

Feeding my Chickens Natural Charcoal

by **JP Daugherty**, August 7, 2011

I feed my chickens charcoal produced in a wood-burning stove (100% natural, no additives that aren't natural, even fire starting) that heats my house in winter in northeast Missouri.

I was browsing for biochar amendments to chicken litter in composting when I came across a very interesting article on how a particular scientist found that adding the chicken manure to biochar significantly decreased the amount of ammonia nitrate out gassing by converting the ammonia into the more stable ammonium. He wondered if he could do it inside the chicken rather than mix afterwards so he started supplementing his chicken food with around 1-3 percent ground to kitty litter sized particles of biochar. Within the chickens the biochar is automatically binding the ammonia into the ammonium form before excreted resulting in very little nutrient out gassing loss.

No ammonia smell—or any other smell, for that matter!!!

I can testify to this since I have been feeding my chickens around 1-3 percent ground charcoal for over six months. Their manure does not smell. Nor is it runny or even gross. It comes fresh out of the chicken full of plant material with a dark green to green black coloration. Even when picking it up and examining it, it broke apart like a well aged horse manure/fibrous texture and was wet but not even close to being runny. Like the proper moisture level you'd want for growing your own mushrooms. (Will test that later in vermiculite, rice flower cakes and shitake)

With the manure, you could tear it apart in your hands and feel it was properly moist, but after dropping it to the ground and washing hands, no residue or moisture that gets on them. They remain clean with no smell. Naturally, I wash my hands anyway, because it's still poop.

The chicken coop never smells. Accidental



contact with their waste isn't gross or messy like before. Easy to scoop and add to compost. What is composted is mainly bedding of straw and hay, with rotten or over-ripe vegetable matter from the garden. The results is a constant 6.0-7.0 pH, much easier to turn, gets better air and water distribution throughout, requires minimal effort to wet, seems to break down non-shredded matter 2-3 times faster as before, when non-shredded matter was added with gypsum, and every layer had to be wet.

Other things I have seen is that I do not have to add any charcoal to the compost pile. As a matter of fact, my free range chickens around the house are biochar distribution workers that are helping to rebuild the lawn and garden and they do not even know it. lol I only get to gather their roost droppings from the evenings. When you accidentally step on a pile of chicken poop out in the yard it doesn't stick to your shoe and just mashes flat and disappears relatively easy with a light rain. So I am never tracking chicken crap into the house on accident.

Another thing of note is that I can now use fresh chicken manure in rather sizable quantities earlier than before the use of biochar. Normally I would have to let it age (In other words out gas and leach) down to the point of being barely a fraction of the size of what it originally started at. With biochar, you end your composting with what seems like a larger pile. The char that came within the manure is absorbing most of the ammonium nitrate, and doesn't seem to be

reaching its entire absorbing capacity, which means I might have to cut back just a tad bit by staying at 1 percent biochar used as feed for the chickens. When testing the final product (At least to me, it looks like black, rich dirt) for nutrient NPK values, I landed at indications saying I would need to use 12/12/12 (Not a large amount surprisingly) to bring it up to its max for this area.

The compost pile retains water for long periods of time. The initial watering took less time than when biochar was on incorporated into the chickens diet. We have been in a drought here for around two months. The pile is open and exposed to the sun. When we were near flooding at the beginning of the summer, I noticed no water pouring out of the downhill side of the pile, telling me that its water-holding capacity is fairly high. When I attempted making compost tea after reaching the holding capacity of the allotted sample of five gallons of soil/compost, very little brown-to-black colored water would leach out, telling me it's doing well to trap organic available Phosphate and Nitrogen. But I didn't test the water sample, so that's just speculation.

Freshly composted to dirt with high organic small particulates that only required less that what seemed 4 months worth of decay with minimal wetting or turning. This was applied directly to outdoor plants, which were failing in late summer due to drought. Removed them from the ground and placed them in pots with my new dirt. In less than a month, energy hungry



plants like columbine took off from three leaves to more than I can count. It hasn't burnt anything else I tested it on. Not a completely controlled, documented process, as you might tell by my description. Next year will be.

Also of note before I go: when dressing chickens and examining their gizzard and craw contents, I see black pieces of charcoal that were used for grinding the food. In the gizzard they were ground smooth to being almost oval with rounded ends and shiny like a river stone. So the biochar is being introduced before the main intestinal digestion. Like they are chewing their food with charcoal teeth, if you will. So nutrient absorption starts immediately.

I no longer feed my chickens oyster shell, since they are smart to pick up small limestone rocks of their own around the driveway round about. So, they are still getting their calcium.

They are not just entirely using charcoal to grind up their food, but if I had to venture a guess just through visual observation of the gizzard contents, 50 or more percent of the inorganic substance within that organ was charcoal. Maybe accounting for near 10 percent overall stomach content, but without proper measure, those numbers may not be near exact.

