

GARDENING 101: THE HUMBLE ART OF GROWING THINGS

SOIL

- Base soil is composed of air, water, minerals & decaying organic
- Soil texture is determined by the proportions of sand, silt & clays that are present
 - Sand filters water; will not hold moisture
 - Clay holds the most water but can cause root rot/drowning
- Soil Testing – Any Agrilife extension
- Soil amendments
 - Compost
 - Reason to use
 - Types of compost
 - Worm Castings
 - Mushroom compost
 - General Compost
 - Manure (not a compost)
 - Home Compost
 - Expanded Shale is used to add more air pockets to soil
 - Do not add sand as it will slowly sink and not help with soil texture

WATER

- What is your soil composition?
 - Sand requires more water
 - Clay requires less during cooler seasons and may need more during droughts
- Where is your water located?
 - It is always easier to water plants when the water is easily accessible
- Water concerns
 - Chemicals in the water (chlorine is not a friend to plants)
 - Set water out for 24 hours will dissipate the chlorine
 - May be worth checking water makeup if plants are struggling
- Plants with similar water needs
 - Keep in mind each plant's preferred water needs.
 - Do NOT plant something that needs constant moisture next to a Mediterranean plant that thrives in a drier climate.
 - Do NOT Water the plant itself, water around the roots. This helps avoid scorching the plant as well as decreasing mildew or fungal issues with the plant
- When to water
 - Water in early AM as this will help the ground retain the moisture
 - Watering in the afternoon/heat of day causes a lot of the water to evaporate before reaching the plants' roots
 - Water DEEPLY and less often instead of more frequently and less water
 - This helps the roots establish and grow stronger in the soil
 - Overwatering will stunt roots and make the plant weaker and more susceptible to weather and pests.
- How to check moisture levels – CHECK DO NOT GUESS!!!
 - Finger Test – insert finger up to 3” to check moisture levels

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- Preferred mention – water meter as it is more accurate
 - 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
- Drip Irrigation set up - most reliable way to water
 - Allows control over watering by watering slowly which will then make it go deeper and need less
 - Place drip lines UNDER mulch near base of the plant, not on top of the mulch

LIGHT (SUN)

- 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, building, 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)
- How much do the plants need?
- Plants with similar sun needs
- Shade clothes for protection
- Water considerations

MULCHING

- Do not skip this step
 - Helps retain water
 - Helps cool soil for plant roots
 - Breaks downs to add nutrients and compost increasing soil texture
 - Promotes microfungal support
- For seedlings – light layer and add as plants grow
- For plants
 - Start with 2 to 3” of much around plant
 - Keep it away from the base of the plant (1/2” or so)
- Types of Mulches
 - Hardwood Mulch – helps retain moisture and adds organic matter during break down
 - Pine needles – will help retain moisture and deter some pests but takes time to break down (better around landscaping)
 - Leaves – great option is to use chopped up leaves.
 - Straw but not Hay (hay has seeds)
 - Cover Crops – do not use around veggies as will compete for water
 - Help fix nitrogen back in the soil so consider as a winter crop

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- Hardscape
 - Rocks, gravel, etc but not around veggies
- Considerations
 - Hardwood comes in fine and larger so try to use finer mulch around veggies/tender plants
 - Will lose color so keep that in mind
 - Hardwoods, leaves, straw can become hydrophobic so watch for this and if it occurs, lightly turn the mulch
 - Cover crops are great for winter and help fix nitrogen back in the soil.
 - Do not use while planting seasonal vegetables as it competes for other nutrients and water
 - Do not hardscape around vegetables

FERTILIZING

- Types of Fertilizer
 - Synthetic vs Organic
 - Mushroom compost
 - Vermicompost
 - General compost
 - Home Compost
 - Manure
- What do the #s mean on Synthetic/organic Fertilizers?
 - Typically, 3 #s on a bag
 - N-P-K
 - Nitrogen promotes lush greenery
 - Phosphorous promotes a strong root system
 - Potassium strengthens roots and helps protect the plant from environmental stressors
 - Use what the plant needs
- Notes about fertilizers:
 - Test your soil
 - Compost is best
 - Apply near or around base of plants each growing season
 - Slow-release fertilizers – not in the south due to the warm weather & high water content in clays
 - Make sure to apply with the instructions
 - Make sure to adequately water after
- Suggested fertilizers:
 - MicroLife Multipurpose 6-2-4
 - Espoma
 - **Bio-Tone Starter**
 - Flower Tone (cut flower gardens)
 - FoxFarm
 - Happy Frog Tomato & Vegetable & Grow Big (seed starting)
 - Happy Frog Fruit & Flower

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INSECT MANAGEMENT

- Pesticides Kill ALL bugs!!!
- Keep in mind not all bugs are pests
 - Predatory bugs are part of a well-balanced ecosystem
 - They hunt other insects we do not want
- Look for other alternatives before spraying...
 - Companion planting
 - Crop rotation
 - Pulling infected plants
 - Supporting Predatory bugs (water, shelter, etc.)
- Is spraying is necessary...
 - Spot spray/treat affected areas of plant/area instead of entire plant/area
 - Limit as much as possible

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?
 - 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
 - Microclimates in your yard are also a factor
 - Sun exposure, wind, urban heat islands, etc.

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	Tropicals, 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)

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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.

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