

## Soil additives in a garden

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The purpose of my project was to figure out which OMRI listed soil additive had the greatest effect on several different garden vegetables. I grew my garden in an organic certified horse pasture. I planted potatoes, two different kinds of sweet peas, beans, and sweet corn. I put chicken manure crumbles, Redmond's soil conditioner, and inoculant on the rows. As well as a row with all of the soil additives and a row that was a control.

The chicken manure crumbles came from Herbruck Poultry Farms. I put on roughly 350 lb. per acre. The Redmond's soil conditioner was 70% volcanic ash and 30% trace minerals salt. I put on about 100 lb. per acre. The inoculant (Mycorrhizal Applications) came from Grant Pass, OR. I put on about 0.75 lb. per acre.

My potatoes were planted on the 27<sup>th</sup> of May. My potatoes were Yukon gold potatoes. I only planted four rows of potatoes because inoculant is for seed and seed potatoes are not seeds they are roots but I did put inoculant on the row with everything. They were watered every day. Two weeks after they were planted the potatoes in the chicken manure crumbles row and the potatoes in the row with everything sprouted. Two days later the other two rows sprouted. On June 24<sup>th</sup> I noticed that there were potato bugs on all of my rows of potatoes. I put on diatomaceous earth which is fossilized algae that is crushed up. It kills the bugs because it cuts their exoskeleton.

Once I got rid of the potato bugs the chicken manure crumbles row was the best, the control row was second, the Redmond's soil conditioner row was third, and the row with everything was the worst. In the Redmond's soil conditioner row and the row with everything some plants didn't sprout or sprouted later. I harvested on October 12<sup>th</sup>. The chicken manure crumbles row the best with 12 potatoes per plant. The control was the second best with 9 potatoes per plant. The row with everything was second worst with 8 potatoes per plant. Finally, the Redmond's soil conditioner row was the worst with 7 potatoes per plant.

My peas were planted on the 27<sup>th</sup> of May. I planted two different kinds. One was Heavy producer and the other Fresh and Sweet. The results were the same for each. They were watered every day. On June 11<sup>th</sup> all of my pea rows except the row Redmond's soil conditioner and the row with everything sprouted. Five days later the other two rows sprouted. On July 15<sup>th</sup> I saw that there were aphids on my peas so I added diatomaceous earth to all my pea plants. The diatomaceous earth got rid of the aphids very quickly and effectively.

The control row had the biggest plants but the inoculated row had the greenest plants. The chicken manure crumbles row had green plants and was bushy. The Redmond's soil conditioner row and the row with everything didn't look very good. I harvested my peas on August 12<sup>th</sup> but I harvested them a little late so I used them as calf feed. The inoculant row was the best out of all the rows; the control row was the second best, the chicken manure crumbles row third, the salt row fourth, and the row with everything was the worst.

My beans were planted on the 27<sup>th</sup> of May. The kind I planted was called heavy producer. They were watered every day. On June 11<sup>th</sup> the control row, the chicken manure crumbles row, and the inoculant row all sprouted. Five days later the row with everything sprouted. The Redmond's soil conditioner row did not sprout for some reason. Either because there was too much Redmond's soil conditioner added, or there was a problem with the seed placement. On July 15<sup>th</sup> I saw that there were aphids on my beans so I added diatomaceous earth to all my pea plants. The diatomaceous earth got rid of the aphids very quickly and effectively.

There were the most plants in the all-natural row. But there were no plants in the Redmond's soil conditioner row. They were harvested August 6<sup>th</sup>. The control row was the best with seven beans per plant. The chicken manure crumbles row was second with five beans per plant. The inoculated row was third with 4 beans per plant. The row with everything was fourth with three beans per plant. The Redmond's soil conditioner row was the worst. Even the row with everything had six beans per plant only one plant sprouted out of ten.

My corn was planted on the 27<sup>th</sup> of May. The kind I planted was called Farm Fresh. They were watered every day. Nine days after they were planted the chicken manure row and the control row sprouted. One day later the Redmond's soil conditioner row sprouted. The other two rows sprouted on June 11<sup>th</sup>. The corn was the only crop that was not affected by any bugs. The chicken pellet row tasseled first, the inoculant row tasseled second, the all-natural row tasseled third, the Redmond's soil conditioner tasseled fourth, and the row with everything tasseled last.

I harvested on August 13<sup>th</sup>. The all-natural row had one stalk but all the other rows had two stalks. The chicken manure row had the biggest plants as well as the biggest ears.

I think that the best application would be either the chicken manure crumbles or no applications at all. The inoculant seemed to work the best on peas and beans. I had a lot of fun doing this project. We had many great meals from our garden. If I did it again I would make sure that the soil was all the same. I think that the soil may have varied through the rows. I also would have observed my garden more often and took more pictures. I give a big thank you to the OAEC for the \$500 grant and my parents for all the help they gave me.

*In this world, you have to hope for the best, prepare for the worst, and take what God gives you.*

-Lucy Montgomery



Control  
Chicken  
Manure  
Composts  
Redmond's  
Soil  
Conditions  
Everything  
Inoculant





*My Grandma helping me harvest my corn.*