

Using Chickens to Regenerate, Add On To, and Keep Soil Healthy

By: Mason Cain



Any gardener, new or old, knows that preparing land for a garden (especially brand new land) is hard work. Whether you till or no till, dig or no dig, mulch or no mulch. We (any gardener) also know that it is not fun to do all that work and realize your soil is infertile. What do you do? You research how to add fertility to your soil and come across lots of options, but the ones that keep mentioning chickens catch your eyes. Chicken manure (say that five times fast), chicken manure tea, chicken manure compost, chicken feathers, the list seems endless! An unlimited supply of fertilizer it seems! This is not an infomercial for high pooping capability chickens, or at least not directly, but an article on using chickens to regenerate, add on to, or keep your soil healthy.

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I like how in Luke Marions “The Autopilot Garden” he mentions getting the garden ready as flying a plane, “you need to get it off the ground before you put it in autopilot.....” (simplified version). What this means in our context is that to use chickens to prepare soil, or for us to compost chicken manure, etc, you need to have a “system” setup. I say “system” because it is not always just a way and routine of doing things. Rather a chicken tractor, portable electric fence, compost bin, I think you get the idea. By setting up a good soil preparation, composting, and fertilizer making “system” you will enjoy lower feed bills, better garden harvest, and have happier and healthier chickens! In this chapter we will discuss using chicken tractors, and portable fencing to clear land with your chickens, or to simply pasture them for lower feed cost and healthier chickens.



Chicken Tractors

Like real tractors chicken tractors come in all shapes and sizes, but serve one common purpose. Being portable, yet has all the necessities a chicken needs to live. As I mentioned in the introduction for this chapter, you will have to do some work to get it built (although a good building project is always fun as long as it not 93 degrees fahrenheit 100% humidity), but after that it simply taking care of the chickens and moving the “tractor” from one location to the next. Even if you do not want to use chickens to clear garden beds, you can save lots of money on feed, have healthier chickens, and more eggs!

Some things to keep in mind

1. When scratching the soil the chickens will eat both good and bad bugs, weed seeds, and plants (especially small ones) so, to keep your chickens busy and to keep the soil from getting overworked you should move your chicken tractor periodically. How often depends on how much you want the soil worked, how many chickens you have in one chicken tractor, how big the chicken tractor is, and what the soil is like when you put them there.
2. For gardening, soil regeneration, or just pasturing to save on feed, the chickens can work the soil so much any weed seeds, or native plants that were there can take a long time to grow back. Of course , no weeds is not an issue for gardening, but too much un-aged chicken poop can burn the plants. (see the chapter on composting chicken poop for more information.) No more weeds means no more plants when pasturing your chickens, and no more plants means less bugs, which means more chicken food you need to buy! That's alot of events!
3. They (the chickens) will probably eat less food as they are foraging all day.
4. Their poop will probably turn green from all the grass they are eating!
5. As the chickens scratch the soil they will also mix in their poop, fertilizing the soil, and also oxygenating it.
6. If you plan on using the chicken tractor “full time”, even just during the spring and summer, make sure you have space to do it. If you only have a 10 by 10 space you will be able to use the chicken tractor it is probably not worth it. There simply won't be enough space to allow you to garden on an area of land, and let them

forage, or enough space and time to let an area grow back for pasturing purposes. But do not worry, I will discuss options for you to!

7. The chicken tractor needs to have ALL necessities for a chicken. Food or place to feed in the morning, water, shade, for laying hens nesting boxes, and a place for them to sleep.

Now with that out of the way we can start talking about how to use a chicken tractor. First, you will want to build your chicken tractor ,(see what my family did at the end of this chapter), which can be a variety of shapes,colors, and sizes. Once built, put your chickens in and move to their first “job site”. After thinking on your personal wants/needs, how many chickens you put in your chicken tractor, and what the site was like when the “workers” arrived, you should decide how long you want your chickens in that spot. Although this step will only be useful after you have seen how fast your chickens work. Next, is moving them to a new spot. Make sure everything is secure, your chickens' toes won't get squashed, and that your chickens are secure or in a space where you can easily catch them. Lastly, as I said before, make sure they always have water, are fed at least once a day/ have food available to them,and the chicken tractor is not braking on you!

As I said I would, here is the chicken/goat tractor my family made. (it was meant for goats, but ended up housing misfit chickens).

Find an old trampoline, Preferably one that still has good legs on it as this is where you will wrap your fencing around, and a mat (the jumpy part) on it for shade. The fencing should suit your needs, but as a general rule of thumb chicken netting or a fence with small enough holes the chickens cannot escape. Wrap the fencing around the trampoline while connecting it to the legs with zip ties. Once you go all the way around dont zip tie the fence to the final leg. Just cut off enough fencing so that way you can shut it like a door, and clip it shut. The clips you use to shut the “door” should be able to be easily opened every morning. Install a nesting box(s), a place for them to sleep, and food and water. Done! This design is a little hard to move but cheap, easy, and durable. Note: The fencing should be durable, not like plastic deer netting you use for your garden.

Portable fencing

This chapter will be much shorter because in simplified terms electrical fencing is what keeps the chicken from escaping (hopefully) during the day, while at night the chickens sleep in a much smaller chicken tractor. This chicken tractor is not like the ones from before though because it is meant for sleeping in, so it is much smaller. Keep in mind I am talking about electrical fencing like “Premier One Chicken Net”, not electrical barbed wire.

Here are some things to keep in mind

1. This method makes it easier to have bigger runs for your chickens to scratch in while being portable. Although ,especially if not electric, you will have more escapes than a (properly built) chicken tractor.
2. Not goat proof. Even electric, so not the best idea if you are thinking about free ranging goats too.
3. The fence is best if it is electrical, so you will need a system for the electrical equipment.

The small differences from this to the chicken tractor include the process of moving it, because you will need to put the chickens somewhere, take down the fence, move the chicken

tractor, then put the fence back up. You may need a weather resistant waterer and feeder too, unless you put the waterer and feeder in the chicken tractor. You can also build a small “hutch” for their food and water.

At the end of each of these methods, as long as your chickens have been in a spot long enough to eat all of the weeds and give the soil a good “scratch on the back”, you can plant your garden right there! Although, I personally would recommend having one or two spots you never plant a garden on, but rather never let get completely eaten by the chickens so when your gardens are being used by you, your chickens can still forage. Either this or careful planning on when the chicken can clear a crop from the garden for you. For example: Have the chickens prepare a radish bed in march. In April harvest all the radishes you need and then let the chickens have fun destroying the bed. Keep in mind though that one crop not going as planned can throw these plans out the window.

IMPORTANT: the following plants are poisonous to chickens. Baneberry, Bladderpod, Castor Bean, Corn Cockle, Death Camas, Death cap-Monkey Agaric- Panther cap- and Death Angel mushrooms, Ergot, Green Cestrum, Jimsome weed, Thornapple, Mexican poppy, Milkweed, Monkshood, Wolfbane, Mother of Millions, Oleander, Pretty Surge, Poison Hemlock, Rosary Pea, Showy Rattlebox, Tobacco, Water Hemlock, Cowbane, White Snakeroot, Whorled Milkweed, and Yew.

Thank You to Jessi Bloom of “Free Range Chicken Gardens” for the list!

Composting chicken poop

As a chicken keeper, or when you become one, you will no doubt have to get rid of old, poop bedding in some way, shape or form. Why not throw it into a compost pile? Let's talk about the nutrients in chicken poop, chicken poop compost, how to make it, and how long it takes to compost chicken poop.

Chicken poop has the highest concentration of nitrogen,phosphorus, and potassium. It also has lots of macro nutrients that are incredibly important to the garden such as calcium, magnesium, and sulfur (Source:Hobbyfarms.com). In fact, chicken poop is so high in nitrogen it will burn your plants if you put it on your plants raw (uncomposted/diluted), and has bacterias such as salmonella in it. With this said, the first step is collecting your chicken poop, bedding and all. If your chicken poop is not in bedding already you want to add a brown material, (high carbon) such as dry leaves, dried grass clipping, and wood shavings. Notice you may already use these materials as bedding! General composting rules are a little different when composting chicken poop because it is so high in nitrogen. For this you will want anywhere from 2:1 to 1:1 bedding (brown) to chicken poop, although 3:1 may work too. I say it may work because the next step is making it moist like a damp sponge and letting it heat up to 140-150 degrees fahrenheit. If it is not heating up correctly it may need to be more damp, need more green material (high nitrogen such as coffee grounds, fresh grass clippings, or chicken poop), or it needs decomposing bacteria. The bacteria problem can be fixed by mixing in garden dirt. After 3 days of sitting your pile being 140-150 degrees fahrenheit in the center. Mix the center to the outside and the outside to the middle. Let sit at 140-150 degrees fahrenheit for another 3 days. Not too hot or else not just the salmonella and other bad pathogens will be killed, but the good bacteria too. These bacteria are necessary for composting!

After this you can let it sit, or keep mixing for faster compost! The extra heat causes it to compost faster. Your compost is ready for garden use when it looks like dirt, smells like dirt, and

is not heating up like compost would, but rather like your garden soil does. I think I see a trend of it being like dirt! Hot compost will give you compost in 5-6 weeks. Cold compost or aging will give you compost in 6 months to a year. Keep reading for more information on cold composting! It is helpful to have multiple piles of compost of different ages. For example, just starting to compost, halfway composted, and fully composted.

You can spread your compost over your existing garden beds anytime of the year as long as it is fully composted, fill raised garden beds, and even make your own seed starting mix!



Other ways to use chicken poop

Although the above method is the most popular, there are lots of other methods for using chicken poop in the garden. I will be going over 2 very good methods in this chapter. Cold composting, and manure tea.

I say cold composting, but this is more like aging in a contained pile. It requires very little work, but it takes 6 months to a year to get properly aged/ composted manure. Whereas in hot composting the heat kills the bad bacteria and pathogens, time, freezing and thawing, and whatever else nature throws at it kills the bacteria here. To do this method you want a place or bin to put your manure (bedding included!), and you basically just let it sit. As I said before you let it sit for 6 to 12 months, or longer if necessary, occasionally checking to make sure it is moist. You risk burning your plants and even putting harmful pathogens in your food if you spread chicken manure too early. Waiting a little longer can save, and make a crop much better than if you spread chicken poop that has not properly composted or aged.

For liquid fertilizers you can make manure tea! This basically letting manure sit in water, and then putting that water on/around your plants! But that is a little general, so let's get more in depth. You are going to want to take aged or composted manure and put in a mesh bag, or even pillowcase! Put this bag in a bucket filled with water. You want to aim for twice the amount of water as there is manure. Test on a few plants before using on your whole garden. If this is too strong you can dilute it down by adding water. You will know it is too strong if your plants get burned. If this is too weak add more manure compared to water in the next batch. You will know this is too weak if in 3-4 days you see no change in plant growth, good or bad. Either extra growth, or greener leaves would be an indicator your manure tea worked. Enjoy!

NOTE: What you read is the guidelines for chicken poop, not cow or horse. Chicken poop is so different from other animal poop that it needs to be treated differently. As long as you follow

these basic guidelines and wash your food (especially root crops, chicken manure needs to be very well aged to use on root crops as you, as the name suggests, eat the root.) you will be safe and enjoy a much healthier garden, even with fertilizer costs rising!

Other chicken products to help the garden

When you think of chickens fertilizing the garden with chicken waste products you probably think chicken poop, although this is true there are lots of other options! In this chapter I will comprise a short list of other chicken products to fertilize your garden.

1. Eggshells. You probably know eggshells are high in calcium, but did you know calcium is necessary for plant growth? The common blossom end rot on peppers is the result of a calcium deficiency! Although, you cannot sprinkle eggshells around your plant's and expect next day results. It takes a few years for the egg shells to break down naturally and release their calcium. By adding eggshells into your garden you will be helping your garden years from now!
2. Ever heard of Feather Meal? Well it is a high nitrogen fertilizer made from poultry feathers! Fear not, you do not need fancy systems to make use of the nitrogen in chicken feathers. You can make feather meal at home, work your feathers into the ground, or compost them as well!
3. The bones! They have lots of nitrogen, phosphorus, potassium, and calcium! You can compost the bones, or turn them into biochar! (That is a lesson for another day!)
4. The guts! For experienced composters with a hot compost pile, you can throw the chicken guts right into it! Remember this can attract unwanted critters such as raccoons. Always research composting meat before doing it! As with everything in this article though, if composted/treated correctly it can be a cheap and wonderful fertilizer for your garden.

These are only a few amazing methods for taking advantage of the many benefits chickens offer you and your garden. If you found this article interesting do not be afraid to do more research! Thankyou for reading!

About The Author

Mason Cain is 14 years old, and wants to be a market gardener, chicken farmer, and crazy cat person! He and his siblings run a small produce, egg, and plant stand.

