

# Fueling Our Poultry's Energy



Guineafowl frolic in a snowy yard. Staying active is good way to generate body heat, for poultry and humans.

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**D**uring the cold winter months, the most effective way that we can help our poultry stay warm is to provide internal support that in turn helps the birds create the energy needed to maintain core body temperature. A holistic (balanced) approach supports the immune, digestive and circulatory systems, and provides food to produce highly digestible energy via oils to fuel the metabolism, and good protein to grow their protective feathers.

## Old Fashioned Methods

Soon after moving to the country, I met a woman named Vivian. She was getting on in years and needed a gardener; I was hired on and we became fast friends. That first summer she followed me around on her lawn tractor wearing a big floppy hat, chatting and keeping a close eye on me, making sure I knew my stuff. Before long, I could recite the histories of certain flowers...who had gifted them to her and when...sometimes even why. A few years later as her age advanced and her eyesight declined even further, she could no longer get around well and my duties moved to being a home-helper. I missed those 13 flowerbeds, but in exchange, I got to know her even better, happily listening to the same stories again and again. I could predict what story was coming next. I could finish her sentences but chose not to as she delighted in telling them to a very interested audience of one. I loved her dry, cynical sense of humor

and now, the older I get, the more I appreciate the wisdom her words held.

One day I was folding laundry with Bob Barker in the background and off-handedly mentioned that a hatch was in progress at home in my incubator. Her milky blue eyes lit up and sparkled, aimed toward the sound of my voice. I explained that, no, an incubator wasn't a new fancy word for a broody hen. We got a good laugh out of that one! Making conversation, I wondered out loud about the severity of the coming winter and voiced my concerns about the flock's welfare and how to best keep them comfortable. She began to smile and I knew she was about to share more memories. Her daddy had chickens when she was a girl and they lived in town, she told me. My hands weren't folding towels any longer, as this was new stuff and she had my total attention.

Viv tilted her head, remembering, and said, "Well, Daddy always just gave them pepper." As if I would know exactly what she meant when I didn't. I thought about hot peppers and how, if I ate too many, my face would flush and feel very hot but I said nothing. "Huh?" came my brilliant response. She explained how when they had a nasty cold snap, her father broke up old bread into small chunks and put them in a bowl. He then added "plenty" of "plain 'ol black pepper" and hot water and stirred it to make a mash. This he gave to his small flock, still warm and steaming, twice a day during the snap. She said that it warmed them up from the inside when the wind-chill was harsh.

Another bit of advice was to supplement with corn; the idea was to "thicken them up like they have a blanket." I was told her daddy's work was next to the

railroad tracks where the emptied freight cars would rest. In the cars he found dried kernels of corn scattered about and being a thrifty man, he collected the kernels and stashed them in his pocket while taking some ribbing from his coworkers.

## Natural Internal Heat

Poultry have high metabolisms, and the larger the bird, the less energy it needs to stay warm. The heavier breeds will need less than the bantams, and adult birds will need less than the youngsters or chicks. Poultry can tolerate sharp coldness much easier than extreme heat because they do not have glands for perspiring. As a survival strategy in winter, birds will lower their body temperatures at night—called torpor—to conserve energy. This is key to their health and winter survival, as much as protective housing and fresh water are.

## Circulatory System

The avian circulatory system not only moves the blood to deliver oxygen to the body cells and removes metabolic wastes, but it is very important in maintaining a bird's body temperature. This system needs to work efficiently to help meet the metabolic demands needed for physical energy, and for energy to maintain internal temperatures.

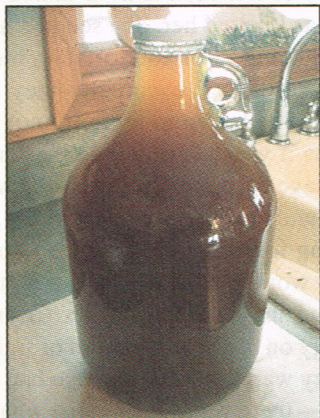
Herbs that have diaphoretic actions will help stimulate blood circulation from the core to the periphery. Herbs to be considered are Cayenne pepper (*Capsicum spp.*), Black pepper, Ginger (*Zingiber officinale*), Yarrow (*Achillea millefolium*) and even some mints. These dried herbs can be sprinkled in their treat bowl. A topical application for exposed skin can be olive oil infused with Cayenne pepper to help protect the combs of your roosters from frostbite. The oil will coat the skin with a protective layer, and the pepper will draw the blood to the skin for internal warmth.

## Protein

Our poultry grows insulating feathers during the colder season, and good protein levels will aid in feather production. By shivering and contracting muscles, chickens will fluff their feathers to trap an insulating layer of warm air against the body. Like most birds, they appear to tuck their heads under their wings while asleep but, actually, it is under a tuft of feathers that drapes over each shoulder. They also have the added benefit of breathing the



## Alfalfa Tea



**A**lfalfa hay (or nettle) can be brewed into a nice, rich “green protein” tea that can be mixed with your poultry’s drinking water.

Place a flake of alfalfa in a bag and seal shut, then squish it around to break it up so it can be packed into a pot.

Use a large pot (5-gallon or larger) and stuff it full with the hay. Fill the pot with water to about 1 inch from the brim. Bring to a boil and let it gently simmer for one hour.

When done, pour into gallon jugs to mix into waterers. The ratio I mix is 1 gallon of tea and 1 gallon of water, thus diluted at 50 percent.

warmed air. The feathers will also cover their legs and feet when sitting. There are two excellent herbal plants that are high in “green” protein, Nettle (*Urtica dioica*) and Alfalfa (*Medicago sativa*). Although the dried herb can be mixed within their food, another alternative is to make herbal tea to drink. Herbal tea ensures that the whole flock will get a concentrated dose of protein and “green” food to help their diet to remain balanced with brown (grains) and green (plant matter). See sidebar for tea recipe.

### A Cautionary Tale About Frostbite

Butters was an odd one—bless her heart—right from the start. A pretty soft yellow chicken hen; she hatched out of a batch of guinea eggs that had been hurriedly loaded into the incubator. Her momma’s eggs were small, tan and pointy...an easy enough error to make. On day 20 of the incubation, I discovered my mistake! Out popped Butters and she waited impatiently and noisily for her roomies to arrive. Being raised with a bunch of feisty keets, she soon became convinced that she too

was a guinea and as they tested their wings, Butters was always right behind them. She flew better than any chicken I’ve ever raised. She took to that snazzy pine tree right behind the guinea coop with a couple of her guinea gal pals. That would be the tree with the thin sheets of metal nailed around the trunk because I always seem to have a few “free spirits” in the bunch and we might as well try and keep the ‘possums and raccoons from climbing up. These free bird types can be quite stubborn! The wide evergreen branches serve well to deter aerial assaults, and while I do *not* recommend tree sleeping, it’s a good tree for the ones who insist.

Unfortunately, at that time, predators were my main concern. After all, that was the only cause of death I’d ever seen up until then. What I didn’t think enough about was their feet. Like every winter, that extra cold spell came on. As I counted heads during snack time, I noticed that Butter’s toes were swollen and pale. She simply hated the guinea coop...she didn’t know she was different but the elders there surely did and took every opportunity to remind her. She was also unafraid of snow; it didn’t

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phase her one bit to run right on through it. As the birds scrambled over their treats, I scrambled to ready the sick bay in the garage. I put out the fresh water with a bit of raw organic honey. I put in fresh sweet smelling straw. In went the feed dish with raw chopped garlic sprinkled carefully on

## Garlic Oil & Sunflower or BirdSeed



Garlic is not an easy herb for our poultry to get used to eating. I discovered that mixing garlic oil with sunflower seed, or birdseed (with millet), makes a convenient way to apply garlic for your poultry to eat. The seed is something they are used to eating, and if fed as a treat, all the better.

Mix 4 ounces of olive oil with 3-4 cloves of garlic in a glass jar. If your poultry is new to garlic, you can start out with a weaker garlic strength. Start with one clove and work your way up to 3-4 cloves. Steep the garlic for at least 3 hours so the garlic compounds can infuse into the oil. The oil will store in your fridge up to a month.

Drizzle the oil over the seed and mix, enough to cover the seed. I give this to my poultry when I think they need a boost to their immune system. Remember, there are fats in the oil so you don't want to overdo it.



top. Ok, maybe they get a little spoiled when feeling poorly! I was confident things would soon be on the mend.

But frostbite is very serious business, as I was about to observe firsthand. Ironically, her two free-spirited, tree-hugging "sisters" were maintaining healthy feet. I thought about any possible behavioral differences seeing as how the diet was exactly the same for all and I thought even harder when I considered that the guineas were originally natives of Africa. The basic differences are: 1. The guineas would spend time in the coop during the day, visiting and eating while Butters preferred to dine outdoors. I tried encouraging her to hang out in the chicken coop with her own kind. She refused to believe these drab looking birds *were* her kin, and it didn't work. 2. The other difference between Butters and her girlfriends is that the guinea gals very much enjoyed running about on the shoveled pathways provided for them, while fearless Butters would make her own trail, barreling through snow up to her chest without a second thought. That was it...the only two differences. I did my pondering as I readied her cage. I picked her up and despite the luxurious accommodations being offered her, she impolitely refused, wiggled free and bolted. She ran like her tail was on fire. I, of course gave chase, then the phone rang, a kid opened the slider door to let me know, a dog got loose and she had won round one. The next day, I picked her up and *firmly* held her to my chest the minute after treats had been consumed and in her suite she went! Her feet were still swollen and had gone from their normal creamy yellow color to gray. I knew we were in for a fight. I didn't know it would be the fight of her life and that she would not win, despite my best efforts. Vivian told me the next day that I should have "greased their feet with lard if they're gonna be ornery like that," and also, "to grease pretty combs if I wanted to keep them looking pretty." Well, I certainly made note of it, but I'd already failed in providing the best solution, which was to force them into a coop. I just didn't have the heart to separate these best friends, as the elder guineas didn't want her and she had no interest in the chickens.

Butters was given the best treatment I knew how to give at that time. I even dug through the snow near the dryer vent to find plantain and dandelion

greens for her. They turned out to be her favorite treat while in her cage. She got plenty of attention and we talked quite a bit as I petted her. She seemed happy enough and even comfortable, but her feet got darker; eventually they were black. She began to prefer to not walk unless it was to go to the other end of the cage to poop. I placed her water, feed and snack within easy reach, still hoping for a miracle that deep down I knew wouldn't come. Blankets wrapped around the cage helped her focus her energy on her health instead of fighting to stay warm, but the damage had been done—there was no reversing what had happened to her feet. I was at a loss and worried over her like I would a child, feeling very ashamed that I had allowed this to happen to her.

The day came when I found her foot. It was at the other end of the cage and there was Butters making soft noises to me. I cannot begin to explain how I felt at that moment. She was humanely put down shortly after and given a nice marker from my son. Just writing this out brings the tears again. I share this story despite it being evidence of poor management and despite my embarrassment and shame in hopes that it will clearly illustrate that frostbite is a very serious issue.

## Energy with Oils & Suet

Our poultry can get energy from carbohydrates, fats and fiber in their diet. Poultry get the majority of their energy from the consumption of grains, which includes wheat, oats, barley and corn. Although oils are present in many seeds, like sunflower and corn, another alternative can be the direct application of extracted oils. Oils consumed right before roosting at night helps them to not have to lower their temperature so much (torpor), because it can give them immediate available energy for their metabolism.

Monounsaturated fats in the form of pure oils, such as olive, canola or peanut oils are nutritious choices while corn and sunflower contain polyunsaturated fats. Both fats are considered "good" fats. However, sunflower seeds, compared to corn, contain higher levels of vitamin B2, niacin, calcium, iron, and protein by weight, with corn only higher in vitamin B1 and moderately high in manganese/magnesium. Compared



to corn, sunflower seeds may be the healthier choice as far as vitamins and minerals go.

Herbal roots that are harvested in the fall can be easily used to great benefit throughout the winter. In the fall when the herb has completed its growing cycle, the energy goes back into the root. Herbal roots that grow deep in the earth, like burdock (*Arctium lappa*), dandelion (*Taraxacum officinale*), yellow dock (*Rumex crispus*), and carrot (vegetable root) can give deep nutrition and fiber needed for health. Herbal berries like Rose hips (*Rosa spp.*), Barberry berries (*Berberis vulgaris*) and Hawthorn berries (*Crataegus sp.*) have medicinal value and nutrients. Fruits, like apples, are also a very good source of fiber and nutrition. Making herbal suet with olive, canola, peanut or other vegetable oils is preferred, rather than using the traditional suet, lard or commercial Crisco oil. Those contain fats that are saturated, which are harder to digest, and they could easily make your poultry gain too much weight, which would be unhealthy. You can mix the vegetable oil with herbal roots, berries, and apples, which would be a good way to give your poultry the benefit of all three.

### *Immune & Digestive*

Healthy immune and digestive systems plays into maintaining their internal temperature in an indirect way. When the immune system is healthy, and the digestive system is managing the microflora and keeping the bacteria in balance, it will help to maintain health and prevent disease. When your bird's internal balance is tipping into disease while overly stressed by cold temperatures, a bird will need lots of energy to fight pathogens and parasites and to keep body core temperatures up. If their body has to decide where to direct its resources, it will direct more energy to fight the illness, and what energy is left is directed at keeping core temps up. Peak health is very important in keeping our poultry warm.

An easy way to support both of these systems is to make a garlic-infused oil, mixed with sunflower seeds or birdseed. (See sidebar, page 26.) If you use the oil within 3-36 hours, the compounds in the garlic will provide the bird with the full antibiotic and sulfide (anti-parasitic and antioxidant) strength. After that, the oil is weaker in benefits, but still effective. These compounds are also an immune system stimulant. Olive oil also adds lots of healthy benefits. It contains mostly

good fats (monounsaturated), and vitamins A, E and K. The phenols can be used effectively as probiotics for the digestive system. This is an excellent supplement to give your poultry before they go to roost to sleep, for those really cold nights. The oil will give them immediate metabolic energy, while digestion of the sunflower or birdseed will give them more energy and nutrition throughout the night.

We think the ideas provided here will help fuel the energy needed for your poultry's internal heat that is so essential during the harsh winter months. Balance is key to the right mix of nutrients, and to supplement at key times like when your poultry is roosting and during particularly harsh weather. Using natural ingredients, you can be sure to keep the internal heaters going all winter long!

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*Both herbalists advise on Blue Moon Forum, an herb forum for people and critters, specializing in poultry, at [www.members.boardhost.com/bluemoon](http://www.members.boardhost.com/bluemoon).* 🐔

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