

# Herbaceous Ornamentals

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# Perennial

A plant that is winter hardy and reappears year after year from its crown and root system

- Half-hardy
- Marginally-hardy



# Biennial

A plant that requires 2 seasons of growth to produce its flowers and fruit, growing leaves the first year, flowering, fruiting, and going to seed, and dying the next.



# Annual

Completes life cycle in one year, produces great quantities of seeds in order to propagate themselves



# Bulbs

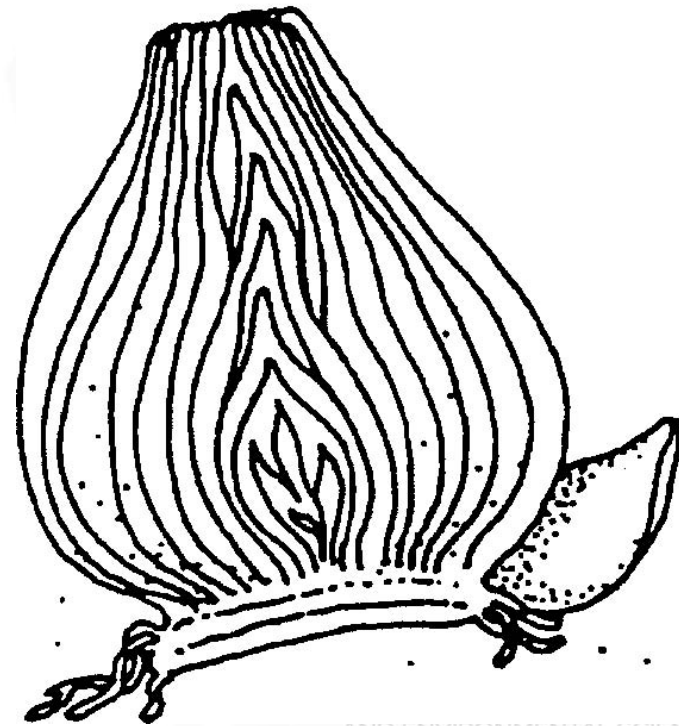
True bulbs consist of underground stems surrounded by *modified leaves* which contain stored food for the plant

“Bulb-type” plants include corms, tubers, rhizomes



# True Bulbs

- Have scales held together by a basal plate
- Tulips
- Daffodils
- Lilies



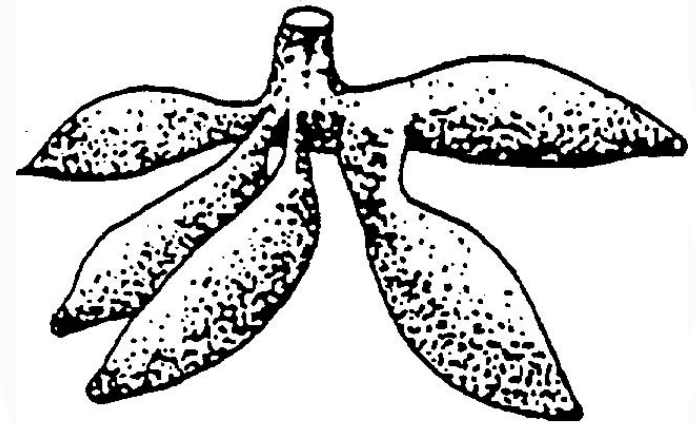
# Corms

- Compressed stem
- Basal plate
- Stored food with a bud on top
- Crocus
- Glads



# Tubers

- Swollen underground stems flattened at one end
- Have 'eyes' or buds on the surface
- Do not have scales or basal plates
- Begonias
- Dahlias





# Rhizomes

- Thick, swollen, underground stems
- No basal plate or scales
- Grow horizontally just below or at soil surface
- Spread easily
- Iris
- Lily-of-the-valley



# Herbaceous Ornamentals

Right plant + right place =  
Easier maintenance



# Herbaceous

- Design and plant selection
- Culture
  - Bed preparation
  - Planting
  - Maintenance
- Winter preparation



# Bulbs

- Planting
  - Fall - Spring
    - Soil preparation
- Maintenance
  - Fertilizing
  - Deadheading
  - Foliage
  - Weed control
  - Pests
  - Division



# Annuals

## Design and Plant Selection

- Bedding, border
- Mass of color
- Quick fillers
- Low maintenance
- Utilize Field Trials



# Annuals

- Planting
  - Soil preparation
    - 8-10" depth
    - 4" organic matter/12" soil



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# Annuals - Fertilizing

- Granular
- Liquid
- Hanging baskets
  - Regular basis per label instructions



# Annuals - Pruning

- Keeps plants looking their best
- Deadheading
- Shearing, cutting back





# Annuals - Winter Preparation

- Remove foliage after hard freeze
  - Exceptions
    - Annuals that are marginally hardy
- Add organic matter
- Lightly till the beds



# Annuals - Pests

- Keep plants healthy, stress-free
- Common pests include:
  - Slugs
  - Spider mites
  - Aphids
  - Root rots
  - Verticillium wilt
  - Rodents (rabbits)



## Perennial Design and Plant Selection

- Light exposure
- Soil and drainage
- Hardiness
- Water requirements
- Bloom period
- Favorites
- Color scheme
- Textures
- Space limitations
- Use
- Size



# Design and Plant Selection

- ◎ Long flowering periods
- ◎ Attractive foliage
  - Leaf combinations
  - Leaf shapes
  - Contrasting colors
  - Interesting textures
- ◎ Mass plants
  - 3-5 for greater impact
- ◎ Low maintenance
  - Long lived (cold hardy)
  - Low pruning requirements
  - Insect and disease resistance
  - Doesn't require staking



# Bed Preparation

- Fall/late summer
- Eliminate perennial weeds
- Soil test
- Drainage
- Amend with organic matter
- Work soil
  - 18-24”



# Planting

◎ Perennials - mid-April - May

◎ Add fertilizer per soil test

◎ Spacing

- Perennials

- Large (3' up) - 2-3'

- Med (2-3') - 1 1/2 - 2'

- Small (under 2') - 1'

◎ Depth

◎ Water

◎ Mulch

- 2" or less

◎ Weed control



# Maintenance - Mulching

- Wait until soil warms up in spring!!!!
- Keep away from crowns
- No more than 2"



# Maintenance - Irrigation

- 1" water per week
- Rule of thumb
  - Water thoroughly less often
  - Deep soaking
  - Check your soil





# Maintenance - Fertilizing



- Based on soil test
  - Yea, right!!!!!!!!!!!!!!!!!!!!
- *Complete* fertilizer contains N-P-K
- Nitrogen is needed most
  - Won't be indicated on a soil test
- Slow release vs quick release



# Fertilizing

- 1-2# **nitrogen** per 1000 sq. ft. per year



# Fertilizing

- 10 # bag of 5-10-5
  - 5% of the bag is **N(itrogen)**
  - 10% of the bag is **P(hosphorus)**
  - 5% of the bag is **K (Potassium)**
- The rest is filler
- Therefore, of the 10# bag, there is 1/2 # **N**  
(10# X .05 = .5)



# Fertilizing

- 10# bag of 5-10-5 has  $\frac{1}{2}$  # **Nitrogen**
- We want to apply 1# **N** per 1000 sq. ft.
- Therefore, we need 2 bags for the  
1000 sq. ft. bed



# Fertilizing

- 1-2# N
- Slow release
  - Apply 1 application, lasts all season
- Quick release
  - Apply half in early spring
  - Apply half 8 weeks later



# Fertilizing

- OR
  - Purchase a flower fertilizer and follow label directions
- OR
  - Don't fertilize at all!



# Irrigation

- Water in the a.m.
- Avoid overhead irrigation
- Drip/soaker hose



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# Division

- Why
  - Control size
  - Rejuvenate
  - Propagate
- When
  - Every 3-5 year
    - Depends upon plant



# Division

- How do we know it's time?
  - Less flowers
  - Smaller leaves in center of plant
  - Clumps are crowded
  - Clump opens in center
  - Reduced overall vigor
  - It's being a bully



# Division

- How
- Spade, knife
  - Iris, daylily, peony
- Pitchforks, shovel, trowel, fingers
  - Coreopsis, chrysanthemum, daisy
- Get help!
  - Ornamental grasses



# Leave these alone

- Alyssum (*Alyssum* spp.)
- Candytuft (*Iberis sempervirens*)
- Carnation (*Dianthus caryophyllus*)
- Delphinium (*Delphinium* × *elatum*)
- Euphorbia (*Euphorbia characias* ssp. *wulfenii*)
- Foxglove (*Digitalis* spp.)
- Garden sage (*Salvia officinalis*)
- Geraniums (*Pelargonium* spp.)
- Lavender cotton (*Santolina chamaecyparissus*)



# Leave these alone

- Lavender (*Lavandula* spp.)
- Rose campion (*Lychnis coronaria*)
- Rosemary (*Rosmarinus officinalis*)
- Russian sage (*Perovskia atriplicifolia*)
- Sea holly (*Eryngium* spp.)
- Silvermound (*Artemisia schmidtiana*)
- Sweet pea (*Lathyrus latifolius*)
- Trillium (*Trillium grandiflorum*)



# Pruning



# Pruning

- Shearing
  - Quick deadheading
  - Use to delay blooming
  - Use to prune uniformly to reduce height
  - Use to renew appearance
  - Can encourage new growth
    - Plants that are straggly, grown leggy
      - Shade, over-fertilization



# Pruning

- After blooming
  - Deadhead individual flowers
  - Shear
    - Cut back by 1/3
      - or
    - Cut back to the ground or new basal foliage



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Salvia incana  
"Fragrant"  
"Purple"  
"Mediterranean"  
"Salvia"







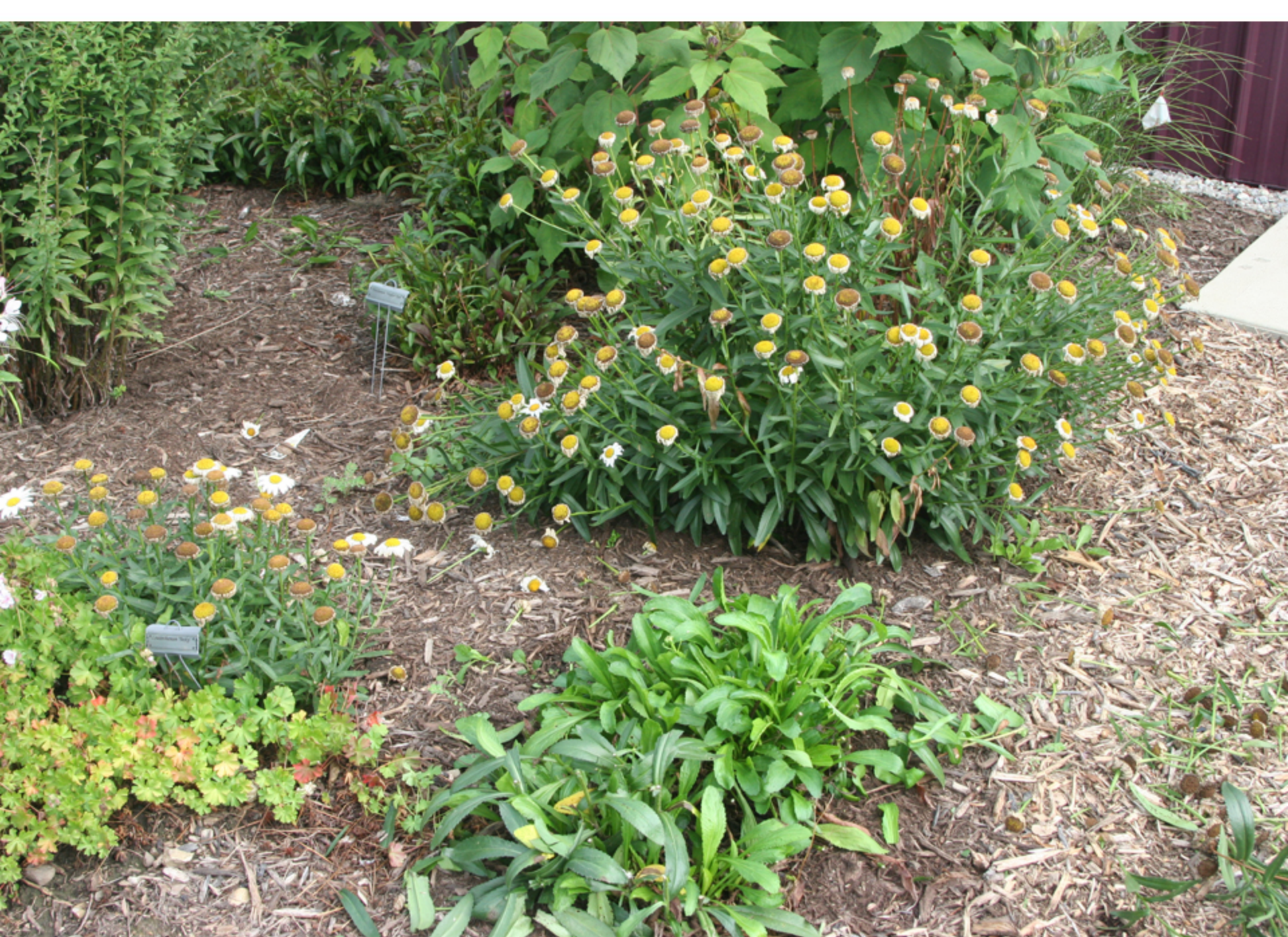






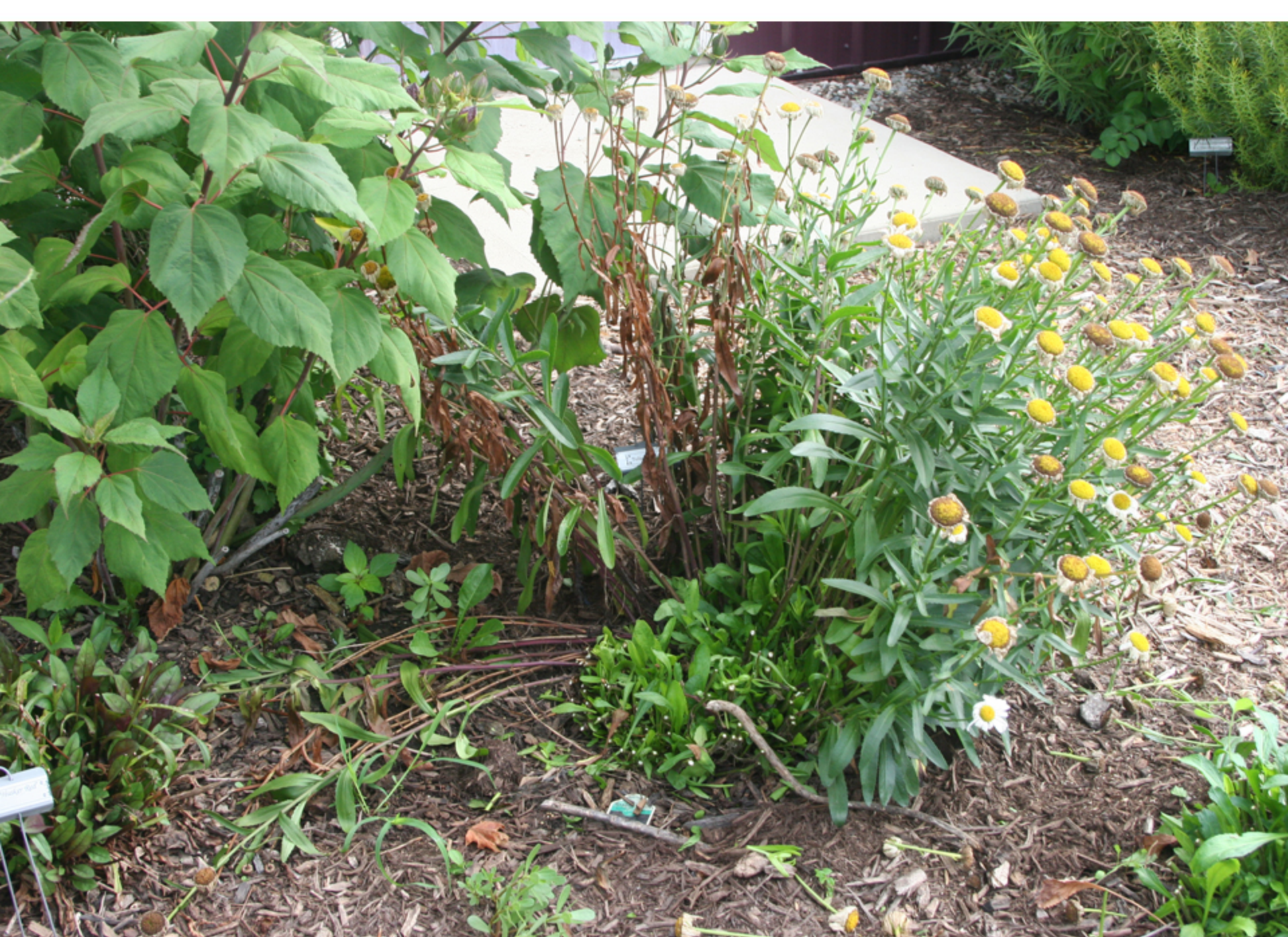
















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# Renew appearance



# Pruning



- Shearing to delay blooming
  - mums, asters
    - Cut by half at 4-6"
    - Cut again by half at 16"
- Delay blooming of one grouping
  - Shear half of the plants in the group
  - Leave the other alone





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# Pruning

- Pinching
  - Remove growth tips
  - Promote bushy, compact growth
  - Can be used to delay blooming



# Pruning

- Disbudding
  - Remove all but one flower bud
  - Produces showier flowers
    - Dahlias
    - Carnations
    - Roses
    - Peonies



# Sanitation

Keep it clean!



# Winter Preparation

- Remove foliage after freeze
  - Exceptions
    - Perennials with winter interest
- Mulch after ground freezes
  - Not too early, not too late

# Spring preparation

- Remove mulch
  - As new growth begins to emerge
  - Early April
- Cut back remaining perennials
  - Do it early enough!

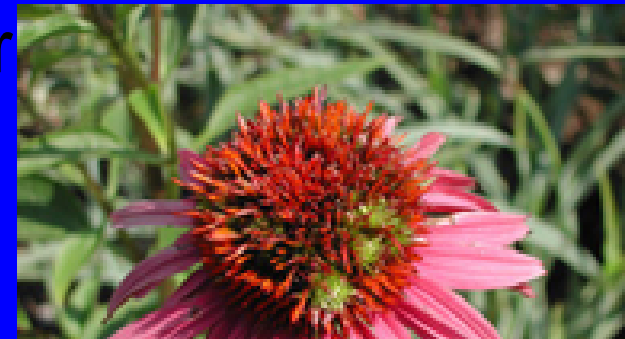
# Spring

- Reset heaved plants
- Inventory
- Remove vigorous weeds
- Divide (summer, fall bloomers)
- Fertilize
- Lightly cultivate, weed control



- Insects

- Aphids, 4-lined plant bug, spider mites
  - Use resistant/tolerant varieties
  - Decrease risk with fall clean-up



- Diseases

- Crown rot, botrytis
  - Avoid overcrowding
  - Avoid overhead watering
  - Keep plants healthy





# Pests

## ☉ Rodents

- Eat tender growth
- Dig and expose roots

## ☉ Weeds

- Annual
- Perennial



# Herbaceous Maintenance Schedule

- Perennials early spring
  - Remove mulch from crowns
  - Remove vigorous weeds
  - Reset plants
  - Inventory plants
  - Move plants
  - Divide
  - Cultivate
  - Fertilize
- Annuals
  - Prepare soil
  - Plant
- Bulbs
  - Deadhead
  - Fertilize
  - Plant summer bulbs inside

# Herbaceous Maintenance Schedule

- Summer
  - 2-3 times to weed, prune, fertilize
- Fall
  - Winter preparation
  - Dig summer flowering bulbs