



## **Peach Ridge Farms Experiment: In search of the best compost**

At Peach Ridge we know that the key of sustainable farming is having quality soil. But we were curious to scientifically test various fertilizers, to learn which led to the best harvest. We decided to test basil in three different fertilizers in the green house.

### **Why did we choose this experiment?** Basil is delicious!

Using the green house removed outdoor variables such as rocky soil or a washout from rain, as well as most insect problems.

We wanted to find what could help local farms gain high quality chemical free soil.

We hoped to learn that using leaves makes for richer harvests while reducing yard waste—all without negative side effects.

### **The Fertilizers**

1. Only leaf matter, which is chopped up twigs and leaves tilled into the soil. This is what we generally use at the farm, so all 3 test areas had this soil.
2. Leaf matter and organic duck manure. Most gardeners have heard of the benefits of manure, but is it necessary in addition to leaves?
3. Leaf matter and chemical fertilizer. Commercial farms usually use chemical, which can have negative side effects, so we were curious how they actually compare to a sustainable harvest.

### **The Steps**

In April, we planted basil in the seed trays. A week later, we transplanted to buckets. This allowed us to have the same number of plants in each area of the experiment instead of just growing whatever germinated in that area.

We also planted two kinds of basil: sweet and lemon. Having both would help us know that the winner was not just a fluke.

As the basil grew, we weeded it weekly. We added nothing but water to the only leaf matter area. To the second area, 1 pound of duck manure was mixed with 5 gallons of water and fed to the soil for 3 days before planting. In the third, 3 oz of chemical fertilizer per quarter of water was added every other day for 3 weeks.



### **The Winners**

#### **Sweet basil**

3rd place, with duck manure—  
53.03 oz

2nd place, only leaf matter—  
76.04 oz

1st place, with chemical fertilizer—  
82.87 oz

#### **Lemon basil**

3rd place, with duck manure—  
18.4 oz

2nd place, with chemical fertilizer—  
18.6 oz

1st place, only leaf matter—  
29.99 oz

So, what does this mean? Apparently, duck manure is not best for every crop. Plus, some varieties of crops do better with chemical fertilizer, but not all varieties. Most importantly for us, this experiment shows that even leaf matter alone can give plants what they need—all without negative side effects.