



# Building Healthy Soil

This resource is created as a guide to building healthy soil – the cornerstone of any thriving garden.

With this information, you will learn how to:

1. Build Your Own Soil
2. Add Nutrients with Fertilizers
3. Apply a Soil Drench
4. Cure Your Soil
5. Apply Mulch

❖ If ordering your soil from Tank's Green Stuff, request our **Thrive Premium Blend**

❖ Most products mentioned in this resource can be bought on our website or at our store (look for the ✓)

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## Before we begin...

### Why is soil composition so important?

Soil is the medium in which plants absorb all their nutrients. It contains an entire ecosystem, where organic matter makes up the most fundamental level of sustenance. Bacteria that inhabit the soil break down organic matter into a nutritional form that is absorbable by plants; without these bacteria, your plants would fail to thrive and would likely suffer from disease and insect invasion. Healthy soil ensures a well-balanced ecosystem where bacteria can do their job effectively, and plant roots are able to uptake their byproduct goodness.

**Let's Get Started!**

## Step 1 – Adding Soil to Your Garden Bed

**Using Thrive Premium Soil Blend from Tanks:** This soil has a composition that is formulated to maximize water retention, nutrient availability, and olla effectiveness. When installing this soil, you do not need to add and mix in layers – simply water it in as you go.

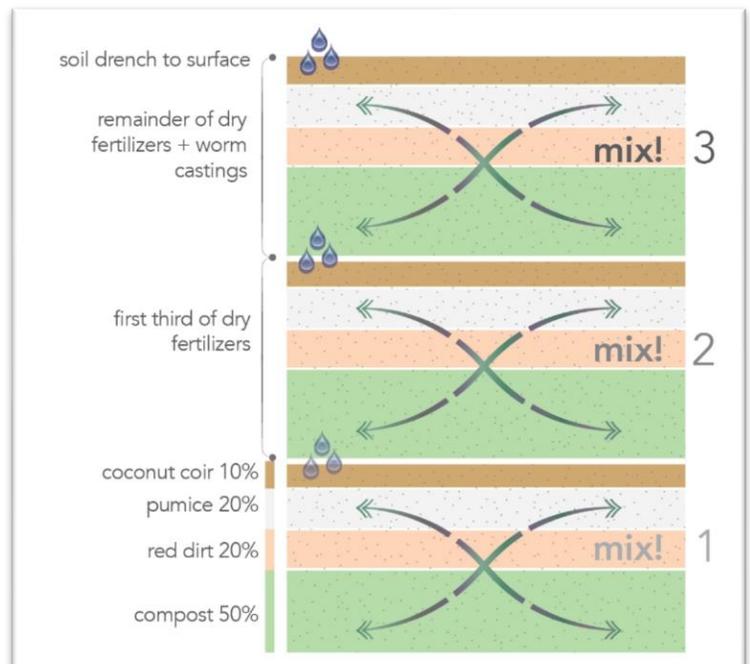
**Mixing Your Own Soil:** It's important to achieve the following portions of loam, clay, and sand – the three primary soil composites:

- 50% compost
- 20% screened red dirt
- 20% pumice (or perlite)
- 10% coconut coir (peat variety)

Look to the diagram on the right for our suggested layering, mixing and watering strategy that you should use when installing your own soil blend. It will help to:

- Prevent uneven distribution of nutrients to your plants
- Prevent your soil from becoming hydrophobic (unable to absorb water)
- Allow plant roots to penetrate deeper into the soil

Water in the soil, preferably after each layer's four components are added and mixed together.



## Step 2 – Adding Nutrients

Start adding your nutrients when you get to layer 2, or when your bed is about half full. Mix in a third of the amount for each fertilizer, saving the remainder for mixing into layer 3.

★ **Helpful Tip** Combine all your dry fertilizers together in a bucket and then distribute them to the soil, rather than adding each fertilizer individually.

The following list contains the fertilizers that we recommend for all new soils:

- ✓ Neem Seed Meal
- ✓ Rock Phosphorous
- ✓ Langbeinite
- ✓ Granular Kelp
- ✓ Azomite
- ✓ Greensand
- ✓ Soluble Root Zone Mycorrhizal Fungi

When you get to layer 3, it's also time to add in:

- ✓ Worm Castings

When adding your worm castings, consider using 4 gallons per 4'x4' area. As for the other fertilizers: look on the back of their box to see suggested portions for application.

**Get excited about worm poop!** Worm castings are the soil amendment that we most highly recommend. A byproduct of composting worms, worm castings are a source of 100% organic compost – they contain no chemicals whatsoever, and do not need to be mixed with anything. They are easily absorbed by roots and can hold nearly nine times their weight in water. They help provide slow nutrient release that contains hormones that aid plant growth, and bacteria and microbes which help plants become resistant to pests. Their texture is luxurious to the touch. Your garden will thank you!

**Desert Soil Alkalinity** – our native soil here in the desert tends to have a higher alkalinity than native soils in wetter regions: its pH often ranges from 8.0-9.0 which is too high for many non-native plants, especially vegetables. If you're using native desert soil (or compost from native plants), you'll want to neutralize it by achieving a pH of 6.5-7.0. To do this, add:

- ✓ Elemental Sulfur

Other fertilizers we recommend for ongoing soil care are:

- ✓ Alfalfa Meal
- ✓ Granular Humic Acids

★ **Helpful Tip** As a general rule, it's good practice to mix your dry fertilizers from your wet ones. This is one reason why worm castings are added separately from the other fertilizers, since worm castings are technically a wet ingredient. Additionally, they contain worm eggs and often live worms, which should be mixed only into the top 6-8" of soil and would die from being mixed with dry fertilizers.



## Step 3 – Applying a Soil Drench

Once your garden bed has been filled with soil, we recommend applying an organic biostimulant soil drench, which is a solution containing:

- ✓ EM1 Microbe Inoculants
- ✓ Bio Weed
- ✓ Rich Humic Acid
- ✓ Wholesome Organic Molasses
- ✓ Sea Minerals

Once your soil drench is applied to the surface of your soil, you should lightly water it in.



## Step 4 – Curing Your Soil

**Can I start planting now? – Not Yet!**

The time between mixing your soil, adding nutrients, and applying a soil drench and actually beginning to plant is an important window: during this time, the nutrients will integrate into the soil, and the soil itself can settle and become compacted. We recommend waiting one week to start planting: you should continue to water your soil to the point where when you dig into it, it feels like a wrung-out sponge. Right before you're ready to plant, break up soil compaction with a pitchfork.

## Step 5 – Applying Mulch

You can apply mulch to your garden bed once your seedlings are 3-4" tall. If you planted mature transplants, go ahead and apply mulch right away.

Mulch is important in desert climates: it massively improves soil water retention and protects surface roots from drying out. It also prevents weeds. For quality mulch, we recommend:

- ✓ Tank's Composted Organic Mulch

Materials that also work great as mulch are:

- Grass clippings
- Dead leaves
- Dried corn husks
- Wood chips or bark
- Hay or straw
- Even newspaper or cardboard shreds – as long as you can be sure they are non-toxic



***And with that, Congratulations!*** After following this resource, your soil is fertile and ready to plant. You can rest assured that anything you grow will be healthy, lush and produce delicious food to enjoy. No more brown thumbs!

## Remember: Gardening Doesn't Stop at the Soil

Now that your garden is ready to foster beautiful, thriving plants, be sure to check out our other resources to make sure you've got your bases covered:

- ❖ Thrive and Grow Gardens Annual Planting Calendar
- ❖ Investing In Your Garden
- ❖ Seed Resources

*...and more to come!*