



Improving Soil

John Geib
Master Gardener
Abilene, TX

Overview

- **Fixing Soil Structure**
- **Fertilization**
- **Mulch**

Clay Soils

- **Need to loosen soil**
- **Need to allow drainage**

Clay Soils

- **Compost**
- **Compost**
- **More Compost**
- **Expanded Shale**
- **Perlite / Vermiculite**

Sandy Soils

- **Need to tighten soil**
- **Need to hold moisture**

Sandy Soils

- **Compost**
- **Compost**
- **More Compost**
- **Other Organic material**

Compost

- **Make or Buy?**
- **Cost**
 - **\$95-\$100 per cubic yard + delivery**
 - **\$155-\$160 per cubic yard if bagged**

Precautions

- Consider tetanus booster.
- Cover cuts / wounds.
- Wear gloves
- Sprinkle compost with water before handling
- Mold allergy ? Wear a good quality mask.
- Scrub hands



Making Compost

- **Most often written by authors who do not live in the desert. Sometimes their advice is not appropriate for desert dwellers.**
- **Big Country Master Gardeners on YouTube**
- **<https://www.youtube.com/watch?v=1z9yqx9EoJY>**

Be Aware

- **Broadleaf herbicides in animal feed will pass thru animals still intact. The herbicide in manures or on plants will persist thru the composting process. This has been called “killer compost”.**
- **It takes 3 years to biodegrade in the environment.**
- **Broadleaf herbicides: Imprelis, Picrolam, Aminopyralid, Clopyralid**

**See summary information at nmcomposters.org -
at bottom of the home page.**

Hot Composting

- **Process: 3 - 6 months depending on management.**
- **Often organized in a 2 - 3 bin system.**
- **A cold curing phase for 2 - 4 weeks after the hot.**
- **Pile will decrease to about $\frac{1}{2}$ original volume**

Bins for desert composting:



Cover the top of bin.

Soil amending with compost

- **Topical application, mulch after**
- **Digging in**
- **Compost plugs**
- **Compost tea**



Amending garden soil



**1 cu. ft. of compost will cover
12 sq. ft. to a depth of 1"**



Fertilization

- **Organic or non-organic?**
- **Based on Soil Test results**
- **Compost is about a 1-1-1 fertilizer per inch**

Fertilization

- **Numbers listed on bag is % by weight**
- **Thus a 50 lb bag of 10-10-10 fertilizer contains:**
 - **5 lbs of Nitrogen**
 - **5 lbs of Phosphorus**
 - **5 lbs of Potassium**
- **Always follow directions on the product**

Fertilization

- Say a 4,000 sqft lawn results say it needs:
 - 10# of nitrogen/1,000sqft
 - 0# of Phosphorus/1,000sqft
 - 1# of Potassium/1,000sqft
- Using a 28-0-3 fertilizer (40# bags)
 - $0.28 \times 40 = 11.2$ # of Nitrogen / bag
 - $0.03 \times 40 = 1.2$ # of Potassium / bag

Fertilization Calculators

- [**http://soiltesting.tamu.edu/webpages/calculator.html**](http://soiltesting.tamu.edu/webpages/calculator.html)

Mulch

- **Organic or in-organic?**
- **Chipped or Shredded**
- **Type of wood**
- **4"-6" deep**

Mulch

- **Break down into plant nutrients**
- **Increases water absorbing capacity**
- **Increases water holding capacity**
- **Reduces water evaporation**

Mulch

- **Reduces erosion**
- **Helps control weeds**
- **Moderates soil temperature**

QUESTIONS?

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