Gardening 102: Getting to Know the Plants

Annual vs Perennial vs Biennial – what does it mean?

Plants are broken down into 3 categories based on their life cycle

- ***ANNUAL***
  - Plants live 1 life cycle – seed to plant/flower to seed to death
  - Need to be replanted each year
  - Some will reseed themselves each year
    - Keep in mind, many nurseries grown plants that will NOT reseed once planted
- ***PERENNIAL***
  - Plants that live more than a single life cycle
  - These plants grow bigger & better over the years
  - Not all have the same lifespan
    - Some live 3 to 5 years in certain areas of the country
      - Lupine, columbine, delphiniums & heuchera
    - Tender Perennials – tropical or warm climate plants that live as perennials in their zone
      - Either treat them as annuals or keep them in pots, overwinter in a warm place
- ***BIENNIAL***
  - Plants that take 2 years to complete their life cycle
  - Develop root system & grow green 1st year
    - Keep in mind some will look like they are struggling or stay low to ground
  - Most will not flower & seed until the 2nd year
    - Many need 'vernalization' or a cold period to flower
      - Think of bulbs
  - Examples are forget-me-nots

What is Biannual then?

These are plants that may bloom twice in one season. Some spring blooming perennials do this if you prune them just right.

What is an herbaceous perennial & why does it matter?

Herbaceous perennials 'die back' at the end of a season but are not dead!!

- The green growth of the plant dies, dropping leaves & branches may be dead as well.
- The plant is still alive at the crown (base of plant) & roots
- Know your plant

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- Some will regrow leaves on the existing branches
- For some you can trim the dead branches off in late winter/early spring
- Please keep in mind plants host beneficial insects so try to trim as late as possible

What is Deciduous vs Evergreen vs Semi-Evergreen??

- ***Deciduous*** plants drop all leaves seasonally (typically fall/winter) to conserve energy and regrow the leaves on existing branching in spring
- ***Evergreen*** plants retain their foliage all year round
- ***Semi-Evergreen*** plants can drop leaves during severe dry or cold spells or may only drop some leaves occasionally

Know your Latin – why knowing the common plant name may not be enough

Plant names can be confusing… common names for plants differ in different regions/countries:
Foxglove also known as Fairy Glove, Fairy Bells, Witch's Bells, Cow Flop, Dead Man's Bells

Botanical Name is made up of Genus, Species & Variety of the plant

- ***Genus*** – refers to distinct characteristics of a plant to create a smaller group
  - Based on leaf, flower, needle, cone, bark, seed & other plant characteristics
- ***Species*** – narrows down the plant even more
  - Not all plants in a given species are identical
- ***Variety*** – population that displays marked differences (even slight) in nature
  - Can be color of flowers, spotted or mottled flowers, leaves, etc.

Example: *Digitalis purpurea maculata*

- *Digitalis* – group of plants are biennial or perennials w/ alternate leaves & tubular-shaped flowers
- *purpurea* – refers to the color purple
- *maculata* means spotted in reference to the spotted or mottled purple of the flowers

Cultivars – a more modern term refers to an assemblage of cultivated plants which is clearly distinguish by one or more characteristics

- When flower goes to seed, the distinguishing characteristics MAY NOT occur in new plant
- You can check for open seeds/open pollinated

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Also important to note that if cross pollination happens, new plants will probably revert to original plant varieties and not keep cultivar's features.

Why Family of the plant matters?

Knowing a plant's family is useful when making decisions like:

- Rotating plants/crops
    - Plants in a family are genetically related to each other, share characteristics and are susceptible to similar pests & diseases
- Pest Management & Disease Control
    - Planting the same family in succession can lead to a buildup of shared pests.
    - Some plant families share similar issues: Strawberries (Rosaceae) & Solanaceae (Tomatoes) are susceptible to verticillium wilt
- Soil fertility
    - Many plants use the same nutrients
    - Planting members of the Fabaceae (legume) family add nitrogen to the soil that other plants use
    - Liliaceae are heavy potassium users
- Disease control

Cucurbitaceae have deeply lobed or separated leaves, separate male & female flowers (monoecious) w/ 5 fused petals, similar fruit types & tendrils for climbing

- Cucumber Beetle
- Squash Vine Borer
- Squash Beetle
- Blossom end rot (calcium deficiency)

How to choose the right plants for the right space

- *What Zone do you live in?*
- *Where is the Sun & Shade (part sun/part shade) in your yard/garden?*
- *Do you have microclimates in your yard/gardens?*
- *What is your objective?*
- *The Plants!!*

Plant Zone Hardiness

- Zones are based on the winter temperatures of an area
    - Each zone covers a 10-degree range
- This is to help determine if a plant can survive the winters in an area
- Why Zones Matter?

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- Perennials, shrubs & Trees can come back year after year so need to be able to survive and thrive in winter climates
- Annuals & vegetables – frost dates matter here and are specific to zones

ZONE	Ave Minimum Winter Temp	Sample Hardy Plants
3	-40 to -30 F	Extremely cold-tolerant perennials & early crops that can handle harsh winters (Peonies, Delphiniums, Columbines)
4	-30 to -20 F	Cold-hardy flowers & shrubs thrive w/ reliable snow cover for insulation (Lilacs, Coneflowers, Hellebores)
5	-20 to -10 F	Protect tender shoots from late frost (Bleeding Heart, Astilbe, Coral Beels)
6	-10 to 0 F	Mixed gardens of perennials, shrubs & hardy ornamentals (Hydrangeas, Sedum, Black-eyes Susan)
7	0 to 10 F	Mild winters allow for some tropicals & flowering shrubs (Lavender, Camellia, Crepe Myrtles)
8	10 to 20 F	Warmer climate supports evergreen shrubs, citrus, & long-blooming ornamentals (Gardenia, Fig tree, Agapanthus)
9	20 to 30 F	Tropicasl, succulents and heat-loving plants w/ some annuals growing year-round (Citrus, oleander, Bougainville)
10+	30 F+	True tropical climate w/ lush foliage & exotic flowers year-round (Banana, Bird of Paradise, Hibiscus)

Keep in mind plants can live in different regions during different times of the year.
8b (D/FW Texas) can seed/plant cold tolerant flowers in the fall for spring blooms. Plants will be done around May or so when the weather starts to get hot.

Where is the Sun & Shade (part sun/part shade) in your yard/garden?

- Know your yard
  - What is the direction of your yard/beds?
  - Where does the sun rise & set
  - Do the beds receive morning, afternoon and/or evening sun?
  - What kind (if any shade) is there?
    - Trees, fences, buildings, etc.
- What are the types of "sun"
  - Full Sun – 6+ hours of direct sun w/ no shade
  - Sun – less than 6 hours and maybe had a light shade like a willowy tree)
  - Part Sun – 3 to 5 hours of sun with less than 4 hours of shade
  - Partial Shade – less than 2 hours of direct sunlight
  - Shade and dense shade – less than 1 hour or no sunlight (think deep forest)

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Microclimates

Microclimates are a local climate difference of a small area within the surrounding area

- Can offer different growing conditions than surrounding area
- Includes sun exposure, wind, urban heat islands, etc.
    - North Exposure receives the least amount of sun, holds moisture but frost may linger
    - South Exposure gets more sun, longer growing seasons; some subtropics can be sustained
    - East Exposure morning sun w/ less wind. Good for plants that need full AM sun and afternoon shade
    - West Exposure is HOT, drier and windier.

Think about sitting under a shady tree. Or being on a hot sidewalk in the middle of summer… these are microclimates

What Is Your Objective?

It's important to know your objective when planning a garden/landscape.

- Are you planning a vegetable garden?
    - Find out the easiest you can start seeds vs transplants, etc
- Is it a physics or herb garden?
    - What grows in your area all year-round vs annually?
- Is it an dyer's garden?
- Is it an ornamental bed?
    - Do you want all evergreens or deciduous or both?
- Are natives or adaptative plants important in your landscape?
    - Natives are plants naturalized to a specific zone/state/location
    - Adaptive plants are plants that have become adapted to a location/zone/state's weather, climate, soil, etc.

PLANTS!!!

- What plant did you pick?
    - Latin name & family name
- Plant Specifics
    - Sunlight or Sun Exposure (of hours of sunlight needed per day)
    - Water
    - Average Size – mature plant size (H x W)
    - Spacing – based on average size & space needed between plants to achieve max growth
    - Hardiness (Zone Information)
        - Lists lowest temp plant can tolerate and sometimes highest
        - Some tags have zone location
    - Fertilization needs
    - Other possible features:

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        - Habitat growth (mounding, shrubs, vines, etc.)
        - Animal resistance
        - Bee Hazard

- What is growing next to your plant?
    - Is there space to reach full mature size?
    - Will it impede other plants' growth
- How much water does your plant need?
    - Does it need more or less than surrounding plants?
    - Will the root system spread farther than the plant's size & compete with other plants for water (Think trees)
- Sunlight – will the new plant shade out other plants near it?
    - Consider mature size
- Fertilizer – do all plants in a bed have the same needs?
    - It is impossible to use man-made fertilizer in a specific area & not get leeching
- Keep in mind possible pest & disease issues

DEVELOP A PLAN

The best way to make sure your garden has the look & feel you want is to develop a plan.

This helps plan areas of your garden/landscape

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- This helps you plan areas of your garden/landscape
    - What types of plants & varieties?
        - Full plant sizes
        - Like watering needs
        - Like sunlight needs
        - Like fertilizing needs
    - Color scheme
    - Seasonal timing (early spring, mid spring, summer, autumn, etc.)
    - Vegetables that support each other or companion planting

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Seed Starting

Sources:

- Botanical Interest - www.botanicalinterests.com
- Ferry-Morse - https://ferrymorse.com/
- Johnny's seeds - www.johnnyseeds.com/
- Baker Creek Seeds - https://www.rareseeds.com/
- TomatoFest - https://www.tomatofest.com/
- Burpee - https://www.burpee.com/
- Seed Therapy - seedtherapy.com/

Indoor Seed Starting

- Plant Lights (https://www.amazon.com/dp/B07LGTJQ2S?tag=dallasgarden-20&th=1)
    - I use small bungee cords to help raise/lower lights easier than chains included with lights (https://www.amazon.com/dp/B0D9CZ7Q2L?ref_=ppx_hzsearch_conn_dt_b_fed_asin_title_3)
- Miracle Growth Cactus, Palm & Citrus Potting Mix (not seed starter mix)
- Vermiculite
- Seed starting trays
    - https://www.amazon.com/dp/B07R9S38VX?tag=dallasgarden-20&th=1
    - https://www.amazon.com/gp/product/B07BLRZQQW?tag=dallasgarden-20&ref_=as_li_ss_tl
- Heating mats (https://www.amazon.com/dp/B074753J5V?tag=dallasgarden-20&th=1)
- Garden marker (https://www.amazon.com/dp/B01FOG9KWI?tag=dallasgarden-20)
- Plant tags (https://www.amazon.com/dp/B01HTDDFKW?tag=dallasgarden-20&th=1)

Other Recommended Supplies

- Espoma Bio-Tome Starter
- Moisture Meters
    - https://www.amazon.com/dp/B07DM4LS1D?ref_=ppx_hzsearch_conn_dt_b_fed_asin_title_5&th=1
    - https://www.amazon.com/dp/B0C7GXZLVK?ref_=ppx_hzsearch_conn_dt_b_fed_asin_title_5&th=1

Fertilizers

- Microlife Multipurpose 6-2-4 Fertilizer
- Espoma is a great fertilizer with different applications
- FoxFarm Happy Frog series