

# Workshop 1

## Building Healthy Soil & Compost



## Instructor Guide

**Building Healthy Soil and Compost****Lesson Overview**

1. Introducing the concept of:
  - a. Basic plant needs with a focus on soil
  - b. Soil Types in North Texas and Soil Testing
  - c. What to look for in good soil and how to make soil better (Amendments to add)
  - d. Principles of Composting
  - e. How to build a compost pile: what goes in, what does not
  - f. Compost tea
2. Equipping participants with materials to make a compost pile

**Learning Objectives for Education:**

At the end of “Workshop 1: Building Healthy Soil & Compost,” participants will be able to:

- Identify soil types of North Texas
- Add amendments to soil to make it more suitable for planting
- Classify nutrients and amounts that make good soil
- Identify things that can go into a compost pile and things that cannot
- Build and maintain a compost pile
- How to make compost tea

**Learner Outcomes for Activities:**

1. At the end of the healthy soil of North Texas discussion, participants will be able to add nutrients to their soil based on needs.
2. At the end of the compost activity, participants will be able to make a compost pile and compost tea.

**Before Workshop Begins**

- Read through entire workshop to understand activities and learning objectives before participants arrive.
- Assemble folder for participants
  - Regional Soil Guide (What is this)?County Soil Conservation Service Maps?
  - Nutrients required for plant growth
  - Amendments to add to the soil
  - What can and cannot go into compost
  - Compost tea and worm compost guide
- Assemble materials for Compost

**Workshop Outline**

<b>Time</b>	<b>Lesson Format</b>	<b>Key Messages &amp; Discussion</b>	<b>Instructor</b>
10 min	<b>Introductions</b>	Introduce instructors and introduce lesson topics: soils, amendments to add to soil, soil testing, and composting.	
20 min	<b>Lesson Content</b>	<p>Discuss plant needs: elements and soil.</p> <p>Discuss different soil textures and the importance of the soil's pH.</p> <p>Explain what types of soil the participants can expect in their region of North Texas and what to look for when testing soil.</p> <p>Discuss feeling soil texture, i.e. what will happen to soil in your hand, and how that can determine what type of soil you have.</p> <p>Discuss what compost is, the benefits, items that can and cannot go into a compost pile, and how to make compost tea.</p>	
40 min	<b>Activities</b>	Soil testing activity (Secure a soil test kit) 817-884-1944 After soil test results are returned, explain the results. Starting a backyard compost pile activity	
10 min	<b>Evaluation</b>	Instructor will ask questions to the participants to determine what they learned.	
10 min	<b>Conclusion</b>	<p>Participants will understand:</p> <ul style="list-style-type: none"> <li>• The importance of nutrients in soil</li> <li>• How to determine what type of soil they have</li> <li>• How to test their soil</li> <li>• How to build and maintain a compost pile and why it is beneficial</li> </ul>	

**Lesson Details**

**Introductions:** Hello Participants! Thank you for coming to this week's class on building healthy soil and compost. We are going to be getting our hands a little dirty today in the process of learning how to make our plants grow big and healthy. One of our goals in vegetable gardening is to produce the highest yield of food possible. The soil is like the base of a tower for our plants. Without a sturdy foundation, you cannot make a tall tower and without healthy soil for our plants, there will not be healthy fruits and vegetables produced in the garden. By adding amendments containing organic matter, air and certain nutrients to our soil and making compost, you set yourself on the right path for healthy, high yield producing garden. You can really get the most bang for your buck in your backyard garden by using your own compost made from the organic matter in your own yard and kitchen.

**Ask:**

- Does anyone already know what kind of soil they have in their backyard?
- Has anyone made a compost pile before?

Well great! Looks like we were all going to learn a lot today, so let's get started looking at the soil we have here.

**Part A:****Basic Plant Needs with a Focus on Soil**

Plants are organisms that grow and recreate their own kind. They need air, soil, water, light, and space to grow. Soil is the foundation of plant growth. Water and minerals are taken from the soil through the plant's roots. We've all heard "you are what you eat" and this applies to plants as well. If you have fertile, mineral-packed soil, you will have healthier, mineral-packed plants. They will be able to fight off disease and produce highly nutritious food. If you have poor soil, it's like putting your plant on a fast food diet. It may stay alive, but it will be more susceptible to disease and will contain less minerals. Decaying plants and animals leave behind minerals in the soil that are essential for future plant growth. As gardeners, we have the opportunity to manage soil to maintain fertility and produce the most nutritious, highest-yielding vegetables.

There are 16 chemical elements that help support growth. They are divided into two groups: non-mineral and mineral.

**1. Non-mineral nutrients are hydrogen, oxygen, and carbon.**

These nutrients are found in the air and in water. Through photosynthesis, or "from light," plants use energy from the sun to change carbon dioxide and water into sugars, which become the plant's food. Since plants get non-mineral nutrients from the air and water, there is little that gardeners can do to control how much of these nutrients a plant can use.

**2. Mineral nutrients are found in the soil. Some include calcium, iron, potassium, magnesium and nitrogen. The three main nutrients are found on most fertilizer bags like this N-P-K. This stands for Nitrogen-Phosphorus-Potassium. These are the three most important for plant growth, although the rest are important for plant health too. You will recognize these letters on any fertilizer you buy in the store and they will correspond to the ratio of N-P-K contained in the product you are about to buy. These are also found in natural amendments you can make at home or find in nature such as compost, compost tea, and manure.**

In general, most plants grow by absorbing nutrients from the soil. Doing this depends on the nature of the soil. Location plays a big role in what kind of soil is available. Soil can contain sand, silt, clay, and organic matter. The makeup of the soil (texture) and its acidity (pH) determine what nutrients and amounts are available for the plants. For example, North Texas clay soils generally contain a high amount of (P) phosphorus and (K) potash. So we only have to add N (nitrogen) under most conditions.

Plant according to the climate of your area and the season in which you are gardening. Find this information through the Texas AgriLife Extension Office at: <http://aggie-horticulture.tamu.edu/travis/docs/vegetablePlantingCalendar2010>

## Soil Texture

**Soil Texture refers to the various grain sizes of mineral particles in soil.** Texture affects how well nutrients and water are retained in the soil.

pH is the measure of the acidity or alkalinity of items. It is measured on a scale of 0-14. Something with a low pH is considered acidic. Lemon juice or battery acid are very low on the pH scale. Something with a higher pH is considered basic. Baking soda or drain cleaner are basic substances. Water is in the middle of the pH Scale at 7.0

Clay and soils rich in organic matter hold nutrients and water much better than sandy soils. When water drains from sandy soils, the nutrients are carried with it. This is a process called, “leaching.” Ideal soil contains equivalent portions of 25% air and 25% water and 45% (sand, silt, clay) and 5% organic matter.

### Soil pH

pH is the measure of acidity or alkalinity in the soil. pH is an important soil property that affects the availability of nutrients. Macronutrients tend to be less available in soils with low pH and micronutrients tend to be less available in soils with high pH. In Tarrant County and North Texas most soil is Black Clay and has a pH of around 7.0 or higher.

## Soil Types in North Texas

Ask:

- What kind of soil do you think you have in your yard?
- Is all the soil the same across our state of Texas?
- Why is it important to know what kind of soil you have?

When using easily compactable soil, such as clay, it is difficult for many plants to send down roots and can actually cause water to run off. Till compost into the soil to aerate it and break up the soil to prevent

The north Texas region is located along the Texas Coastal Plain. The most common soil type consists of a thick, clay alkaline soil. This type of soil can withstand long drought periods and also expands in the summer and retracts or shrinks in the winter. Clay soil also has a tendency to hold water, but if not maintained correctly, can dry up and pack hard making it difficult to have enough air and water flow to support healthy plants. If the percentage of clay is too high it may not support healthy plant growth because it holds a lot of water, so it can suffocate or drown the roots. Clay is full of minerals and nutrients; the problem is that the clay binds the nutrients, making it difficult for plant roots to take the nutrients up and feed them to the plant. There are a few things we can do to lighten clay texture and make nutrients available to the plant. We will learn how to do this in a moment, but first, knowing your soil begins by taking a soil sample.

## Soil Testing

**Secure a Soil Sample Kit from the County Extension Office at (Tarrant County 817-884-1944)**

A soil sample should represent a given area of your lawn or garden that is treated and used similarly. Cut a core or divot 6 inches into the soil and place it in the given plastic container. Repeat this 8-10 times across the lawn or garden that is being tested. Mix all the samples and send the sample to TAMU:

Soil, Water and Forage Testing Laboratory  
2478 TAMU  
College Station, Texas 77843-2478

Soil tests reveal the nutrient levels in your soil, while providing you with pH and organic matter content information. Here are some generic rules for reading your soil test:

- The organic matter percentage of the soil should be over 5%; otherwise, extra compost needs to be added.
- Soil pH refers to the acidity of the soil. Ratings below 7 are acidic, and above 7 are alkaline. The most fertile soil range is between 6 to 7 pH. Highly acidic or alkaline soils need to be treated to improve the productivity of the soil.
- Applying ground limestone can raise the pH of your soil.
- Cottonseed meal, sulfur, pine bark, compost, and pine needles can lower the pH of your soil but only a small amount. It is easier to find plants that like a pH above 7 than to change the soil pH by adding amendments.
- With the exception of compost, add only the nutrients that the soil tests indicate are necessary. Excessive levels of nutrients can produce toxic results or cause disease.
- Continuously add more compost to your soil. Compost improves the yield of your vegetable garden. In Texas we must in most cases use plants tolerant of a high pH.

### What to Look for in Good Soil and How to Make Soil Better

The condition of our soil is vital to the healthy growth of our plants. You can do a test at home to determine if you have good soil or not. To determine your soil type, take a handful of moist (but not wet) soil from your garden, and give it a firm squeeze. Then, open your hand. One of three things will happen:

1. It will hold its shape, and when you give it a light poke, it crumbles. Lucky you—this means you have luxurious loam!
2. It will hold its shape, and, when poked, sits stubbornly in your hand. This means you have clay soil.
3. It will fall apart as soon as you open your hand. This means you have sandy soil.

Now that you know what type of soil you have, you can work on improving it.

### Part B:

**Activity:** Have the participants test the three types of soil.

- We are now going to have each of you test the three types of soil we have and have you determine which category it falls into.
  - Divide the participants into three small groups and have each group hand test the soil and discuss what they notice about its physical characteristics
  - Have the groups do this with all three types of soil

After having the participants test the three types of soil, have them test the common type of soil located in North Texas and try to guess what category it falls into.

Most soil located within our area is black clay soil.

Make soil better by adding the proper nutrients to enrich the planting beds and allow for proper growth. The two nutrients to look out for in soil are nitrogen and carbon. By adding compost, leaves, vegetable scraps, aged manure, and compost tea to your garden, you will improve soil texture, maintain and increase nutrients, and increase organic matter. Later in the lesson we will discuss what compost ingredients will have these elements. By adding compost to your soil, you are ensuring the soil has the proper nutrients for proper plant growth. (Instructor will read a soil sample result)

### Part C:

#### How to Build a Compost Pile: What Goes In, What Does Not

Ask:

- Who can tell me what compost is?
- Why do gardeners use compost?

Now that we know what soil is available in North Texas, we can start composting to make our soil better in a natural way. Compost is decayed organic matter that is used for fertilizing and conditioning soil. The compost enriches soil, reduces methane emissions from landfills, and encourages the production of beneficial bacteria and fungi that break down organic matter. The decayed matter can come from a wide variety of materials found outside and inside our homes. The bigger your compost pile is, the longer it will take for your compost to be ready, but it normally takes between 2 and 5 months.

- Choosing where to compost
  - Backyard near a water source
  - Bins indoors
  - Bins outdoors
- Ingredients for compost
  - There are four ingredients to make successful compost: 2/3 brown material (carbon), 1/3 green material (nitrogen), air, and water.
  - Layer browns and greens and soak with water. Turn and water once a week-once a month. The more you turn and water, the faster the breakdown.
- What goes in and what does not
  - Sometimes it can be difficult to know what can go in a compost pile and what cannot
    - Does anyone know something that can be composted?

Some things that **can** be composted include:

#### **Brown Material (Carbon)**

- bark
- cardboard (shredded)
- leaves

Don't throw away your kitchen scraps; add them to the compost pile! Kitchen scraps are typically high in nitrogen, which helps heat up the compost pile and speed up the composting process.

- newspaper (shredded)
- sawdust
- stems and twigs (shredded)
- straw
- corn stalks
- alfalfa

### Green Material (Nitrogen)

- fruit and vegetable scraps/waste
- peat moss
- pine needles
- clover
- coffee and tea grounds
- garden waste (without disease or pests)
- grass clippings
- manures

Some things that **cannot** go into compost include: weeds that have gone to seed, coal ash, colored paper, diseased plants, inorganic materials (aluminum foil, plastics, and metals), meat, bones, fish, fats, dairy, pet droppings, and chemicals.

### Part D:

**Activity:** Make a backyard compost pile. Now that we know what we can or cannot put in our compost pile, we can get started in making a backyard compost pile that you can use every day.

**Step 1:** Select a dry, shady spot near a water source for your compost pile or bin

**Step 2:** Build a Compost Bin no smaller than 3 X 3 X 3

**Step 3:** Add materials that have been collected

**Step 4:** Wet the dry materials as they are added

Incorporate air into compost pile occasionally

Wait for compost to heat and be ready for use!

Does your compost pile smell? It's probably due to a large number of anaerobic microbes, which are working hard to break down your compost, but creating a smelly situation in the process. To cut down on the anaerobic process, aerate your pile regularly, creating air spaces and limiting the anaerobic microbes while stimulating the less stinky aerobic microbes.

### Compost Tea

What is compost tea?

- The microbe and nutrient-rich liquid created by aerating a small amount of homemade compost in water.
- It is used as a fertilizer to increase plant growth, provide nutrients to plants and soils, protect against disease and pests, and replace toxic gardening chemicals.

### Brewing Compost Tea: How is it done? (Activity)

1. Steep burlap sack full of compost into a bucket of water. (Note: If using city water, fill bucket with water and let stand 1-3 days in the sun to let the chlorine and chloramines evaporate out. These will kill the microbial life you're trying to create in compost tea.)
2. Submerge sack in a 5 gallon bucket or standard trash can.
3. Add dried molasses and/or fish emulsion to water.
4. Submerge a simple fish tank aerator (you can pick up a local pet supply store).
5. Tea will be ready in 24-48 hours.



**Part E: Evaluation**

Ask participants topic-specific questions to evaluate their understanding of the lesson. Make sure participants know where to go for other resources regarding class material and information.

- Who can tell me what the three non-mineral nutrients in soil are?
- Can someone tell me what soil “leaching” is?
- What is the most common type of soil in North Texas?
- When testing your soil type in your hand, what are the three things that could happen that will indicate what type of soil you have?
- What can we make at home and add to our soil to make it better?
- What types of things CAN go in a compost pile? What cannot?
- What can you do to cut down on the smell of your compost pile?
- What are the benefits of compost tea?

**Part F: Conclusion**

Summarize key points:

- The importance of nutrients in soil
- How to determine what type of soil they have
- How to test their soil and why it is important
- How to build and maintain a compost pile and why it is beneficial

Answer questions

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([www.baylor.edu/texashunger](http://www.baylor.edu/texashunger)), and University of Nevada Cooperative Extension ([www.unce.unr.edu](http://www.unce.unr.edu)).

**Disclaimer of Liability**

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# Backyard Gardening Lesson 1: Building Healthy Soils and Compost

Soil is fundamental, the foundation for growing plants. Healthy soil grows healthy plants.

A plant needs (1) air, (2) soil, (3) water\*, (4) sunlight\*\*, and (5) space to grow. Water and minerals come from the soil through the plant's roots. \* One inch of water a week, \*\*Six hours of sunlight a day

Soil Nutrients:

1. Non-mineral: Hydrogen, Carbon, Oxygen—these are in the air and water.
2. Minerals, Major, in the soil: Nitrogen, Phosphorus, Potassium (N- K-P)  
Nitrogen for green leaves, Phosphorus for a good root system, Potassium for strong stems, flowers.
3. Minerals, Minor, in the soil: Calcium, Iron, Magnesium, Boron, Copper, Chloride, Zinc.

Soil Texture: Heavy clay or loose sand. Clay holds water too much, is hard for the roots to grow in. Sandy soil does not hold water, plants dry out. Improve both clay and sand by adding compost/manure.

Soil PH, a measure of alkaline or acid soil: 7.00 Ph is neutral, but most Texas soils are 7.5 or more; they are alkaline soil. Below 7.00 is acid soil. Vegetables grow best at 6.5 to 7.00 PH. Adding compost improves the Ph and adds both Major and Minor Minerals.

When planting, add compost and manure and mix in with the existing clay or sandy soil. Add a little bit of chemical fertilizer (N-K-P) to quick start the plants. The compost feeds all season long, little by little.

Most Texas soils need nitrogen. Compost and manure add nitrogen, and the Major and Minor Minerals. Coffee grounds are high in nitrogen.

Soil Test: Mail in soil samples to Texas A & M University. Get envelopes and forms from Tarrant County Extension Office. 817-884-1944.

Compost: Make at home from Brown Material and Green Material such as:

1. Brown Material: leaves, newspaper (black and white only), cardboard, sawdust, straw, pruned material
2. Green material: kitchen scraps (vegetable and fruit only), grass clippings, coffee grounds, pine needles, manure,

Make a pile, a mini mountain, about three feet by three feet. Make lasagna layers of brown material and green material, water all. Turn the compost every month, water it again. After three to twelve months, the compost is ready.

What makes it turn to compost? The F B I: Fungi, bacteria, insects. These do the work of decomposition.

Do Not Compost: Non-organic materials such as meat, bones, fats/oils, plastics, metals, dog or cat waste, chemicals, wood ash, colored paper, plants with diseases.

Mulch: Add mulch around the vegetables to conserve soil humidity. Mulch can be leaves, brown grass clippings, shredded wood, straw. Mulch decomposes too, enriching the soil slowly.

## Trabajando en el Jardín: Unidad 1: Creando tierra saludable y abono

La tierra es fundamental, es la base para el cultivo de plantas. Una tierra sana hace que las plantas crezcan sanas.

Una planta necesita (1) aire, (2) tierra, (3) agua \* (4) la luz del sol \*\*, y (5) espacio para crecer. El agua y los minerales vienen de la tierra a través de las raíces de la planta. \* Una pulgada de agua por semana, \*\* Seis horas de sol al día.

Los nutrientes en la tierra:

- 1 No-mineral: Hidrógeno, Carbono, Oxígeno-éstos están en el aire y el agua.
- 2 Minerales, Mayores en la tierra: Nitrógeno, Fósforo, Potasio (N-PK)
- Nitrógeno para las hojas verdes, el fósforo para un buen sistema de raíces, Potasio para fuertes tallos y flores.
- 3 Minerales Menores, en la tierra: calcio, hierro, magnesio, boro, cobre, cloruro, Zinc.

Textura de la tierra: Barro pesado o arena suelta. El barro retiene el agua demasiado, es difícil para que las raíces crezcan. La tierra arenosa no retiene el agua, las plantas se secan. Se puede mejorar la tierra agregándole abono.

El PH de la tierra, una medida de lo ácido o alcalino de la tierra: 7.00 PH es neutral, pero la mayoría de la tierra en Texas es de 7.5 o más; es tierra alcalina. Debajo de 7.00 la tierra es ácida. Las verduras crecen mejor entre 6.5-7.00 PH. La adición de abono mejora el PH y agrega Minerales Mayores y Minerales Menores.

Antes de plantar se debe de añadir abono y estiércol y mezclarlo con el barro o la arena. También se puede añadir un poco de fertilizante químico (NKP) para ayudar a las plantas a crecer rápido. El abono alimenta durante toda la temporada, poco a poco.

La mayoría de tierra en Texas necesita nitrógeno. El abono y estiércol agregan nitrógeno, y los Minerales Mayores y Menores. Los granos de café tienen mucho nitrógeno.

Análisis de la tierra: Mande su muestra de tierra a la universidad de Texas A & M. Obtenga sobres y formularios en la Oficina de Extensión del Condado de Tarrant. 817-884-1944.

Abono: Se puede hacer en casa de materiales café y verde como:

- 1 material café: Hojas, periódicos, cartón, aserrín, paja, materiales (blanco y negro) podado
- 2 material verde: Restos de comida (verduras y frutas), sólo recortes de césped, café molido, hojas de pino, estiércol

Haga una pila, una mini montaña, cerca de tres pies por tres pies. Haga capas como lasaña de material café y material verde, échele agua. Voltee el abono cada mes y échele agua. Después de tres a doce meses, el abono está listo.

Que lo hace convertirse en abono? El F B I: Los hongos, bacterias, insectos. Éstos hacen el trabajo de descomposición.

No use: Materiales que no sean orgánicos, tales como la carne, los huesos, las grasas / aceites, plásticos, metales, desechos de perros o gatos, productos químicos, aserrín, papel de color, o plantas enfermas.

Mantillo: Ponga mantillo alrededor de las verduras para conservar la humedad del suelo. Puede ser hojas, recortes de césped café, pedazos de madera o paja. El mantillo se descompone también, enriqueciendo el suelo lentamente.



## Composting Basics:

- For best results, keep the pile at least 3 feet high and 3 feet in diameter with all materials broken into small pieces and well mixed.
- Combine equal amounts of “green” and “brown” materials.
- Keep it moist throughout, like a wrung-out sponge.
- An actively composting pile gets at least 140 degrees Fahrenheit.

<b>Materials to Compost</b>	
<b>Browns = High Carbon</b>	<b>Greens = High Nitrogen</b>
Ashes, wood	Alfalfa
Bark	Algae
Cardboard, shredded	Clover
Corn stalks	Coffee grounds
Fruit waste	Food waste
Leaves	Garden waste
Newspaper, shredded	Grass clippings
Peanut shells	Hay
Peat moss	Hedge clippings
Pine needles	Hops, used
Sawdust	Manures
Stems and twigs, shredded	Seaweed
Straw	Vegetable scraps
Vegetable stalks	Weeds*

\*Avoid weeds that have gone to seed, as seeds may survive all but the hottest compost piles.

### Do not compost:

- Coal Ash
- Colored paper
- Dairy
- Diseased plants
- Fish
- Fats
- Inorganic materials
- Meat, Bones
- Pet droppings
- Synthetic chemicals
- Treated lumber
- Weeds with seeds

## Troubleshooting:

- Bad odor – means you have too much “green” material, or it is too wet.
  - Add “brown” materials and turn the pile.
- Pile is dry and not breaking down
  - Add water and turn it until the whole pile is moist.
- Pile is damp and sweet smelling and not breaking down
  - Add more “green” materials and turn the pile.
- Pile is not hot enough
  - Add more volume of composting materials
- Pile has flies, roaches, ants, or maggots
  - Bury food materials under a layer of leaves and make sure pile is moist.

## FORT WORTH

TARRANT COUNTY SHERIFF'S DEPT

### Labor Detail

Sgt Pena – [rpena@tarrantcounty.com](mailto:rpena@tarrantcounty.com)

817.884.2383

Additional Sheriff's office numbers

817.884.1638

817.884.3454

FAX 817.884.3393

Call the Tarrant County Sheriff's Department for Labor and Maintenance needs at the school. Ask to speak with Sgt. Pena who is in charge of the Labor group. If you are new to using the Sheriff's workers tell him so he can explain the process of how to get the community workers to the school. There is no charge for this service and the workers can come both Saturdays and Sundays or just one of the days you choose. Call a week or more in advance if possible to insure that the number of workers you request is available; generally you can ask for up to 14 people. Ask for an officer to be present with the workers the first time if you would be more comfortable. Also ask for them to bring tools if you think you do not have enough, and be specific as to the tools needed for the job.

FORT WORTH PARKS AND COMMUNITY SERVICES

### Compost / Mulch

Mark Clauser – 817.871.7676; cell 817-944-9959

Early morning at 7:30 -8:30 can be the best time to contact him or one of his assistants, but any time before 3:00 will work if that is the only available time you have.

Call them to ask for delivery; a full truck load is 14 cubic yards which most schools can use quite readily. A smaller amount can be asked for if you know the exact amount needed. Order several months in advance of when the compost is needed as the compost needs to age before mixing it into planting beds. When putting the compost in the planting beds it is necessary to fertilize the beds and mix it in well with the compost for the greatest plant vigor/health. If you just need mulch, you can order it a week or so prior to the date you need it as it does not have to be aged. Be sure you know where you want the compost placed when the truck comes and have an alternate person to contact with the placement info in case you are away from the school the day of delivery.

Compost / Mulch Ordering Formula- if needed

To find the amount of mulch needed for garden areas, **multiply the area (length x width) by the number of inches of depth required and divide by 10. This will give the number of cubic feet required. Divide the answer by 27 to find the number of cubic yards.**

Example –

Area is 60' x 40' (2400 square feet) 3 inches deep

$2400 \times 3 = 7200$  divided by 10 = 720 cubic feet (divided by 27 is 26 cubic yards)

Fort Worth City Foresters – Melinda Adams – 817.871.5705 or Melanie Migura 817.871.5739

Lastly call Terry Dodson of Planning and Resource Management/Forestry section 817.413.2910

## ARLINGTON

The city has mulch you can pick up for free at the Landfill. You can contact the Landfill at 817-354-2300 or check their website: [http://www.ci.arlington.tx.us/environment/recycling\\_landfill.html](http://www.ci.arlington.tx.us/environment/recycling_landfill.html)

### How to Get Free Mulch

1. Go to the Arlington Sanitary Landfill at 800 Mosier Valley Road between the hours of 7 a.m. and 4:30 p.m. Monday through Saturday.
2. If arriving by truck or with a trailer, please have a tarp to cover the bed and prevent spills.
3. Bring garbage bags or trash containers for easy storing and transporting.
4. Bring your own shovels.
5. Proof of Arlington residency is required (like a drivers license). Contractors are not allowed to participate.
6. If you require loading assistance, please call before arriving to ensure that someone from the Landfill staff will be available to help.

## GRAND PRAIRIE

## DALLAS

### Compost / Mulch

Free mulch is available to Dallas residents at the Bachman Transfer Station and McCommas Bluff Landfill. Locations at Buckner Boulevard and Northwest Highway, Northwest (Bachman) Transfer Station at 9500 Harry Hines Blvd in Dallas.

A driver's license or recent water bill must be presented to prove residency. Residents should bring their own shovels and containers as they will be required to package and load mulch themselves.

### Labor Detail

Dallas County Juvenile Services  
Robert (Bob) Baumeister  
214-698-5538 or [rbaumeister@dallascounty.org](mailto:rbaumeister@dallascounty.org)

6-8 kids ranging in age from 10-17 are available to help in the garden. You have to provide all the tools. You provide food if they work over 4 hours, and snacks and water otherwise. Juveniles are in school and do not work during school hours, except during summer (summer program). 10 day advance notice is preferred. You can also schedule them for a longer term assignment such as a day a week in the summer. Or, a school Garden Coordinator can have the school listed as a "Community Service Site" and this means they can supervise 1-2 kids on a regular basis as long as the Garden Coordinator tracks the hours and supervises the kids (for instance, watering the garden an hour a day, or weeding on a weekly basis, etc). Fridays are not available dates as the probation officers are in court all day reviewing cases with the judges. Bob Baumeister comes with all the groups as the probation officer who is carrying out the order of the court.



# Drop-off Stations

## for Recycling, Garbage, Brush, Bulky Items & Electronics

**IT'S FREE • 3 Locations to serve you! • IT'S FREE**

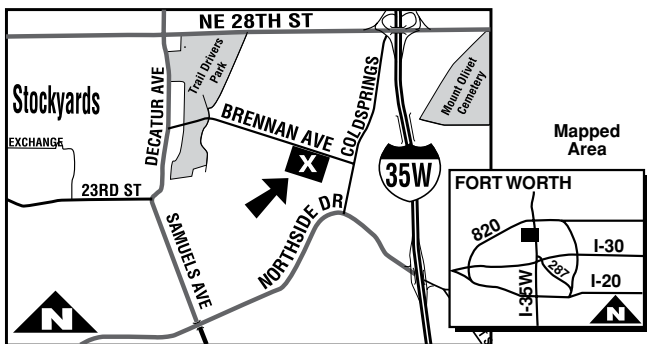
**Monday - Friday 9 a.m. - 7 p.m.**

**Saturday 8 a.m. - 5 p.m.**  
Hours subject to change

(Sorry, no commercial waste accepted.)

- For Fort Worth homeowners and renters
- Apartment residents may drop off recyclables only
- Residents must place all materials in container themselves
- **PLEASE NOTE:** Residents must bring proof of Fort Worth residency to use the drop-off stations (current water bill or drivers' license). Trucks labeled with business names or dual-axle trailers are not allowed.

### Drop-off Station #1



2400 Brennan Ave. 76106  
West of I-35W (Mapsco 63E)

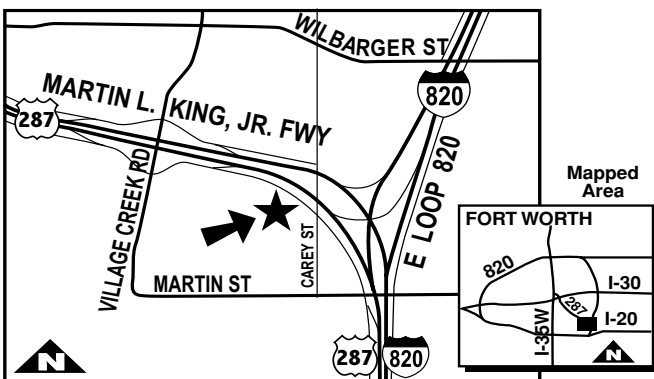
**Directions from north:**

From I-35W exit Northside Drive, turn right on Cold Springs, turn left on Brennan Ave. Follow the signs and turn left into the third entrance.

**Directions from south:**

From I-35W exit Northside Drive, turn right on Cold Springs, turn left on Brennan Ave. Follow the signs and turn left into the third entrance.

### Drop-off Station #2



5150 Martin Luther King Jr. Freeway 76119  
South of U.S. Highway 287 at  
Village Creek Intersection (Mapsco 93F)

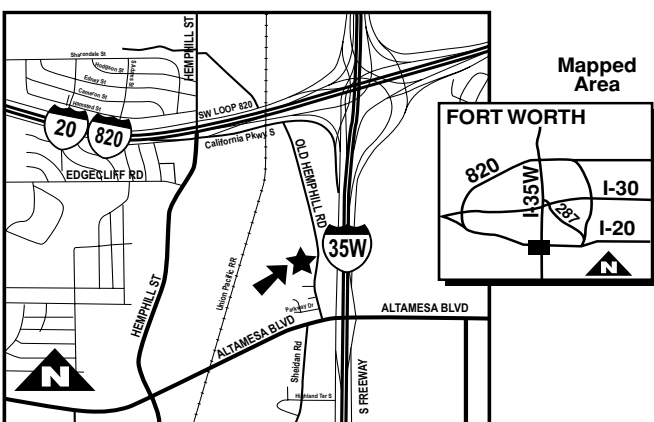
**Directions from north:**

Northbound on Hwy 287 (MLK Jr. Freeway), take Village Creek Rd. exit, turn left at stop sign, cross over bridge, turn left on MLK, Jr. service road, turn right at third driveway.

**Directions from south:**

Southbound on Hwy 287 (MLK Jr. Freeway), take Village Creek Rd. exit, cross over Village Creek Rd. and continue along MLK Jr. service road, turn right at third driveway.

### Drop-off Station #3



6260 Old Hemphill Road 76134  
South of Loop 820/I-20, West of I-35W  
at Altamesa Blvd off I-35W (Mapsco 91W)

**Directions from north:**

Take I-35W south, exit Altamesa Blvd. Turn right (west) onto Altamesa Blvd. Next intersection is Old Hemphill Rd., turn right (north) for .2 miles to drop-off station.

**Directions from west:**

Take Loop 820/I-20 east. Exit Hemphill St., proceed straight on access road, turn right at Old Hemphill Rd. for .6 miles to drop-off station.

**Directions from east:**

Take Loop 820/I-20 west. Exit Hemphill St., turn left (south) on Hemphill St. Cross over Loop 820/I-20, turn left on Loop 820/I-20 access road. Turn right at Old Hemphill Rd. for .6 miles to drop-off station.

**What You CAN Drop Off:**

- Appliances with/without coolant
- Bagged household garbage
- Brush, leaves and yard trimmings
- Bulky items (chairs, carpet, lumber)
- Scrap metal
- Computers
- Electronics
- Recyclables
- Tires (limit 4)
- TVs (limit 2)

**What You CANNOT Drop Off:**

- Concrete, rock, dirt, ceramic tile, or any roofing material
- Equipment containing gas or oil
- Explosives or ammunition
- Gasoline, oil, antifreeze, car additives
- Paint, thinners, removers

There are size and volume limitations. Call 817-392-EASY (3279) or visit [www.fortworthgov.org/dem](http://www.fortworthgov.org/dem).

Dumping illegally on roadsides, vacant lots or public land is a felony and carries a penalty of up to two years in jail and a fine of up to \$10,000.