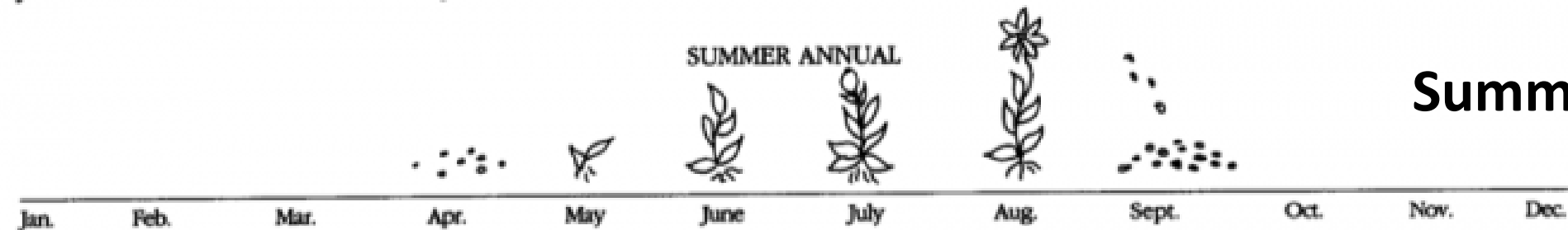
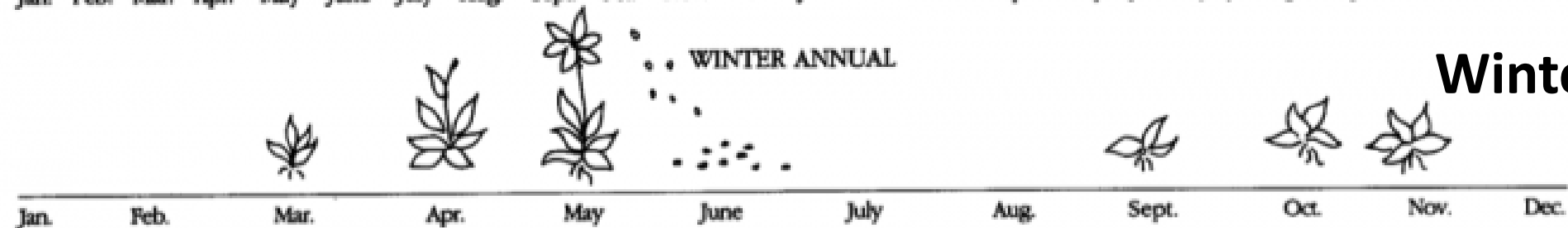
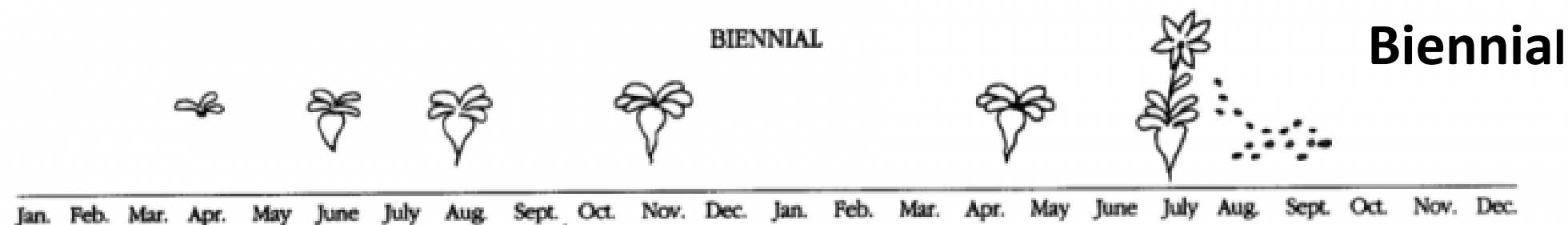
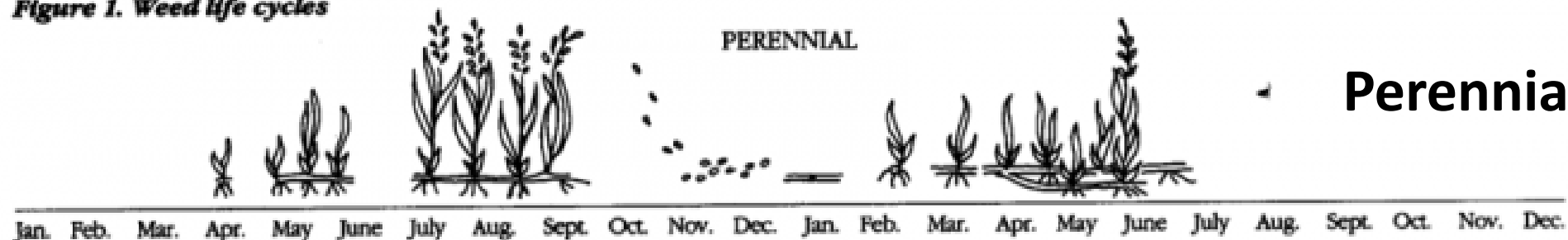
Chuck Bornt, ENYCH, 518-859-6213, [cdb13@cornell.edu](mailto:cdb13@cornell.edu)  
Aaron Gabriel, CAAHP, 518-380-1496, [adg12@cornell.edu](mailto:adg12@cornell.edu)  
Laura McDermott, ENYCH, [lmg4@cornell.edu](mailto:lmg4@cornell.edu)  
Jingjing Yin, CAAHP, 518-429-8608, [jy578@cornell.edu](mailto:jy578@cornell.edu)

**Cornell Cooperative Extension**  
Capital Area Agriculture and Horticulture Program

**Cornell Cooperative Extension**  
Eastern NY Commercial Horticulture Program

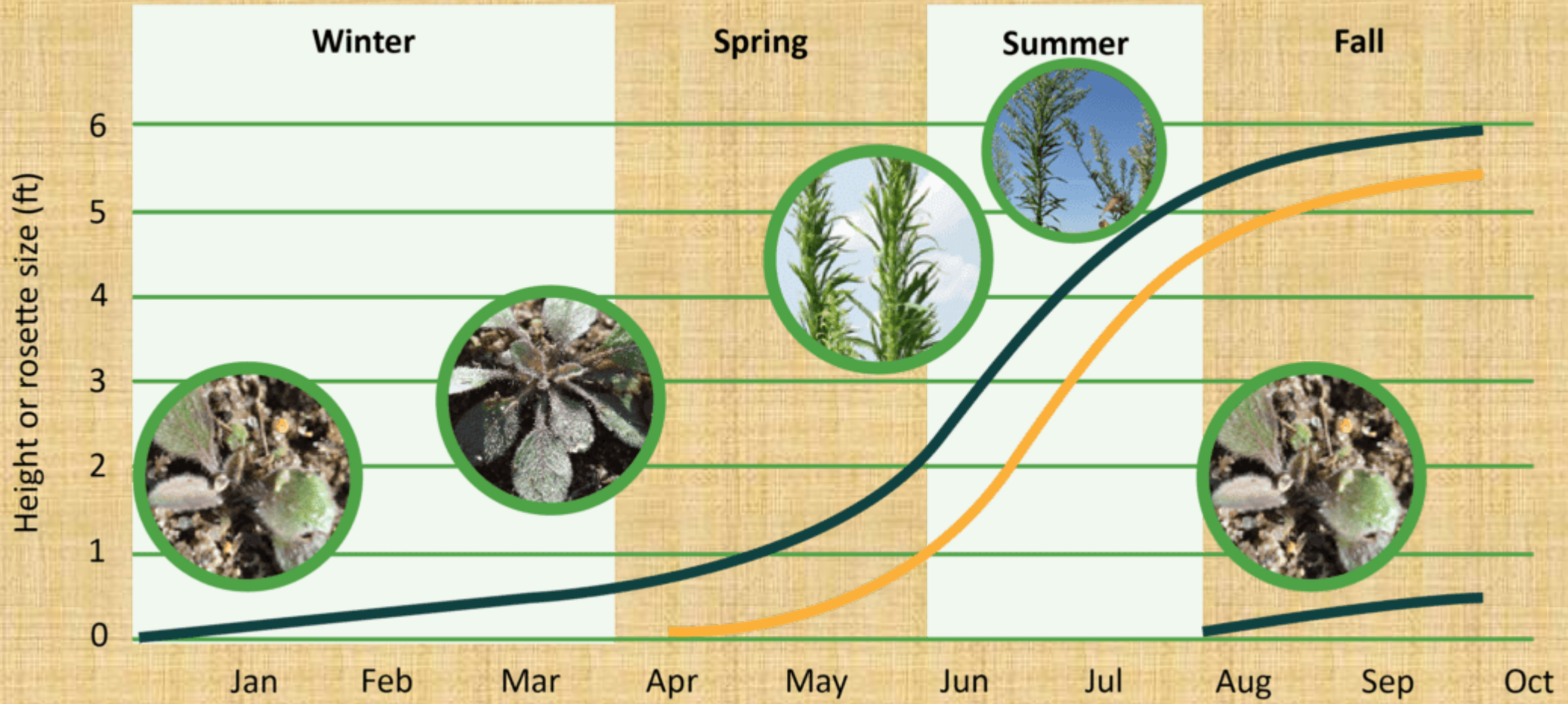
# Weed Life Cycles

Figure 1. Weed life cycles



# Winter Annual & Spring Annual

## Horseweed lifecycle



## Annuals

Galinsoga  
Ragweed  
Lambsquarters  
Smartweeds  
Purslane  
Black  
Nightshade  
Wild Mustard  
Velvetleaf  
Morningglories  
Foxtails  
Barnyardgrass  
Marestail

## Winter Annual

Chickweed  
Marestail  
Shepherd's  
Purse  
Downy Brome  
Wild Radish

## Biennial

Burdock  
Poison Parsnip  
Bull Thistle  
Queen Anne's  
lace

## Perennial

Milkweed  
Hemp Dogbane  
Canada Thistle  
Field Bindweed  
Dandelion  
Smooth Bedstraw  
Cinquefoil  
Plantain  
Knapweeds (most)  
Creeping Charlie  
Quackgrass  
Johnsongrass  
Nutsedge

# Weeds have their own season of activity

**Figure 3.1. Relative emergence and green-up sequence of common weeds of summer annual crops.**

<u>Previous fall</u>	<u>Early spring</u> - - - - -						<u>Late spring</u>
(Winter annuals & biennials)							
<u>Group 0</u>	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>	<u>Group 5</u>	<u>Group 6</u>	<u>Group 7</u>
Horseweed	Foxtail barley	Quackgrass	Smooth brome	Canada thistle	Green foxtail	Black nightshade	Fall panicum
Downy brome	Kochia	Orchardgrass	Woolly cupgrass	Giant foxtail	C. milkweed	Wirestem muhly	Crabgrasses
Field pennycress	Prostate knotweed	Giant ragweed	Velvetleaf	C. cocklebur	Hemp dogbane	Shattercane	Momingglories
Shepherd's purse	Wild mustard	C. lambsquarters	C. ragweed	Yellow nutsedge	Barnyardgrass	C. sunflower	Jimsonweed
Biennial thistles	Dandelion	P. smartweed	Wild buckwheat	Redroot pigweed	Yellow foxtail	Venice mallow	
Wild carrot	Russian thistle	Wild oats			Wild proso millet	Waterhemp	
Dandelion (from seed)	White cockle	Hairy nightshade					
	Prior to crop planting		About the time of crop planting			After crop planting	

Source: Buhler, D. D. et al., 1996. Relative emergence of weeds of corn and soybean. Iowa State University Extension Pub. SA11.

# Weed Seed Germination is Seasonal

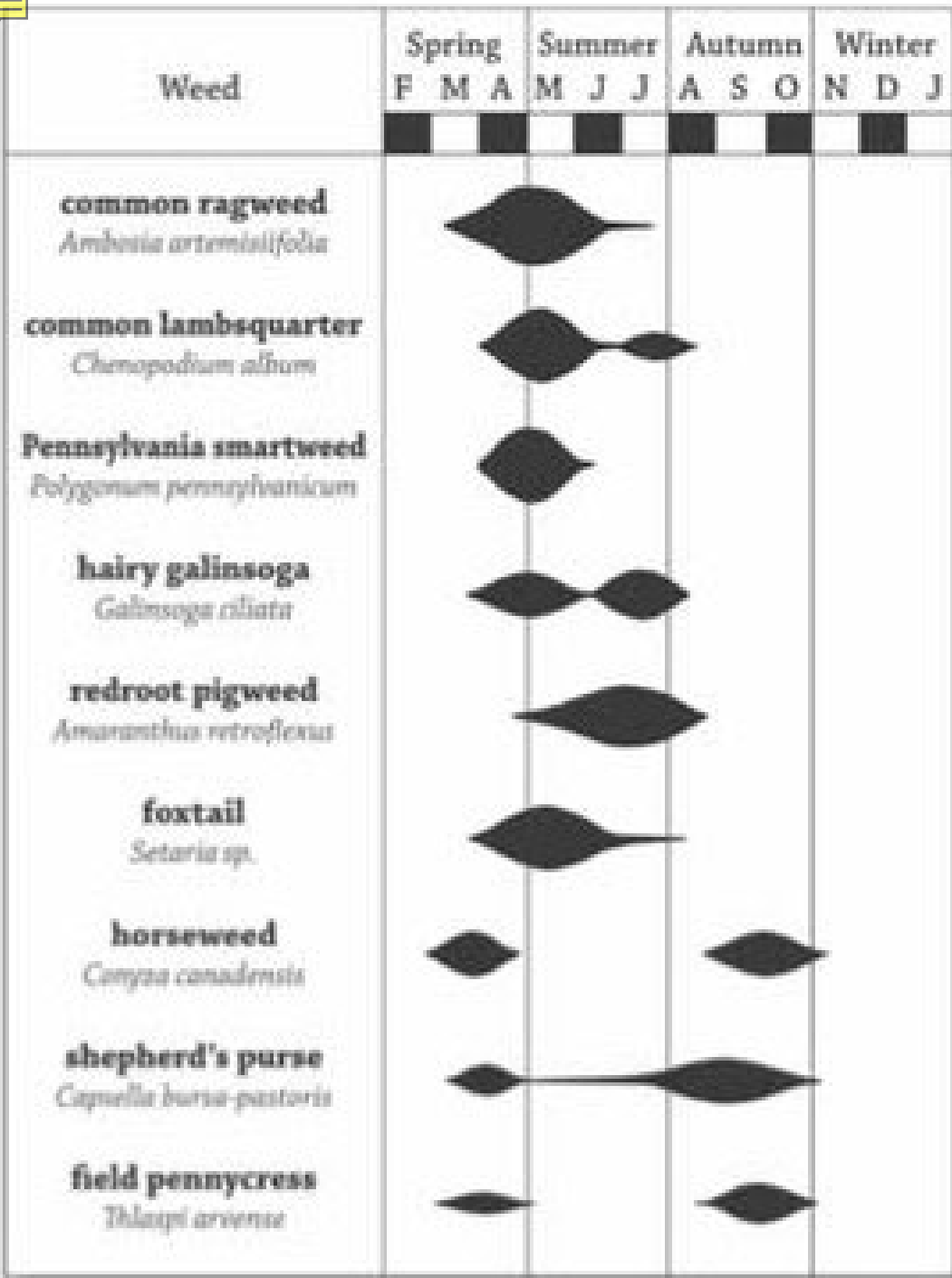
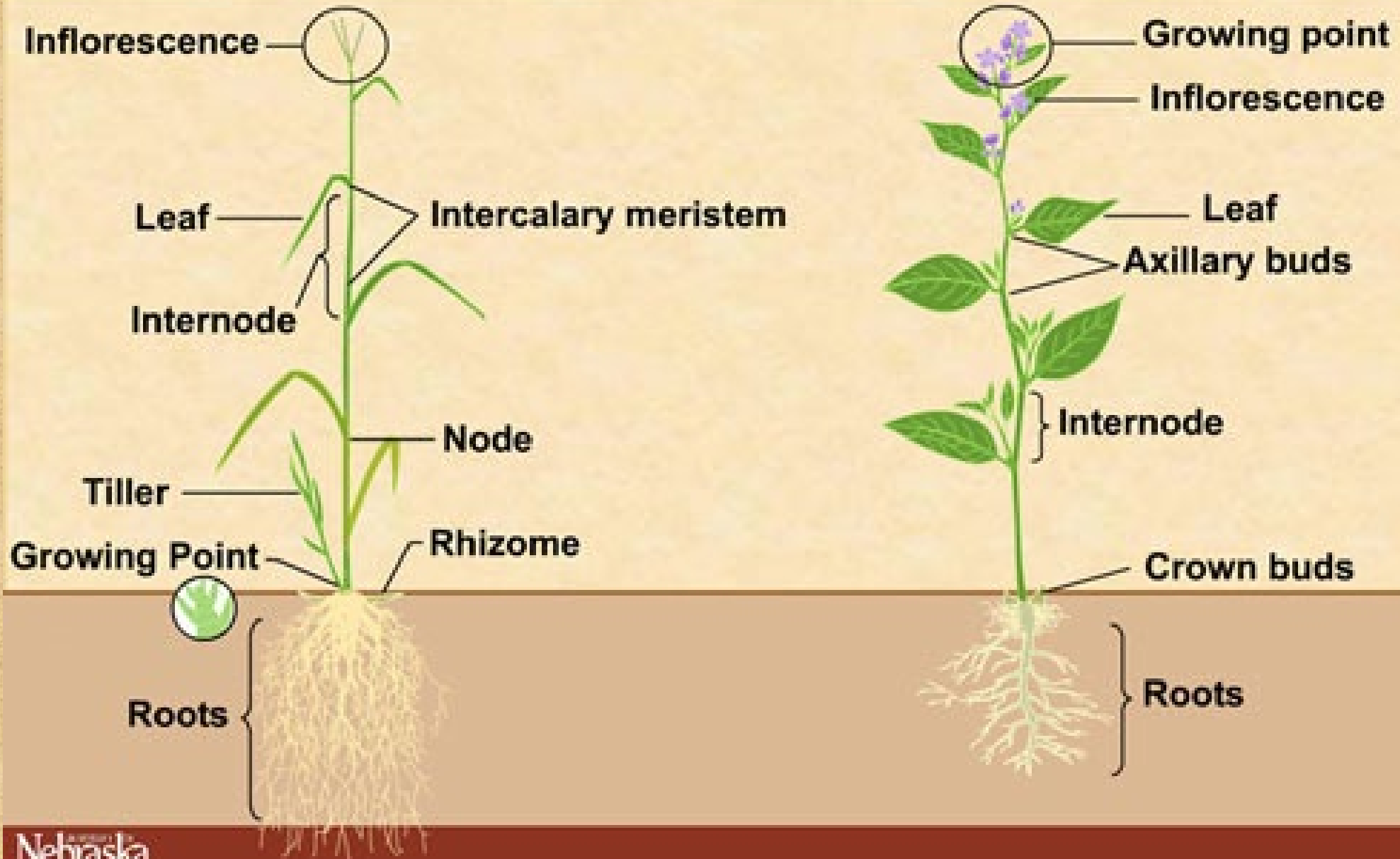


Table from Bryan Brown

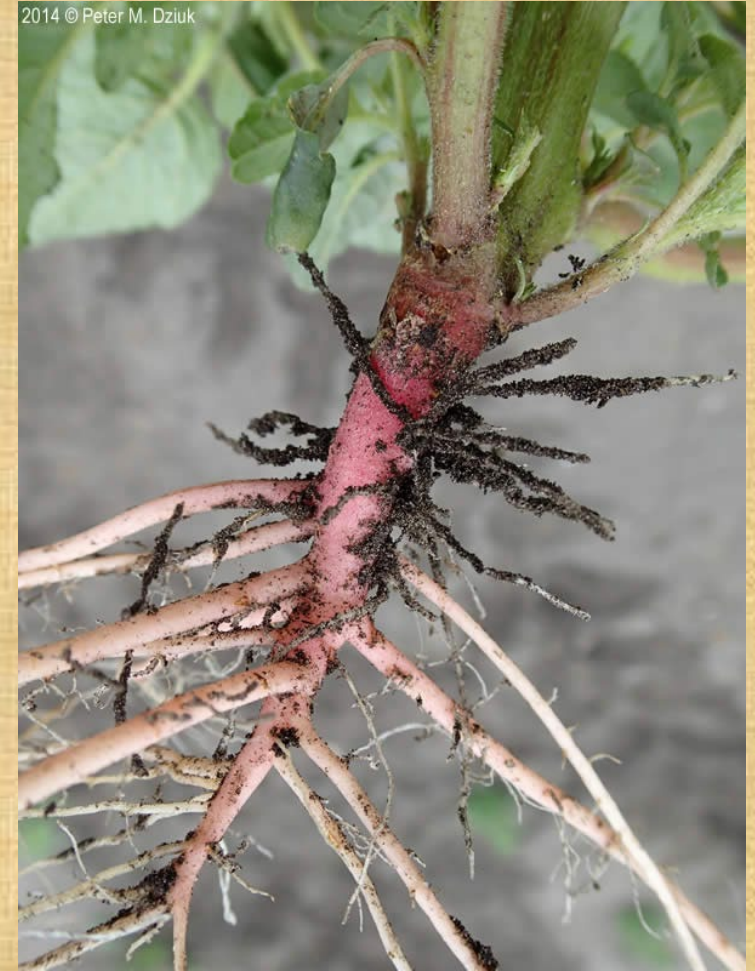
# Growing Points on a plant



# Roots



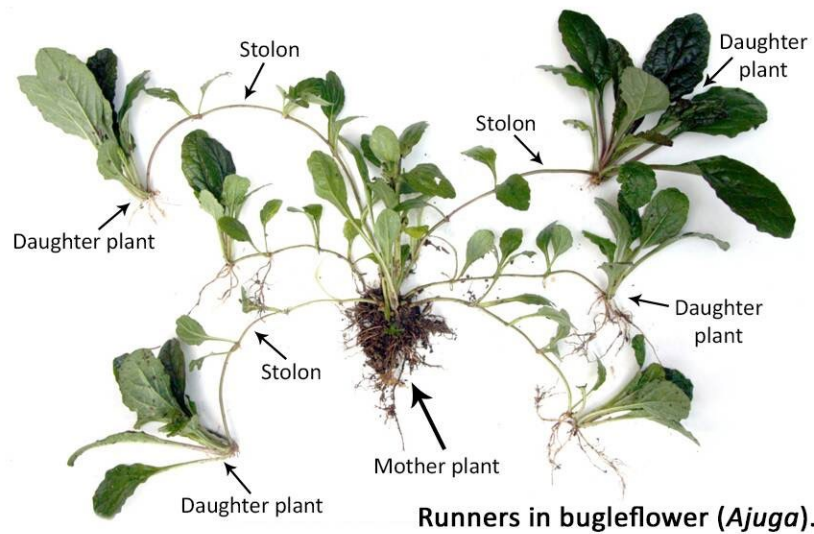
<https://content.ces.ncsu.edu/blackseed-plantain>



<https://www.minnesotawildflowers.info/flower/red-root-pigweed>



# (Stems) Stolons & Rhizomes



# Energy Storage



**Perennial Grasses  
(corms)**

**Broadleaves (bulbs,  
corms)**

**(timothy, orchardgrass)**

**Perennial Grasses &  
Perennial Broadleaves  
rhizomes & stolons**

**(quackgrass, milkweed,  
Canada Thistle, hedge  
bindweed, horsenettle)**

**Sum & Winter Annuals  
Shepherd's purse**

**Biennials**

**(burdock, poison parsnip)**

**Perennials**

**curly dock, dandelion**

# Seed Dormancy & Germination Cues

Light/dark cycles  
day/night

temperature cycles  
day/night

Nutrients/  
root exudates

Moisture

**Complex processes regulate seed dormancy and germination all of which are affected by tillage, fertility, crop rotation and other crop management practices**

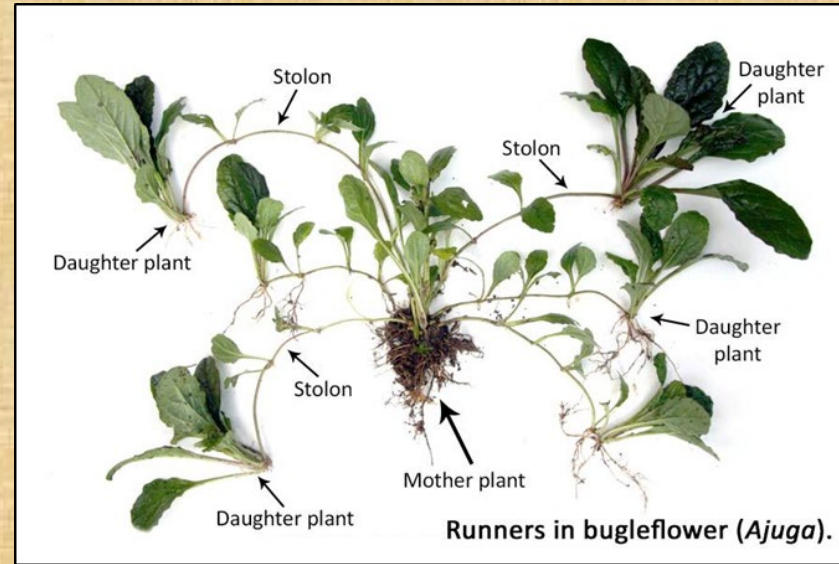


# Reproduction

Seeds  
(Palmer Amaranth)



Stolons



Rhizomes  
(Quackgrass)



Photo by Antonio DiTomasso

Tubers  
(Yellow Nutsedge)



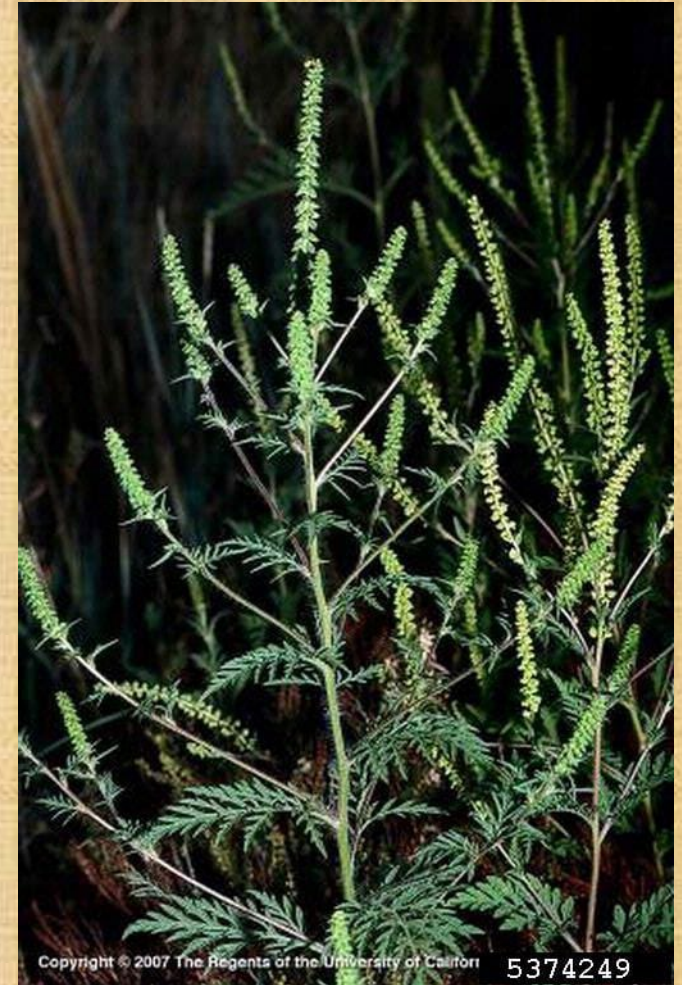
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# Rosettes



# Common ragweed (*Ambrosia artemisiifolia*)

- Summer annual;
- Emerges in spring;
- Late summer allergy;
- Set seed in late summer;
- Seeds are highly persistent in soil.



# Hemp Dogbane (*Apocynum cannabinum*)

- Perennial;
- Highly toxic to livestock;
- Shoots from root buds can emerge deep from soil;
- Rootstocks are persistent in soil.



# Spotted Knapweed (*Centaurea stoebe*)

- Short-lived (2-5 years) perennial;
- Can persist as a rosette for one to four years;
- Has a long taproot;
- Reproduce solely by seeds;
- Seeds germinate in spring through early fall.





# Common mullein (*Verbascum thapsus*)

- Biennial or short-lived perennial;
- Has an extensive fibrous and tap root system;
- Reproduce and spread by seeds;
- Seeds germinate in fall;
- Seeds remain viable in the soil for more than 100 years.



# Jimsonweed (*Datura stramonium*)

- Summer annual;
- Emerges in spring;
- Set seeds in late summer/fall;
- Up to 5 feet tall;
- Has a branched taproot;
- Reproduce by seeds;
- Very toxic to people & animals.



# Yellow nutsedge (*Cyperus esculentus*)

- Perennial;
- Thrive in wet or poorly drained soils;
- Has triangular stems;
- New plants are produced from nodes on rhizomes and from tubers;
- Tubers begin to form at the tips of rhizomes in early summer.



# Common cocklebur (*Xanthium strumarium*)

- Summer annual;
- Emerge mostly in mid-spring to early summer;
- Can emerge from deep layers in the soil;
- Reproduce by seeds;
- Seeds do not persist well in the soil.



# Redroot Pigweed (*Amaranthus retroflexus*)

- Summer annual;
- High nitrates can be toxic to livestock;
- Reproduce by seeds;
- Germination is stimulated by high soil temperatures, close to the soil surface;
- Growth can be substantially reduced by low light.



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**Other weeds to discuss?**

**Questions?**