Cool Season Annuals
HORT 308
Plant List 6 Spring 2019

Assigned Readings
for Plant List 6

Read the pages in your textbook associated with the family descriptions and individual taxa covered on Plant List 6 that was distributed in lab. These plant lists are also available on the course website.

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Cool Season Annuals

• Tolerant of freezing to subfreezing temperatures
  – Suitable for use throughout winter in southern half of our region
  – Suitable for late fall and very early spring use in northern portions of the region
• Provides off-season color in winter

Cool (Season) Thoughts

• Many species are derived from edible or medicinal European species
• Plants utilized solely for foliage more common than with other seasonal annuals
• Tall cool season annuals are infrequent, or become tall only late in the season
• Limited range of soil moisture is common
• Most decline when day temperatures consistently exceed 80°F or night temperatures exceed 70°F
• Mostly for detail designs, bedding, or seasonal containers
**Alcea rosea**
**Hollyhocks**
- Classic old-fashioned reseeding biennial, or weak perennial
- Tolerates cold to USDA z. 5, but heat of z. 8 is tough
- Bold coarse textured foliage; rounded mound the first year or winter and then stiffly upright in spring

**Antirrhinum majus**
**Snapdragon**
- Cool season annual cut flower or bedding plant in southern parts of our region
- Fairly frost tolerant, transition annual in northern parts of our region
- 3” - 8” terminal racemes of pea-like flowers
  - White, pink, red, orange, yellow, purple, 2-tones; cyclic flushes on short types
- 6” rounded mound to narrow upright & 5’ tall

**Rust fungi**

**Alcea rosea**
**Hollyhocks**
- Miniature hibiscus-like flowers
  - Singles quaint, doubles more formal peony or carnation-like appearance
  - Flower stalks 3’ to 10’ depending on the site conditions and cultivar selected
  - Colors vary from white, pink, red, to purple, rarely pale yellow
- Cotton root rot, spider mites, rust fungi, Japanese beetles
- Cottage gardens, strong vertical accent, spring borders

**Antirrhinum majus**
**Snapdragon**
- Sun to part shade, well drained moist soils; sun for bloom
  - Prone to rots and mildew in wet sites
- Summer heat and drought intolerant
- Bedding, edging, containers, baskets, cut flowers
What is wrong with this *Antirrhinum majus*?

**Linaria spp.**
Toadflax
- Informal version of Snapdragon; 12”-18” tall
- Exotics add multiple colors; early spring bloom
- Wildflower mixes, informal borders
- Fall seed in south; late winter transplants north
- Finer textured & even earlier bloom than snapdragons; best as masses not individuals

**Linaria spp.**
Toadflax
- Native species have pale blue to white flowers
- Wildflower mixes, informal borders, early color

Color without flowers?
**Brassica oleracea var. acephala**
Ornamental Cabbage or Kale

- Cool / cold season vegetable crop; variegated & dissected foliage types for landscape use
  - Green, white, red, purple combinations
  - Ruffled, dissected, 8” - 18” rosette of foliage
- **Cabbage looper damage**

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**Brassica oleracea var. acephala**
Ornamental Cabbage or Kale

- **Bolts** (elongating flower spikes in spring)
  - Creamy white to pale yellow flowers, + or -
  - Bolting signals end of useful life
  - Fairly cold tolerant, remove immediately if cold damaged, rotting foliage produces a foul odor; rotate beds to avoid diseases / pests
- Bedding, formal designs, accents, containers
- **Brassica oleracea var. capitata** = head form

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**Brassica oleracea var. acephala**
Ornamental Cabbage or Kale

- This sometimes happens when you get a warm spell in late winter?

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**Brassica juncea**
Giant Mustard

- Coarse textured bold rumpled rugose foliage 1’ to 2’ tall
- Dark purple-bronze leaves contrast sharply with lighter veins
- Vigorous and good cold tolerance (ok in DFW); good in containers
- Effective cool season massing plant or in herb, cottage or kitchen garden
**Beta vulgaris var. cicla**  
**Ornamental Swiss Chard**

- Ornamental Cabbage or Kale alternative
- Handsome coarse bold colorful winter foliage; edible, but not always palatable
- Bronze, blue-green, to dark green blades contrast with white, pink, purple, red, yellow or orange stalks and veins
- Use seed blends to retain color diversity

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**Beta vulgaris var. cicla**  
**Ornamental Swiss Chard**

- Same species as edible beet; produces edible foliage, but does not form an edible root
- Full sun for best color; treat as an annual
- Taller (18”) than many cool season color plants; coarse bold texture

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**Lactuca sativa**  
**Lettuce**

- Classic edible green possessing a variety of foliage forms, textures, and colors with ornamental potential
- Can be effective in cold of USDA z. 6 to 8, but is not heat tolerant
- Lots of foliage pests, but a very rapid grower; lush temporary filler plant
- Cottage garden; educational gardens; accent plantings; container gardens

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**Lactuca sativa**  
**Lettuce**

- Excellent example of a dual purpose plant which could be incorporated in sustainable landscapes
- Conventional production, hydroponics of many forms, containers or even living wall culture can all be significant
- Also effective for attracting wildlife
**Cynara cardunculus**  
*Cardoon*
- 1'-2' (3') tall coarse textured blue-green to silver-green mound of foliage in winter
- Bolting to 5’ to 6’ in spring
- Strong accent / background plant

**Calendula officinalis**  
*Pot Marigold*
- A classic cottage garden plant grown for medicinal purposes, later converted for ornamental use; dual purpose plant
- Daisy to Zinnia-like, yellow to orange flowers
- Intensely bright to more pastel cultivars
Cyclamen persicum
Florist’s Cyclamen
• Red, pink, white, to purple flowers atop a dense mound of violet-like foliage
• Unique inverted flowers held above foliage
• Long season of effectiveness
• Effective for bedding, containers, detail work, cool high light interiorscapes

Cyclamen persicum
Florist’s Cyclamen
• Shade to morning sun; needs moist rich soils; not heat or drought tolerant
• Tubers can be lifted & stored in cool & dry location in summer
• Summer dormancy
• Cool season annual USDA z. 9 & warmer

What caused this problem?

Cyclamen persicum
Florist’s Cyclamen

Dianthus chinensis
China Pinks
• Short-lived perennials used as cool season annuals
  – Effective fall - early summer in TX
  – Popular summer annual in central and northern regions of USA
• Short, 6” - 12” tall, compact mound, medium / fine texture
• Profusion of white, pink, red or two-tone flowers
  – Color range & size are expanding
  – Peak spring bloom, some flowers fall and winter
**Dianthus chinensis**

China Pinks

- Best in rich organic soils, but tolerates less fertile sites
- Crown rot in wet soils, melts in Texas’ summer heat
- One of best cool season color plants for Texas

**Eschscholzia californica**

California Poppy

- Outstanding as a cool season annual
- Sprawling mound 1’ to 2’ tall
- Rich green / blue-green finely divided foliage contrasts with bright orange flowers

**Eschscholzia californica subsp. mexicana**

is native to El Paso area

- Use in sunny site with well drained soils, dependable if winters are not too cold
- Excellent accent, massing, informal beds, naturalizing
- Expanding range of flower colors
- Rotate plantings due to Sclerotinia root & crown rots

Vistas in foothills of Franklin Mountains near El Paso, Texas courtesy of Dr. Geoff Denny
**Papaver spp.**

**Poppies**
- Group of species used in warm climates as cool or transition season annuals or as herbaceous perennials in cooler climates
- Most with a rosette-like growth form until flowering commences when stalks elongate
- Most species are planted for the large 3” to 6” diameter cup-shaped or peony-like flowers

**Lathyrus odoratus**

**Annual Sweet Pea**
- Short, 6’ to 8’ tall, weakly climbing to sprawling blue-green vine with tendrils
- Pea-shaped blue, pink, red to white fragrant spring flowers; fruit inedible
- Rare cool season trellis / fence cover, fragrant cut flowers; naturalizing
- Tolerate frost, but not hard freezes

**Limonium sinuatum**

**Annual Statice**
- Cool to transition annual; low flat rosettes of foliage with 1’ to 2’ stalks topped by wind-sweep 4”- 8” long x 1”- 2” wide inflorescences
- Showy white, pink, pink-orange, lavender, yellow, or blue calyx
- Tall bedding, accent, cut or dried arrangements

**Flowers come in a variety of iridescent colors and petals have a tissue-paper like texture**
- Place in sun, well drained soils, foliage dies down in summer
- Source of pharmaceuticals and illegal drugs; also culinary uses
**Lobularia maritima**  
**Sweet Alyssum**  
- Low growing 4” to 6” tall spreading cool to transition season annuals; summers in north  
- Long bloom season of white, pink, purple, to maroon fragrant flowers  
- Root rots in poor soils & takes limited heat, otherwise trouble-free  
- General bedding, rock gardens, living walls, containers, edging, detail work, fragrance gardens

**Matthiola incana**  
**Stock**  
- Upright oval to erect 8” to 36” tall cool or transition season annuals; blue-green foliage; recurring bloom  
- Single or double, white, pink, red, purple, mauve highly fragrant flowers

**Matthiola incana**  
**Stock**  
- Neither heat nor drought tolerant  
- Massing, bedding, or perhaps edging with shorter cultivars  
- Cut flowers, background of beds, borders, heritage gardens

**Primula × polyantha**  
**Polyanthus Primrose**  
- Mild climate [z. 7b-9a(9b)] herbaceous perennial grown here as winter annual  
- Dark rugose (quilted) coarse green leaves in rosettes  
- Clusters of 1”+ flowers above foliage
**Primula × polyantha**
Polyanthus Primrose
- Bright white, yellow, gold, bronze, brown, pink, red, purple, blue or two-tone flowers
- Root / crown rots, spider mites, slugs
- Bedding, accents, containers; large taproot

**Viola × wittrockiana**
Pansy
- Premier cool season annual for Texas and SE USA
  - Heat intolerant
  - Widely used as transition annuals in cooler regions
- Compact rounded to sprawling mound, 4” - 10” tall, heat intolerant
  - Attractive dark glossy green leaves contrast with flowers
  - High N requirements
  - Avoid excess PGR use
- Carry-over problems with excess growth regulators
  - Rotation beds to avoid disease problems, needs drainage

**Viola × wittrockiana**
Pansy
- Flat, circular flower held vertically, huge color range
  - Old-fashion flowers with “face” in flower, two-tone or tricolor +
  - Solids, marbles, bright to pastel
  - Nearly every color of rainbow except maybe green
- Carry-over problems with excess growth regulators
**Viola × wittrockiana**  
**Pansy**

Oft used as cool season filler or as layered bloom

Beware of color contrast as Pansies overlap bloom of other cool season color

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**Viola tricolor**  
**Johnny-Jump-Up**

- Wild European Pansy, naturalized in several portions of USA
- Smaller 3-color, purple, blue, & yellow flowers than V. × wittrockiana
- Flowers in profusion, readily reseeds
- Initially upright then sprawling growth form and finer textured than V. × wittrockiana, use in dense masses
- Under-utilized for durable spring color
  Older cultivars replaced in commercial trade by *Viola cornuta* (Horned Violet) cultivars and hybrids with *V. cornuta*

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**Lupinus texensis**  
**Texas Bluebonnet**

- Regionally most common *Lupinus spp.*
- Rosette or clump-like winter annual
  - Seven *Lupinus spp.* native to Texas, all designated Texas’ state flower
  - Effective as short duration spring bedding plants or for naturalizing

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**Lupinus texensis**  
**Texas Bluebonnet**

- Spike or racemes of pea-like flowers
  - Classic blue with white or pink spots, also available in white, pink, lavender, red and maroon; fragrant waves of blue in spring
- Best if direct seeded in fall, spring transplants not as effective
**Castilleja indivisa**  
**Indian Paintbrush**

- Natural companion plant to *Lupinus spp.*
  - Facultative parasitic on several genera including *Lupinus*
- Cool season annual wildflower
- Famous for spikes of red to orange bracts at same time as bluebonnets
- Difficult to transplant, poor garden plant, best used for naturalizing
- Of cultural significance to native Americans

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