

sustainable DENTON

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Gardening 101

Welcome to the exciting world of gardening. In the City of Denton we encourage you to garden and have created a how to guide to help you get started. In this guide we hope to answer some of the questions you may have along the way.

Gardening can do more than just provide you with some tasty fruits and vegetables. When you garden properly you are helping to clean the air, protect our soil and conserve our drinking water. That's right, gardening can actually help conserve water. We are able to conserve water when we select the right crops such as native plants because these plants are more adaptive to our climate and require less water.

Gardening can also support the wildlife around, all the while looking beautiful in the process. This is because plants play a critical role in the survive of local pollinators and other helpful wildlife. It is important that we do our part to support these creatures. We hope this guide helps you create the perfect oasis whether it is on your patio, backyard, raise bed or front lawn.

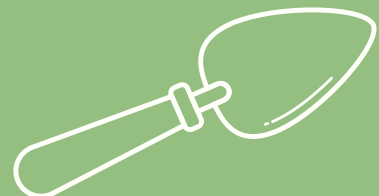
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SELECTION & PLACEMENT

When selecting plants for your garden it is important to keep the following things in mind: the amount of light it will need, temperature, watering, fertilizer, season and plant size. Many of these factors will be listed on the plant label or seed packet.

Light

Light refers to the amount of sunlight your plant will be exposed to on a regular basis:

- Direct Sun
- Part Sun (2-3 hours without sunlight)
- Part Shade (4-5 hours without sunlight)
- Full Shade (No direct sunlight but receives some reflective sunlight)
- Dense Shade (No direct or reflective sunlight)

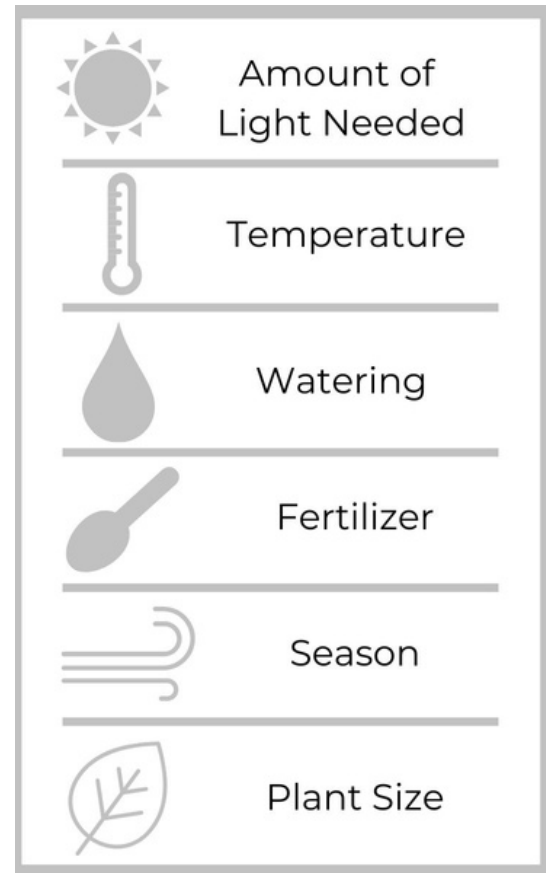
The amount of light your plant receives can be related to the seasonal position of the sun or the plants and objects around it.

Temperature

The United States Department of Agriculture (USDA) has developed a map of "hardiness" zones within the US. These help us find plants that will thrive in our location based on the temperatures extremes in our region. The City of Denton is located in Zone 8a (10 to 15 degrees). We recommend selecting plants that are either native or adaptive to this area because these plants will be capable of handling the temperatures in this region better than those from other regions.

Watering

On the plant tag or seed packet it will likely cover the amount of water your plant will need to survive. Another benefit of selecting plants that are apart of the North Texas "hardiness" zone is that these plants should also require less water (making them more drought tolerant). This will allow you to conserve water. Later in this guide we will go over different methods you can use to water your plant to further conserve water in your yard.



DESIGN TIP: MIX IT UP!

We encourage you to use a variety of surfaces in your yard such as hardscape, turf grasses, bedding, shrubs and trees. Creating different levels in your yard will make things more aesthetically pleasing. By creating different heights in your yard you will also

encourage different wildlife to come and visit. The variety in surfaces will also improve the drainage in your yard making it easier to penetrate the soil and filter back into the ground. Lastly, by reducing the amount of turf in your yard, you will also reduce watering.

Fertilizer

In order for plants to thrive in your yard, they need the right amount of nutrients in the soil. The best way to know what nutrients your soil is missing is to test the soil. You can obtain a soil testing kit online or from a local hardware store. You can also get your soil professionally test at using the site <http://soiltesting.tamu.edu/>. We have more information on soil later on in this guide.

Once you understand what soil amendments you need you can begin to address these gaps through products like fertilizer or compost (see the compost section to learn tips and tricks to make your own). Soil amendment can come in a variety of products. We would like to note that some products are less toxic than others which is why it is important to do your research before selecting one. No matter what product you are using it is very important that you follow the directions listed on the product and don't use more than the recommended amount. You should also adjust your watering accordingly. The best time to use fertilizer and compost is at the beginning and end of the growing season. It is also worth noting that many native plants do not require any fertilizing and can have a negative reaction to the added nutrients. This is also true for most vegetable gardens which will benefit more from adding compost.

Season

It is important to know if your plant is a annual (blooms once a year) or a perennial (blooms multiply times throughout the year). This will help you understand if the plant needs to be planted during a particular season. Annual crops are typically cool season or warm season. Warm season crops are usually grown for their fruit (example: tomatoes).

Plant Size

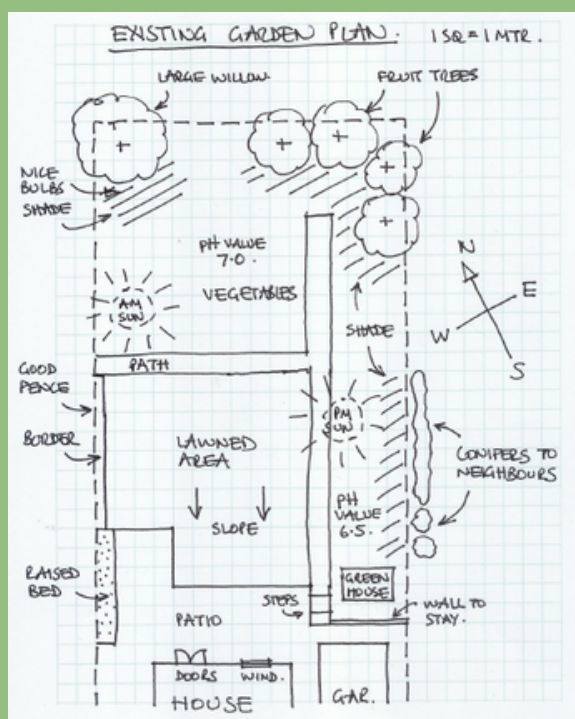
On the tag for the plant you will also want to look to see what they recommend for spacing between other plants. Make sure you are giving the plant enough space to grow. Growth can take time with natives. Their first year they are trying to survive. In the second year their roots are establishing themselves underground and so they begin to thrive in the third year.

DESIGN TIP: DRAW IT OUT!

Before you go and start buying up plants, we suggest taking a moment to start laying things out in your new garden. This will allow you to develop a game plan before you start digging.

To begin, you will need to take inventory of everything on your property including buildings and other hard surfaces. Next, you can map out the current uses on your property. After that, you can start laying out what you would like your future use of the property to look like. The next layout will be more detailed including specific features in your yard including the amount of light, soil and water flow.

The final step is to begin to select native plants that will work in areas of your yard. There are additional design tools available at TxSmartScape.com or <https://wateruniversity.tamu.edu/>.



COMPOSTING

What is "composting"?

The EPA defines compost as organic material that can be added to soil to help plants grow. It is the combination of water, "brown" matter and "green" matter. The "brown" material is high in carbon and the "green" material is high in nitrogen. .

Compost is great for providing nutrients to your yard. It is also beneficial because it saves money and reduces waste. Avoid the following items: Meat, bones, fish, dairy, grease/oil, pet droppings, noxious weeds (and their seeds), diseased plants, pests, shavings/saw dust from treated wood and ashes. Each of these items could containment or ruin you compost. Your compost pile should not be touching any wooden structures (example: wooden siding on a house, fence and trees).

Here are some more tips and tricks for creating a healthy compost pile:

- Your mixture should contain equal parts of green and brown material.
- Make sure you compost mixture remains moist but not too moist. It should be similar to a sponge.
- Your pile should be between 3ft x 3ft and 4ft x 4ft. This will allow the material to get hot enough without taking too longer or getting too hot.
- When placing material into your compost bin, try to make them as small as possible to help them break down faster. This may require you to further cut material up before placing it in the bin.
- A compost pile should ideally get between 135 degrees and 65 degrees. This will allow it to kill most weeds and germs that cause disease. To measure this you should use a compost thermometer. You can heat retain you heat by covering your pile with a tarp.
- Remember to aerate you compost regularly but turning the soil.



Green Material

Grass Clippings
Fresh Fruit Scraps
Fresh Vegetable scraps
Coffee Grounds
Tea Leaves
Plant Trimmings
Fresh Chip Flowers
Egg Shells
Manure
Seaweed

Brown Material

Old Leaves
Hay
Shredded Paper
Pine Needles
Cardboard
Newspaper
Peat Moss
Old Grass (dried)
Cotton & Wool*

*makesure it is 100 percent

WATERING

Watering your the plants in your yard can be ticky starting out because you can easily kill them by watering too much or too little. We encourage the use of native and adaptive plants because they typically require less water. It is also important to think about water quality when you are watering your lawn. You can positively impact your local water quality by picking up your animals waste, choosing natural products for your lawn, preventing erosion, using less fertilizers and pesticides.



Rain Barrels

Rain Barrels provide tons of benefits to your yard including:

- They provide fresh water to your garden and wildlife that is free of chemicals or minerals used to clean our drinking water.
- They reduce demand on our water supply by collecting water efficiently.
- They help improve your yards drainage and reduce erosion or flooding.
- Reduces runoff pollution.
- It also reduces your utility bill!

Just remember to use all of the water in your barrel regularly, clean your gutters our twice a year and clean the barrel once a year.



Irrigation

Here are the three most common types of irrigation:

- **Spray Irrigation** includes both entire systems and moveable hoses that can be used to spray water on your yard.
- **Drip Irrigation** allows you to water an area slowly with low pressure reducing the risk of runoff and water loss.
- **Soaker Hoses** involve a porous hoses that allows water to seep out slowing. It is ideal for garden beds with plants that are very close together.

Here are some important tips and tricks for utilizing your irrigation system:

- Check for runoff and make sure you are watering evenly throughout your yard.
- Check the weather or rain gauge to avoid overwatering.
- Check your system regularly for leaks or clogs.
- Avoid watering during the hottest times of the day (between 10:00 AM and 6:00 PM).



OTHER TIPS & TRICKS

Mulch

When you add mulch to your plants it helps them retain more water, reduce evaporation, prevent weeds from popping up and provide nutrients to the plants down the line.

Look out for pest!

These tips and tricks can help you avoid attracting unwanted pest:

- Water efficiently! When you over water you could be creating a habitat for an unwanted friend in your yard.
- Native and adaptive plants are more tolerant of the pest that are common in our region. You can also select some certain plants to deter pests such as mint or eucalyptus.
- Encourage natural predators. Not all pests are bad and some can provide beneficial services to your yard.
- Look for other natural solutions such as natural fertilizers or pesticides that will help you with your pest problem without creating more problems down the line.



Stay Connected!

Gardening is a learning process and there are plenty of experts in your local community that would be happy to offer advice. We encourage you to get connected on social media. Here are some of our favorite local resources:

- Texas A&M Agrilife Extension
- Denton County Master Gardeners
- Trinity Forks Native Plant Society of Texas
- Texas SmartScape
- Take Care of Texas

ADD SOME COLOR

There are tons of ways to add color to your garden. Start by picking out some colorful flowers which are also great companion plants next to your vegetable garden. Not only will they look beautiful but they will also

encourage pollinators to come and visit your garden. You can also add a pop of color by painting the furniture or structures in your garden such as a rain barrel or bird house. These colors may help brighten your mood!