

Master Gardener Perennials and Annuals

Betsy Busche from Spongetta's Garden



1

Seasonal Flowers

Forced bulbs and woodies in early spring

June perennials, biennials, fall planted hardy annuals

Hardy annuals and perennials in July

Tender annuals in August & September

Dried flowers for fall

Greenhouse mums, stock, asters

Wreaths for holidays



2

Difference Between Bedding and Cut Flowers

Bedding

Under a foot tall

Lasting blooms for weeks of color

Plants sold blooming, may be treated

Timed to plant Memorial Day

Sustains pollinators

Cut Flowers

At least 16" tall

Last in vase for 5-7 days

Transplants not carried by most greenhouses because not yet flowering

Succession plant May through August

Cut before pollinated for vase life

3

Color for all Seasons

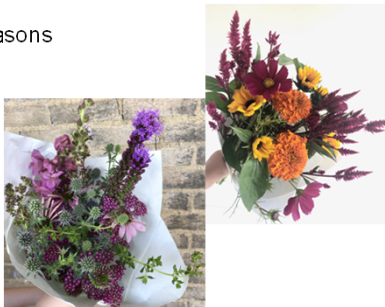
Annuals vs. Perennial

Which is easier?

Which is cheaper?

Need both!!!!

Think differently



4

Every single plant has different needs!!!

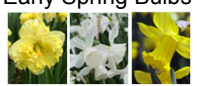


- Light
- Soil
- Water
- pH
- Germination
- Temperature
- Fertility
- Structure
- Harvest

5


Early Spring Bulbs

Daffodils



- Triggered by temperature and extreme cold tolerant
- Basal flowers, multiple blooms
- Multiplies in same location yearly
- Fancy are generally heirloom
- Deer safe
- Sap kills other flowers in vase

Tulips



- Require vernalization and easily forced
- Leaves run up the stem and stay attached
- Fancy are mostly hybrids
- Deer candy
- Treated as an annual with bulb pulled
- Can be kept in cold storage for weeks

6

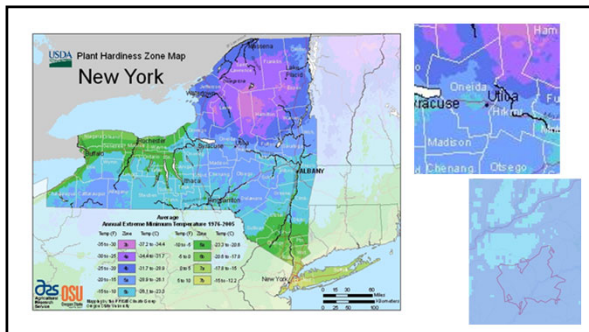
What Can We Grow Here

Climate
 Koppen-Geiger Zone Dfb - Humid Continental Mild Summer, Wet All Year
 Palmer Drought Index: Normal
Frost dates Last May 20 and First October 1
 Heat Zone Days Rare Over 86 Degrees Fahrenheit

Night Temperatures

Annual Climate Data for Zipcode 13502 - Ulica, NY													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg Min Temp (°F)	12	13	23	34	45	54	58	57	49	39	30	19	36
Avg Max Temp (°F)	30	33	42	56	69	77	82	80	71	60	46	35	57
Avg Precip (in.)	3.12	2.4	3.2	3.61	3.73	4.21	3.96	3.7	4.52	3.46	4.11	3.31	43.32

7

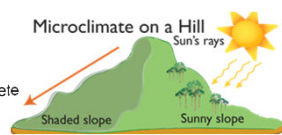


8

Microclimate

The atmospheric climate of a very small or restricted area that differs from the climate of the surrounding area.

- Garden bed or entire community
- Valleys and/or bodies of water
- Urban areas with buildings and concrete
- South facing bank



9

Life Cycle of a Plant

Genetically Programmed to Replicate Itself

Germinates - Foliage - Flower - Pollination - Set Seed

Perennial 3-10 years, continually sets seed or divides bulb
 Biennial Germinates one year, overwinters, flowers and sets seed second year
 Annual Grows foliage, blooms and sets seed all in one year

10

What Lifecycle Means for Cut Flowers

- Vernalization Must undergo a certain temperature for a certain length of time
- Hardy Annuals winter over like a biennial but don't need the cold to set bloom
- Tender Perennials can't take the heat of summer
- FYF flowers in the first year without vernalization
- Woodies bloom on new or old growth
- Self sowing can happen with any type

Every single flower is different
 Must respect individual needs

11

Poppy

Oriental Poppy - perennial zones 2-9 - easiest
 Flanders or Shirley Poppy - annual that reseeds
 Opium or Breadseed Poppy - grown for the pods and seeds
 Iceland Poppy - Tender perennial cutting variety
 Himalayan Poppy - specific needs hardest to grow
 Plume Poppy - invasive garden ruiner
 Greater Celandine - Noxious weed
 Bloodroot - shade native early spring
 California Poppy - not a poppy

12

Iceland Poppies

Hardy annual zone 6

Tiny seed like dust, plant with toothpick then thin by cutting

Easy germination grows on for 6 weeks then stalls

Harden for a week then plant out with row cover and slug bait

Plant will take off, then bloom for 6 weeks until burned out

Commercial growers buy in plugs



13

Perennial Varieties

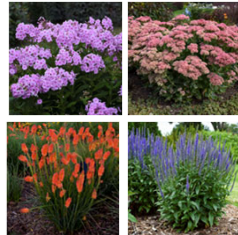
Phlox paniculata - Bright Eyes or David or...

Sedum Herbstfreude - Autumn Joy

Veronica longifolia - Blue Shades, etc

Kniphofia nobilis - Red Hot Poker

Pay attention to height, zone, hydration



14

Planting Schedule

April 15 As Soon as Ground Can Be Worked Direct Seed

May 1 Hardy Annual Transplants in Ground

May 20 Last Frost Date

May 25 - June 1 Tender Annuals Transplants in Ground

Succession Planting

July 15 Last Annual Succession

August 1 Last Sunflower Succession

August 1-10 Fall Planted Hardy Annuals Transplant in Ground


August 1 Direct Seed Fall Hardy Annuals

October 1 First Frost Date

15

Propagation


- Transplants and Plugs
- Direct Seed
- Cuttings
- Root Divisions
- Bulbs, Corms and Tubers



16

Direct Seed vs. Transplant


- Root systems
- Germination and grow on times
- Overseed - Chinese Forget Me Not or Bells of Ireland
- Greenhouse space
- Succession planting
- Weed, pest, and disease pressure
- Bloom time



17

Hybrid vs Open Pollinated

- Echinacea Purpurea most common with most vigor
- FYF or treat like biennial
- Open pollinated stays true to type
- Hybrid crosses two variety lines
- Novelty more expensive
- Green Twister, Cheyenne Spirit, Double Decker



18

Forcing Ranunculus

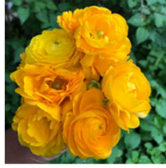
Zone 7 below force in spring

Prepout corms by soaking in water for 4 hours with running tap

Fill contain with 2" soil, moisten, nestle in corms, cover with soil, place in 50 degree area, check daily, keep moist until roots grow

Plant outside as soon as soil can be worked with slug bait

Blooms in approximately 90 days



19

Overview of Planting Times

Spring Hardy Annuals
Sow or Transplant April 12- May 1

Transplant or sow still cool nights

Use row covers for 3-4 weeks

Blooms late June into July

Succession as possible

Tender Annuals
Sow or Transplant Memorial Day on

Soil temp above 50

Transplant evening

Succession 2-4 times

Blooms August and September

Harvest same flowers for 6-8 weeks

Fall Hardy Annual
Transplant Aug 1 to after frost

Only way to have blooms in June

Establish roots before frost

Reach maturity for vernalization

Use row covers when no snow cover

20

Traditional Biennials

One year cycle, bloom second year

Need vernalization period

Blooms in June

Reseeds to start cycle in July into August

Flower farmers cut blooms ending cycle

Babies pop up where they want to be

Start transplants in June for August plant

Treat many of the perennials from seed the same

Hollyhock, Foxglove, Campanula, Money Plant



21

Dianthus

Classic biennial with cut flower with FYF options
 Perfect accessory to any bouquet
 Bright or moody colors depending on variety
 Various zones and heights - most are bedding plants
 Sweet or Amazon varieties for cutting from seed
 Start inside 10 weeks before transplant early June
 Long lasting in vase, can be cut and held
 Both my fall planted and spring planted bloomed to fall



22

Snapdragon

Hardy annual that overwinters
 Tall varieties or bedding plants
 Deer resistant
 Start inside 8-10 weeks, careful of soil temperature
 Choose a group 1 or 2 variety to overwinter like Costa or Chantilly
 Group 4 Summer varieties like Rocket or Potomac in July
 Pinch and net, 9 inches apart in rows for cuts
 Second flush in September



23

Sun and Shade

Full sun is 6 hours of direct sunlight
 Part sun plants thrive in 3-6 hours of direct sunlight
 Part shade is 3-6 hours of morning or afternoon sun, not mid day
 Full shade north side of house, can tolerate some morning or afternoon, not midday
 Afternoon sun is more intense and creates more heat than morning sun
 Shade plants include hellebore, solomon seal, astilbe, bleeding heart, columbine - all spring blooming



24

Direct Seeding - Can, Should, Don't



- Sow in super straight rows marked with string lines
- Overseed as appropriate to germination rates
- Protect from birds and chipmunks
- Cultivate at least once a week
- Thin to appropriate spacing - don't skip
- Set a sensible amount to direct seed - 100 linear feet

Larkspur, nigella, bachelor buttons, dill, bells of ireland, bupleurum, garden phlox, orlaya, sweet pea in early spring as hardy annuals

Tithonia, gilia, snow on the mountain, sunflower, zinnia, marigold as tender annuals

25

Direct Seed Hardy Annuals - Mid April

- Orlaya
- Nigella
- Bells of Ireland
- Larkspur
- Calendula
- Dara



26

Bupleurum




- Direct seed hardy annual filler in zone 5
- Can start inside with larkspur in plug trays in cool room
- Direct seed in fall and spring
- Store seed in freezer to aid germination
- One Hit Wonder so keep succession planting until it won't germinate
- Traditional medicinal herb
- Coveted florist crop

27


Flowering Behavior

- Just Once**
 - Single Stem Sunflowers
 - Many Perennials and Bulbs
 - Peony
- Middling 1-4 Weeks Production**
 - Dianthus
 - Feverfew
 - Branching Sunflowers
- Cut and Come Again Until Frost**
 - Zinnia
 - Cosmos
 - Ageratum
- Fall Flush from Hardy Annuals**
 - Black Eyed Susan
 - Statice
 - Yarrow



28

Stock



Spring bloom hardy annual with great fragrance

Florists love doubles

50% doubles selectable

Very easy inside start at 6 weeks

Will take temperatures down to 10 degrees

Burns out when temps reach 80 degrees

Single stem so do not pinch, 6" spacing

Use horizontal netting

Must protect from rabbits

29

Lisianthus

Rose like annual critical in wedding work

\$5 a stem retail


Hardy annual very slow to germinate and grows slowly 16-20 weeks

Prone to rosette without alternating temps

Purchase as plugs or from greenhouse

Weed pressure as no canopy


Blooms in July with second flush in September



30

Day Length

Hours of Darkness
Short Day vs Long Day
Triggers
Night Interruption



Binghamton, NY Daylength Milestones 2020

9 H 15 M	Dec 21	
10 H	Feb 1	Nov 10
11 H	Feb 24	Oct 16
12 H	Mar 17	Sep 24
13 H	Apr 7	Sep 3
14 H	Apr 30	Aug 11
15 H	May 30	July 12
15 H 15 M	June 21	

31

Godetia


Direct seed hardy annual
Daylength sensitive - can't succession plant
Blooms all at once in July
Looks like clusters of small poppies
Bedding variety Satin - Cut Grace Series
Long lasting in the vase
Start with a small patch



32

Self Seeding Annuals

Thinning or transplanting in perennial beds
Usually a lot of very small seed
Stays dormant until right conditions for germination
For commercial planting not reliable for field planted
Set aside area just for rudbeckia triloba, larkspur, phlox, cosmos and friends



33

Sweet Peas

Valuable and have a dedicated following

Bloom late June into July - afternoon shade

Sow in 4" pots late winter or direct early spring

Soak for 24 hours to soften the seed coat

Needs darkness to germinate

Pinch at 4"-6" tall to encourage basal branching

Heavy feeders and lots of water so drip tape

Build a trellis 8'-10' tall

<https://www.floretflowers.com/resources/how-to-grow-sweet-peas/>