

natural Homestead

40+ Recipes for Natural Critters & Crops



Jill Winger

natural
Homestead

40+ Recipes for Natural Critters & Crops

By Jill Winger

Author of ThePrairieHomestead.com

First Edition: October 2013

Purchase additional copies at www.theprairiehomestead.com

Disclaimer and Copyright

This e-book or any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of the publisher except for the use of brief quotations in a book review.

Although the author has made every effort to ensure that the information in this book was correct at press time, the author does not assume and hereby disclaims any liability to any party for any loss, damage, or disruption caused by errors or omissions, whether such errors or omissions result from negligence, accident, or any other cause.

I am not a physician, health care professional, or veterinarian. This book is not intended as a substitute for the medical advice of physicians or veterinarians. The statements in this e-book are for educational purposes only and have not been evaluated by the FDA. They are meant to inform and entertain and they are not intended to diagnose, treat, cure, or prevent any disease or condition. If you or your animal is dealing with a health concern or condition, please consult a physician or veterinarian.

Any trademarks, service marks, product names or named features are assumed to be the property of their respective owners, and are used only for reference. There is no implied endorsement if we use one of these terms.

This e-book is licensed for your personal enjoyment only. It may not be resold or given away. If you would like to share this book, please purchase additional copies. Thank you for respecting the hard work of this author.

Copyright © Jill Winger 2013 All Rights Reserved

Acknowledgments

To the faithful readers of The Prairie Homestead blog:

You were the ones who inspired me to start this crazy project, and have kept me motivated the whole way. Here's to healthier, more wholesome lifestyles—in the barnyard, and beyond.

To my Lord and Savior Jesus Christ:

What a fantastic adventure You have led me on as You've fulfilled heart's desires I didn't even know I had. I can't wait to see what's up ahead-- let's go!

Table of Contents:

Introduction.....	8
A Holistic Homestead.....	13
Become a Grass Farmer.....	16
All about Volatile Odiferous Oils of Vegetable Origin.....	19
<i>Safety Tips</i>	20
<i>How to use Essential Oils</i>	21
The Great Vaccine Question.....	23
Stocking Your Supply Cabinet.....	26
Evaluating Natural Options.....	29
Basic Herbal Owie Salve.....	31
The Barnyard Apothecary.....	34
<i>Garlic</i>	34
<i>Salt</i>	36
<i>Diatomaceous Earth</i>	38
<i>Baking Soda</i>	40
<i>Apple Cider Vinegar</i>	43
<i>Kelp</i>	47
The Parasite Fight.....	49
<i>Signs of a Wormy Animal</i>	53
<i>Natural Anti-Parasitic Options</i>	53
<i>Basic Herbal Deworming Recipe</i>	61
<i>Deworming Cookies</i>	63
The Milking Parlor	65
<i>Soothing Udder Balm</i>	67
<i>Reusable Lavender Barn Wipes</i>	70
<i>Disinfecting Udder Wash</i>	72
<i>Lavender Teat Dip</i>	74
<i>Homemade Acid Wash</i>	76
The Fly Spray Mixologist	78

<i>The Basic Formula</i>	82
<i>Rosemary Vinegar Fly Spray</i>	85
<i>Fly Oil Formula</i>	87
<i>Basil Mosquito Spray</i>	89
Feeding Yard Birds.....	91
<i>Pros & Cons of Mixing Your Own Feed</i>	96
<i>The Three Pillars of Chicken Food</i>	98
<i>Some Problem Ingredients</i>	103
<i>Can Chickens go Grain-Free?</i>	106
Culinary School for Chicken Chefs.....	110
<i>How to Source Ingredients</i>	111
<i>Seven Ways to Cut Feed Costs</i>	114
<u>Appetizers</u>	
<i>Free Range Feeding Frenzy</i>	116
<i>Grow a Salad Bar</i>	119
<i>Herby Hors d'oeuvres</i>	121
<i>Herbal Trail Mix for Chickens</i>	123
<u>Entrees</u>	
<i>Basic Layer Ration</i>	126
<i>Corn & Soy-Free Layer Ration</i>	127
<i>Corn & Soy-Free Broiler Ration</i>	128
<i>Simple Grain-Free Ration</i>	130
<i>How to Sprout Grains</i>	131
<u>Snacks</u>	
<i>Homemade Scratch Mixes</i>	135
<i>Boredom Buster Brick</i>	139
<i>Tasty Tallow Snack Bar</i>	141
<i>Other Chicken Delicacies</i>	143
<i>What NOT to Feed your Birds</i>	145
<i>How to Feed Eggshells to Your Flock</i>	148

Barnyard Housekeeping.....	151
<i>Bleach-Free Coop Cleaner</i>	152
<i>How to Whitewash</i>	155
<i>Water Tub Scrub</i>	157
<i>Coop Spritzer Spray</i>	159
<i>Nesting Box Potpourri</i>	161
<i>BONUS: How to Build a Chicken Bathhouse</i>	163
<i>BONUS: DIY Chicken Buffet Feeders</i>	165
Growin' Stuff	169
<i>Essential Oils in the Garden</i>	172
<i>Compost Juice</i>	174
<i>Homemade Fish Emulsion</i>	177
<i>Grow-Booster Plant Food</i>	181
<i>All-Purpose Bug-Be-Gone</i>	182
<i>Homemade Insecticidal Soap Spray</i>	184
<i>Non-Toxic Dormant Spray</i>	185
<i>Fungus Fighter Spray</i>	187
<i>Milk or Whey Spray</i>	189
<i>All-In-One Spray</i>	190
<i>Non-Toxic Weed Killer</i>	192
<i>Other Quirky Gardening Tips</i>	194
Conclusion	195

About the Author



I'm Jill Winger. I didn't grow up on a ranch, farm, or homestead, but I've always had a deep rooted passion for the rural way of life.

I reside on a sixty-seven acre chunk of Wyoming prairie that I share with my husband, two children, and an ever-expanding menagerie that includes horses, cattle, goats, pigs, dogs, chickens, and geese.

I'm not the perfect homesteader—my barn gets messy, my garden is full of weeds, and my cow sticks her foot in my milk bucket sometimes, but I still love inspiring others to start homesteading journeys of their own.

I've been writing on my blog, [The Prairie Homestead](#), for three years. It's there I share recipes for down-home cooking, natural remedies, random observations from my chaotic life, tips for running a homestead, and stories about the snakes in my house. (Yes, really.)

Find me: [The Blog](#) | [Facebook](#) | [Pinterest](#) | [Instagram](#)

Introduction

I am the daughter of a farm chemical salesman. I grew up in a subdivision, on a tiny lot in town. As a kid, I wolfed down potato chips and diet soda, and was probably well into my teen years before I ever had an egg from a chicken that didn't live in a factory.

I used to run to the doctor for antibiotics every time I had a sniffle; I hated to cook, and liberally applied every conventional product I could find on myself and my animals.

Fast-forward ten years and now you'll see a wife and mama who lives out in the middle of nowhere, milks her cow, raises and processes her own meat, cans the vegetables from her garden, mixes her own chicken feed, doesn't vaccinate herself or her kids, and cooks crazy things like tortillas and French fries from scratch.

Why am I telling you all this? **Because if someone like me, a wholehearted devotee of the standard American lifestyle, can change, then so can you.**

My transformation didn't occur overnight; it came about over the period of several years, and is still happening to this day. It started when I stopped buying certain processed items at the grocery store (bye-bye margarine), and then progressed as I learned how to cook (not just reheating frozen burritos) and make my own skincare items from scratch.

I had an awakening, and judging by the 47,000+ people who currently make up my blog's community on Facebook, I'm not the only one feeling the urge to get back to the basics.

Anyway, there I sat: drinking raw milk, eating homemade tortillas, and rubbing coconut oil on my face--all while feeding my animals processed

foods and chemical-laden products. That just didn't make sense, and I decided to do something about it.

This book is the culmination of my quest to implement more natural techniques on my homestead. A quick Internet search will quickly yield tons of tips, remedies, and urban legends on the topic of natural animal remedies. Unfortunately, I found that after about ten minutes of research, my head would spin and I'd shut down my laptop to focus on something less confusing ...

Thankfully, my determination eventually won out and I plunged headfirst into the world of feed rations, vinegar, herbs, and every sort of DIY-spray-concoction known to man. And that, my friends, is how this book was born.

What to Expect from this Book

My goal in writing this e-book was to compile the various remedies, tidbits, recipes, and anecdotes I mined from a pile of books, blogs, websites, scholarly articles, and personal experience.

I hope to offer some sort of middle ground between someone with a Master's degree in animal or plant science, and Great Aunt Bertha's eclectic collection of home remedies.

I know there will be some who scoff at the thought of these simple recipes having any significance in modern agriculture, but keep in mind that many of these remedies have been used on humble homesteads, backyard gardens, and small farms for decades. There has to be a reason that they are so well-loved and passed from generation to generation.

You probably won't find yourself implementing every single alternative idea found in this book, and that's OK. Even if you can swap out just a few of the conventional chemical products that might be lingering in your

cupboards, you'll still be ahead. *The pharmaceutical companies have done an excellent job of interweaving themselves into every area of our lives, and sometimes it takes a little while to figure out how to wean ourselves off of their influence.*

So, grab your bottle of vinegar, put on your homestead scientist hat, and let's get busy returning to what great-grandma knew.

On Warnings and Disclaimers ...

I am not a physician, health care professional, or veterinarian. I'm just homesteading mama with a thirst for information and a hunger for common sense.

I suppose some will consider this book to be a collection of old wives tales, since most of these ideas haven't been run through a battery of official scientific studies in a university laboratory somewhere.

However, I'd like to present a rather crazy notion to you, so humor me for just a minute. Is it *possible* that some home remedies or folklore suggestions just might actually work—even if they *haven't* been run through a gauntlet of tests?

I think so. In fact, *I know so.*

While I greatly appreciate many of our modern scientific advancements, and I purposely sought the wisdom of numerous scientific studies in the creation of this book, I tend to give a hearty "Amen!" to Joel Salatin when he says that *we need to stop worshipping at the altar of the laboratory.*¹

Keep in mind that many (most) of the clinical trials that are conducted are paid for by massive companies with a vested interest in the outcomes. You'll be hard-pressed to find anyone willing to donate thousands of

dollars to study the true benefits of apple cider vinegar. But that doesn't mean it doesn't work.

This book highlights some of the ways I like to do things on my homestead, but if you aren't comfortable with a suggestion, I implore you to do some research for yourself. Honestly, I hope you'll do research for yourself anyway even if you agree with me. Knowledge is power.

If there is one lesson I have learned in three years of blogging, it is that **people love warnings**. Anytime a natural remedy or herb gets the smallest bit of bad press, it is quickly plastered all over the internet as being dangerous.

I always find it ironic that the folks who usually protest the loudest over the perceived danger of things like essential oils, herbs, or diatomaceous earth, have no problem consuming boatloads of pharmaceuticals, anti-biotic-laden meats, and sterile, processed food. In my opinion, *those* are the very things we need to be avoiding--but that's a topic for another day.

In the interest of full disclosure, I've tried to include both sides of the story alongside the more questionable topics in this book. That doesn't mean that I'm necessarily concerned about the warnings related to that issue, but I do want you to have the full story so you can formulate your own opinions.

I am not advocating recklessness when it comes to homemade remedies, and things like herbs, essential oils, and homemade supplements need to be treated as the medicine they are. But I suppose I tend to be less fearful and more independent than some folks. I drink raw milk, eat raw eggs from our home-raised chickens, and mix my own chicken feed. Am I living on the edge? Perhaps ... but I don't really think so.

When it comes right down to it, pretty much anything can be hazardous. Too much water can kill a human, and too much grass can kill a horse or a cow. Does that mean we need to be scared of water and grass? Nope. And come to think of it, I have yet to see mention of any governmental regulation on those two substances, even though they have the potential to be deadly. *wink*

As you work through the recipes in this book, or any natural remedies for that matter, just remember to add in a sprinkling of research and a generous helping of common sense. Do that you'll probably be just fine.



A Holistic Homestead

Corn fields as far as the eye can see ... feedlots packed with thousands of cattle and subsequent mountains of manure ... chickens wedged into cages smaller than a sheet of paper.

This is the face of our current agricultural system. The goal of modern agriculture is to produce as much food as possible, as cheaply as possible.

This isn't an inherently evil goal, in and of itself. However, in the process of maximizing profits and production, we've run into a lot of problems. Nature isn't a monoculture, and when you pack a whole lot of a single species into one area, you end up with a host of issues--disease, parasites, mountains of manure, and the list goes on.

This is where herbicides, pesticides, antibiotics, and heavy pharmaceutical use come into play. These chemical crunches are quite

necessary to keep a large-scale monoculture operation functioning to the best of its ability, and this is why they have become the norm.

Vilifying modern agriculture is not my goal. I truly believe the majority of producers are genuinely good-intentioned in feeding their herds antibiotics and the like. I don't believe any of them are out to purposely create superbugs or hamburgers laden with E. coli 0157:H7, but unfortunately, these are some of the side effects of raising crops and animals in a highly unnatural environment.

The word "holistic" has become somewhat of a buzzword in recent years, but it has a very real and very vital application in our modern homesteading efforts.

"Holistic" is defined by the Merriam-Webster Online Dictionary as,

"Relating to or concerned with wholes or with complete systems rather than with the analysis of, treatment of, or dissection into parts."

To me, holistic homesteading means we can't become laser-focused on just a few aspects of our homestead's management and ignore the rest if we want to experience the best results.

If we can't figure out why our goats are struggling with a heavy parasite load, we need to look at the quality of their diet and the health of the ground they graze, rather than running the gauntlet of chemical products that may or may not fix the problem temporarily, but don't ever address the real issue.

If the vegetables in our garden plots aren't thriving the way they should, we must first examine the soil--is it lacking in certain nutrients? What can we do to nurture the ground before we casually head to the garden store and bring home a carload of synthetic fertilizers and

pesticides to ward off problems that were caused by a soil deficiency in the first place?

As I dive deeper into the world of sustainable farming techniques, I am absolutely enthralled at the concepts of using different species to complement each other and working toward the health of the land before worrying about anything else. I am in no way claiming to be an expert in any of these techniques, but my goal in creating this e-book is to learn how to incorporate as many of these once-forgotten practices in my homestead operations as possible, and I encourage you to do the same--regardless of whether you are homesteading on a hundred acres or a small, suburban plot.



Become a Grass Farmer

It has only been in recent decades that grain has become the mainstay of so many animal diets. Before the industrialization of agriculture, grain was laborious and costly to produce. A farmer wouldn't have fed his beef a diet high in concentrates when grass was far cheaper and less time consuming to grow.

Why You Should Care About Grass-Farming:

- Herbivores (goats, cattle, sheep, etc) were designed to eat grass. Grass-fed beef is far less fatty than corn-fed beef, and actually contains the same amounts of fat as chicken or wild game.²

- When ruminants are fed large amounts of grain, it can cause their guts to become unnaturally acidic. This can result in an increased risk of disease and health issues.³
- Grass-fed beef is healthier for the environment as it reduces our dependence on petroleum for planting, harvesting, and shipping grains.
- Meat, milk, and eggs from pastured animals contain higher levels of Omega-3 fatty acids, as well as conjugated linoleic acid (CLA)--a type of fat that may reduce the risk of heart disease and cancer.⁴
- Purchasing meat, milk, and eggs from grass-fed farming operations helps to support small, local farmers in your community.

The goats, horses, and cattle on our homestead are on a strictly grass-based diet—they graze our pasture all spring and summer, and we feed them hay during the winter months.

Poultry can be pastured as well, although most producers still supplement a portion of the flock's diet with grains. We allow our chickens to free-range around our barnyard, but also offer them a grain-based ration, in addition to lots of kitchen and garden scraps. Birds have a different digestive system than a ruminant, and in the wild you will find them seeking out various grains and seeds. However, some folks have found success with a completely grain-free diet for their flocks, and I am pleased to have had the opportunity interview such a homesteader later on in this book.

In my opinion, one of the best ways you can care for your homestead is to master the art of grass farming. Learn how to manage your pastures as efficiently as possible, even if you only have a couple of acres. There are many excellent books devoted to this subject, and I wholeheartedly recommend you check out a pile of them from your local library. Here's a short list to get you started:

- *Salad Bar Beef* by Joel Salatin
- *Pastured Poultry Profits* by Joel Salatin
- *Grass-Fed Cattle: How to Produce and Market Natural Beef* by Julius Ruechel
- *Pasture Perfect: How You Can Benefit from Choosing Meat, Eggs, and Dairy Products from Grass-Fed Animals* by Jo Robinson and Frances Robinson



All about Volatile Odiferous Oils of Vegetable Origin

I use essential oils in nearly every aspect of my homestead, from homemade cleaning supplies and skincare recipes, to applying them to both the animal and human members of my family.

Not only can they be a potent treatment for numerous ailments, but I love how a single bottle of oil can be used for multiple purposes.

To put it simply, essential oils are volatile liquids that are distilled from the various parts of different plants, including bark, roots, leaves, flowers, and fruit. They are a valuable part of my natural remedy arsenal, and I feel they are an excellent companion to a cabinet full of herbs.

It is thought that certain essential oils might be capable of crossing the blood-brain barrier and many contain antibacterial, antiviral, antifungal, antiseptic, or anti-parasitic properties.⁵

Some essential oils can even combat antibiotic-resistant strains of bacteria, such as MRSA.⁶

It's not a far-fetched idea to believe that plants can provide us with healing benefits. Keep in mind that many of our modern pharmaceuticals were originally sourced from nature. For example, aspirin was discovered from the bark of the willow tree, and the drug Morphine can be traced back to Poppy plants.

I strongly believe God placed countless tools in nature to support our bodies in the healing process. And when we choose natural treatments and use them wisely, we can avoid the array of side effects that accompany many pharmaceuticals.

If you've ever wanted to get started with essential oils, but have been too intimidated by all the information available out there, I'll run through the basics in this book. If you keep these simple tips in mind, you'll be well on your way to using essential oils safely and effectively around your homestead--both inside and out.

Safety Tips

1. Never, ever put essential oils in your animal's eyes, ears, or nose.
2. Always dilute oils before applying them to an animal. (There are a few exceptions to this rule, but when in doubt, always dilute.)
3. Remember that an animal's sense of smell is far more sensitive than ours--be careful not to apply too much oil at once—especially around the animal's face.
4. I like to offer the animal a whiff of the oil from the bottle to see how it responds to it before I go rubbing it all over. I figure it's only fair—I know I would hate to be forced to wear a perfume that gave me a headache all day.

5. Essential oils are incredibly potent. A little bit goes a very long way. Usually, just a drop or two is enough—even on large animals like horses and cattle.
6. Some essential oils, (such as lemon, bergamot, and wild orange) are phototoxic--this means that they can cause an increased risk of sunburn if applied to bare skin. So, avoid mixtures made with those oils if your animal doesn't have much fur or hair.
7. Some oils can be "hot," especially for those with sensitive skin. If you or your animal ever experience a sensitivity to an oil, do not wash off the area with water as this will drive the oil (and the burn) deeper into the skin. Instead, rub a carrier oil into the irritated area to help dilute the offending essential oil, then wipe it away.

A Note about Cats

There are varying reports regarding the use of essential oils on felines. However, I've heard enough stories about the negative effects of essential oils on cats to make me steer clear. If you are a cat-owner, proceed at your own risk.

How to Use Essential Oils

There are three main ways to use essential oils for therapeutic or medicinal purposes:

1. Inhalation
2. Topical application
3. Ingestion

In using oils on your animals, you'll probably find that topical application is the most effective method. Because of the absorptive nature of skin, essential oils are quickly and efficiently absorbed into the body.

While it's definitely possible to open up a bottle and allow your animals to take a whiff, it's not really feasible to drag your diffuser down to the barn to disperse the oils in the air (although, if you had small enough quarters, it might work). While I do occasionally ingest essential oils in the event of an illness, I would personally avoid administering any oils internally to your animals, unless you've done a *lot* of research.

To use the oils topically on your critters, you can either apply them in the form of a cream or salve, or massage them onto the animal with a carrier oil.

A carrier oil is simply a liquid vegetable oil that aids in diluting the essential oil and allows for greater coverage. Ideal carrier oils include sweet almond, olive, apricot, avocado, or fractionated coconut oil.

Everyone seems to have their own opinions when it comes to the exact science of dilution rates. I generally just pour around one-quarter to one-half teaspoon of carrier oil into the palm of my hand, and then add several drops of the desired essential oil.

If you're looking for more essential oil info, be sure to visit the blog. It's loaded with tips and tricks, plus links for buying the brand of oils I use and love: <http://theprairiehomestead.com/essential-oils>



The Vaccine Question

To be perfectly honest, I'm cringing ever so slightly as I begin this chapter ... Merely whispering the word “vaccine” online brings such a barrage of heated opinions that I have chickened out from previously addressing this issue at all on The Prairie Homestead blog or Facebook page.

First off, let me explain my background. I was a veterinary technician for two years in a practice that cared for both large and small animals. I have personally administered *thousands* of vaccines to cattle, horses, dogs, and cats. Back in my day, I was pretty darn proficient at sticking needles of all sizes under the skin, in a muscle, or in a vein. When we initially started to increase the number of animals on our homestead, I didn't give a second thought to vaccinating everyone, just as I was “supposed to.”

But as my awakening progressed, I naturally started to question the concept more and more. To be honest, I have never personally witnessed any horrible reactions or issues related to vaccines in animals. That's not to say they don't exist, but the reason we no longer vaccinate our herd isn't tied to some grand story of vaccines gone wrong.

Rather, I simply began to wonder why I continued to stick vaccines in my animals, when I no longer was comfortable injecting them into myself or my children. So, for the most part, we have decided to cease vaccinations on our homestead.

As I learn more about natural animal husbandry and the holistic concept of farming, I become increasingly convinced that our priorities should lie in figuring out how to optimize nutrition, grazing, housing, and pasture systems, versus simply writing up schedules for administering vaccines, dewormers, and medications. I firmly believe the former has an absolutely vital role to play in the health and wellbeing of our herds.

But. That is simply my own story.

I have decided not offer any vaccination recommendations in this book because (a) I am not a veterinarian, holistic or otherwise and (b) Situations and locations greatly vary, and you need to do what you personally feel is best for your herds.

Therefore, I am leaving this decision completely and totally up to you.

Keep in mind that depending on your location, you may be *required* to vaccinate some of your livestock. This is the case for us here in Wyoming. We are required by state law to vaccinate all breeding-age heifers for brucellosis, a disease that causes abortions in cows and can be passed to humans in the form of undulant or Malta fever.

We comply with this law, but it is the only vaccine our cattle are receiving at this point in time.

Also, you may find it more difficult to sell unvaccinated animals, as this is often the first question folks ask me when they look to purchase one of our cows or goats. This doesn't mean you *must* vaccinate in order to successfully sell, but it might be a good idea to at least be armed with information about your choices before placing a listing on Craigslist.

You'll find numerous vaccination schedules available online if you decide to go this route, including this one for natural cattle producers: <http://www.thebeefsite.com/articles/884/raising-cattle-naturally->

And here is a sample vaccination schedule for goats: <http://goatlink.com/content/view/164/#.UifsGDasim4>

Regardless of which method we choose, our final goal should be raising healthy animals that are living as naturally as possible, and it's up to you to decide whether or not that includes vaccines.



Stocking Your Supply Cabinet

It is wise to have a well-stocked supply cabinet in your barn, especially if you live as far away from the store as I do. Keep the following items on hand to be prepared for a variety of situations, as well as most of the recipes in this book.

Check out the Resources page for help sourcing some of these ingredients:

<http://www.theprairiehomestead.com/natural-homestead-resources>

- White distilled vinegar (both 5% and 10%)
- Raw apple cider vinegar
- Witch hazel
- Diatomaceous earth
- Garlic
 - Raw
 - Granulated or powdered

- Kelp
- Hydrogen peroxide
- Epsom salts
- Basic essential oils
 - Lemon
 - Lavender
 - Melaleuca (Tea Tree)
 - Frankincense
 - Eucalyptus
 - Peppermint
- Liquid carrier oils (such as olive, sweet almond, apricot, or avocado)
- Coconut oil
- Basic herbs
 - Calendula
 - Comfrey
 - Lavender buds
 - Plantain
 - Chamomile
- Beeswax
- Liquid castile soap
- Biodegradable liquid dish soap

Other supplies that come in handy:

- Pump sprayer (the kind used to spray weeds)
- Old t-shirts and rags
- Lots of spray bottles- glass and/or plastic. (Clean, repurposed ones are just fine)
- Small amber glass bottles for mixing essential oil concoctions

- Buckets. One gallon, three gallon, five gallon, etc. I like to get food-grade buckets from my local bakery. Sometimes you have to wash out an inch of caked-on hydrogenated vegetable oil shortening, but otherwise, they work like a charm.
- Miscellaneous glass containers and jars. Anytime I purchase something that comes in a glass container, I try to save it. They always come in handy for mixing up various creations or storing your collection of natural goodies.
- A notebook to keep track of your concoctions, how they worked, and what tweaks you made.



Evaluating Natural Options

In my research for this book, I came across a LOT of different ideas, formulas, and recipes for home remedies, calling for every ingredient you can imagine.

At some point, you must decide which road you are going to travel, and that can be a downright daunting decision sometimes.

As I learn how to implement more natural management techniques on my homestead, I try to ask myself the following questions before I spend a lot of money or commit a lot of time to any one supplement or recipe:

- ✓ *Is it cost effective?* Sometimes choosing the more natural option will cost you slightly more, but that's not always a bad thing. However, if the supplement is going to cost you hundreds of dollars extra per month, you must decide if the benefit is worth the cost.

- ✓ *Is it truly beneficial, or more for my own enjoyment?* There are lots of recipes for elaborate chicken treats floating around the Internet, but you won't find those in this book. While there is nothing wrong with treating your flock once and a while, making a seven-layer cake probably won't impress them any more than a simple head of lettuce.
- ✓ *Is it time-consuming to prepare?* My time is very valuable and I have multiple things competing for every moment of my day. If I have to spend thirty minutes a day preparing just one animal's supplements, that probably isn't something I'm going to implement long term.
- ✓ *Are there any studies showing its effectiveness?* In my opinion, studies aren't everything, but I do appreciate being acquainted with any preliminary research on the topic—even if I disagree.
- ✓ *What are the risks?* You don't have to necessarily let the risks scare you, but be sure to do your research and be fully aware of any potential complications before diving into a new protocol.



Basic Herbal Owie Salve

Use this herbal salve for any member of your homestead who might be suffering from burns, scrapes, or wounds--including horses, cattle, goats, hogs, sheep, dogs, chickens, and even children.

I selected lavender, plantain, and calendula for this salve since they are renowned for their antibacterial, antiseptic, and soothing properties.

Other herbs that would make ideal additions to this salve would be chickweed, goldenseal, burdock, yarrow, or comfrey.

I haven't included exact measurements, so you can make as much or as little as you need.

- 1 part* lavender buds
- 1 part plantain leaf
- 1 part calendula flowers

- Myrrh essential oil
- Enough olive oil to cover the herbs completely
- Beeswax

*A part can be any measurement you like: a cup, a teaspoon, or even a handful.

Instructions

The Oil:

1. Place all herbs into a glass jar. Cover them completely with olive oil.
2. Allow them to steep in a sunny window for around two weeks.
3. Strain the herbs and discard them.

In a hurry? Place the herbs and oil in the top of a double boiler, and bring them to a gentle simmer for one hour. Though this method is faster, there is the danger of allowing the oil to become too hot and frying the herbs. So watch carefully!

The Salve:

1. Grate the beeswax, if you are using beeswax chunks or bars. I prefer to purchase the beeswax pellets whenever possible--it saves me the headache of grating, plus they melt more quickly.

Use approximately one ounce of grated beeswax per four ounces of infused oil.

2. In a double boiler, gently melt the beeswax. Once it is melted, add the herbal oil and stir until everything is mixed together thoroughly.
3. Remove mixture from heat and allow it to cool for five to ten minutes.

4. Add in any essential oils that you may be using. My favorite choice is for this recipe is myrrh. I use approximately fifteen drops per one-quarter cup of salve.

5. Pour into a glass container and store in a cool, dark place.

A Note about Comfrey:

Comfrey is an herb that has been revered for thousands of years as a powerful healer of bones and ligaments. It's also an excellent addition to skin salves. Unfortunately, there is also a lot of controversy surrounding this much-loved plant.

Initially, I was taken aback when I stumbled across a University of Maryland Medical Center study proclaiming that “comfrey has toxic substances that can cause severe liver damage and even death,” and that “the toxic substances in comfrey can be absorbed by the skin.”⁷

But upon further digging, I was relieved to discover that many herbalists firmly disagree with these frightening allegations, as long as comfrey is used with common sense.

I'll leave the final decision up to you. I will be mixing up a comfrey salve for my own homestead, but then again, I am quite the rebel ...

More perspectives on comfrey:

<http://www.rubysemporium.org/comfrey.html>

http://www.kerrysherbals.com/articles/comfrey_safety.shtml

<http://www.herbcraft.org/hoffmanncomfrey.html>

The Barnyard Apothecary

The following ingredients are staples of any holistically minded homestead--make sure you always have plenty on hand!



Garlic

Even before I became interested in natural medicine, I had an obsession with garlic. Imagine my sheer delight when I discovered the cloves were good for far more than making marinara sauce!

That's right—the same ingredient that makes your Italian food taste so good is also known as a vermifuge, natural antibiotic and powerful antiviral. Some people even claim that feeding garlic can help an animal repel flies. It can be used both topically and internally, and is an excellent addition to homemade deworming formulas.

Garlic is simple to grow and can be planted in either the fall or spring. I would recommend that no homestead, regardless of size, ever be without a well-stocked collection of both fresh and dried garlic.

If you have dairy animals, keep in mind that garlic can impart a strong flavor to the milk, so avoid feeding it if you are in the middle of a lactation cycle.



Salt

Salt is an absolutely essential nutrient in all diets, animal and human alike. The list of benefits of providing salt to your animals is huge, so I'll sum it up by saying this: salt is vital in maintaining the balance of every living cell in the body. A salt deficiency can affect every system of an animal--from growth and reproduction, to meat and milk. I don't know about you, but that is a good enough reason for me to make sure I keep it available to my animals at all times. When an animal is deprived of salt, it can also begin to exhibit peculiar behaviors such as chewing on fence posts or eating your outbuildings ...

Thankfully, animals generally do a great job self-dosing their salt intake, and you can usually just provide it to them free-choice with little hassle.

You can purchase salt from your local feed store, in either loose or block form. I've found the blocks are the easier option for my homestead, but there is nothing wrong with offering it loose in a feeder either, just make sure to keep it out of the weather.

I generally purchase the brown trace mineral blocks, which include minerals like zinc, copper, and iodine mixed in with the salt. Different parts of the country will have different blocks available, depending on the nutritional requirements of that particular area.

Chickens are the one exception to this rule. Commercially-prepared feeds generally contain the recommended amount of salt, so there is no need to offer an additional salt source. If you are mixing your own chicken feed, there are a variety of pre-mixes available which usually include a variety of minerals and other supplements, including salt.



Diatomaceous Earth

Diatomaceous earth (DE) is the fossilized remains of ancient algae (diatoms). It is a very fine, powdery substance that is a favorite remedy among many naturally-inclined farmers.

DE's effectiveness comes from more of a physical standpoint than a chemical one. Even though it feels like a fine powder to us, it's actually quite abrasive to insects, and is thought to function as a pesticide by absorbing the oils from the insect's exoskeleton, thereby drying them out.⁸ It is an appealing and affordable option for those of us determined to keep toxic pesticides off of our homesteads.

DE can be used around your homestead in a variety of different ways. Here are a few of its more common uses:

- It can be mixed into stored grain to keep insects at bay
- It is a useful addition to a chicken dust bath

- It can be spread on barn floors to cut down on flies
- It can be sprinkled on plants as a natural pesticide
- It is used by some folks as an internal dewormer (more on that in the parasite chapter)

Cautions:

- *Only* purchase food-grade DE. The kind sold for swimming pools is different and not suitable for use on your animals or plants. Sometimes you can find food-grade DE at your local grain mill or farm store.
- Wear a dust mask while applying handling DE. While it doesn't contain any toxic chemicals, it is a very fine particulate which can easily irritate your lungs.
- If you are applying it in your garden, remember it will kill beneficial insects as well as the troublesome ones, so proceed with caution.



Baking Soda

When it comes to the most versatile ingredients to have around your homestead, baking soda comes in second only to vinegar.

Like many others, I depend on baking soda to be my non-toxic scouring powder and home deodorizer. But did you know baking soda is useful in the barn as well?

Baking Soda for Goats and Cattle

The micro-organisms that live in the rumen (gut) of a goat or cow prefer a steady level of acidity. Levels that are too high or too low can result in various issues.

It is thought that stable intestinal pH encourages better digestion overall—and a decreased chance of bloat.

Many homesteaders offer baking soda to their herds to help the acid level in the rumen to be properly balanced. Think of it as a natural antacid--for your goat.

A Word of Caution: I have found a handful of people reporting issues with urinary calculi (bladder stones) after feeding baking soda to their male goats. However, there are many other producers who feed baking soda to both males and females, and report no problems. But it might be wise to proceed with caution if you have bucks or wethers.

If you plan on using baking soda around the barnyard, I would suggest buying it in bulk. Sometimes wholesale stores like Costco carry large bags for reasonable prices, or check your local feed store for fifty-pound bags.

To feed baking soda, simply offer it to your goats and cattle free-choice in a small container, as you would their salt and minerals. There is no need to mix it into their feed. Just allow them to self-dose when they feel the need.

Refresh and refill the container as the soda becomes old or dirty. From my observations, it appears that the animals prefer fresh baking soda and will stop eating it once it has sat around for a couple of days.

When I've offered it to my goats, they always seem to be very interested in it at first, and then become less interested as time progresses. My biggest problem with the baking soda has been keeping them from knocking the little feeder off of the fence, or pooping in it ... but that's a goat for ya.

For those of you who are research gurus--I haven't run across any hardcore clinical studies that have been performed on the efficacy of feeding baking soda to goats ... sorry.

However, I think this is something that falls into the “can’t hurt, might help” category. Therefore, it’s a preventative measure I feel is worthwhile for my homestead.

Baking Soda as a Barn & Coop Freshener

Baking soda is brilliant for absorbing odors, not only in your refrigerator, but also in your barn. If you are mucking out a particularly smelly stall, baking soda can be sprinkled on the floor before the fresh bedding is laid back down.

However, keep in mind that a properly managed coop or barn shouldn’t have an overly offensive smell, so if this is an issue you deal with regularly, I encourage to look in other methods of maintaining a barn—especially the deep litter method.



Apple Cider Vinegar

Apple cider vinegar (ACV) is one of those things that people claim can cure pretty much everything from cancer to a broken heart.

Its purported health claims are many, and of course, skeptics like to counter that they are all old wives' tales. But many farmers and homesteaders alike enjoy using apple cider vinegar to improve the health of their animals.

There are very few clinical studies investigating the claims regarding ACV, and the studies that *are* available are geared more toward human ailments anyway. If you are looking for cold, hard evidence that feeding ACV will absolutely improve the health and wellbeing of your animals, you'll probably be disappointed.

However, thousands of years of vinegar usage is enough to make me take notice of this natural remedy, and I figure that offering it in reasonable, common-sense doses (i.e. not pouring a five gallon bucket of ACV into a small watering tank) is worth the effort.

What is it?

Apple cider vinegar is a highly-acidic substance made from, well, apples. You can make vinegar from a host of other fruits, too, but apples are definitely the most common option.

Through the process of fermentation, bacteria and yeast transform the sugars from apple juice, peelings, or flesh into alcohol. Then in the second step, this alcohol is transformed into acetic acid.

Apple cider vinegar contains high levels of potassium and malic acid, and can help to balance the pH levels in the stomach.

Other reported benefits:

- It may aid in digestion
- It may aid in the respiratory health of poultry by clearing airways of phlegm
- Its acidic properties can help to inhibit the growth of bacteria in water tanks (no more slimy water troughs)
- It can help to repel flies and other insects when used topically
- Many folks claim that feeding vinegar to their livestock on a regular basis helps to control flies from the inside out
- It may help to strengthen egg shells in poultry.

How to use it:

When purchasing apple cider vinegar, I suggest sticking with the raw, unfiltered versions. These are different than the crystal-clear varieties that you'll find in most canning sections of the grocery store. The unfiltered

varieties will be cloudy and require a good shaking before you can use them. However, they contain more of the good stuff than their pasteurized, filtered counterparts.

Although dosage recommendations greatly vary, a good rule of thumb is to use one to two cups of ACV per twenty gallons of water.

It's possible to mix up a more potent solution (such as one part vinegar to one part water), but a strong solution like this one should not be the only source of water, as some animals might be less-than-impressed at first.

General tips:

- Important—never add vinegar to a metal or galvanized water tub. The acid can cause the metal to corrode and release toxins into the water. Stick with plastic to be safe.
- If you'd rather not add the vinegar to water buckets, you could also try sprinkling on top of a feed ration or spraying it on hay.
- Most folks report that their critters enjoy the taste of apple cider vinegar. So, if you are trying to encourage your animals to drink more water, then adding a bit of vinegar might be beneficial.

For poultry:

The most common way to offer ACV to your chickens is by putting it in their drinking water. Dosages vary, but one tablespoon of ACV per one gallon of water appears to be a common ratio.

I like to add ACV to my flock's water about once per week. Some folks prefer to add it daily, while others stick with a monthly schedule.

For horses:

A study conducted at the University of California-Davis found that one cup of vinegar added to a horse's daily diet can reduce intestinal pH.⁹ This in turn may discourage the formation of enteroliths, which are intestinal stones that can cause colic and death in horses.

I've never had to deal with enteroliths in my horses, but if I did, I would definitely consider mixing apple cider vinegar into my horses' ration or water bucket.

For goats:

Among many naturally-minded goat owners, vinegar is a favorite remedy for preventing urinary stones in male goats.

There is also a legend that says adding ACV to your goats' water will increase the number of females born that year. Now personally, I have a bit of trouble swallowing that one, but at the very least, vinegar in the water will keep down algae and mosquito larvae.

Usage amounts seem to vary quite a bit. Some goat-keepers say to add just a splash, while others like to measure out around a tablespoon of ACV per one gallon of water.

For cattle:

Some cattle producers swear up and down that apple cider vinegar will create better tasting, more tender meat. I have yet to verify that claim, but many cattle enjoy a splash of apple cider vinegar added to their drinking water or ration. If your cattle (or other animals for that matter ...) aren't used to ACV, start with small amounts, otherwise, they might not be impressed with their funny-smelling drinking water.



Kelp

With the dozens of different supplements, minerals, and vitamins available at the feed store today, it's comforting to know there is a natural alternative that will fit the needs of all the members of your homestead.

Kelp is seaweed, or algae. It can be purchased in dried, granular form and is a favorite supplement among natural livestock enthusiasts.

Joel Salatin feeds kelp as the sole mineral to his herd of grassfed beef cattle¹⁰ and a quick search online will result in dozens of websites singing the praises of seaweed.

Kelp contains over fifty different trace minerals, including iodine and selenium. It can be fed to cattle, horses, goats, pigs, chickens, dogs, cats, and even your vegetables.

When feeding kelp to your critters, I recommend offering it free-choice, alongside your other supplements or salt, versus mixing it into rations. As a general rule, animals know what they need, and they will often binge on it, and then ignore it for a while.

To avoid breaking the bank, purchase it in bulk. Azure Standard carries Thorvin ® Icelandic kelp, which is a reputable brand, and if your local feed store is more naturally-minded, they might stock it as well.

A Note about Goats

In order to maintain their health, goats *must have* the proper amounts of copper in their diet. They require considerably more than sheep, so oftentimes a combination goat/sheep mineral will not be sufficient.

A goat deficient in copper will be more susceptible to parasites, a weakened immune system, anemia, Johne's disease, and a host of other issues.

While kelp does contain some copper, I personally still offer a loose mineral designed specifically for goats alongside the free-choice kelp—just as an added precaution.



The Parasite Fight

For as long as I've had animals, deworming has been a normal part of my routine. Several times per year, I would religiously purchase tubes of cheap dewormer from the feed store, administer it to the critters, and then continue on my merry way.

As I transitioned over to a more holistic approach, I assumed it would be no problem to find some sort of natural alternative and plug it into my yearly worming schedule ...

Not so much.

The topic of natural dewormers is a tricky one. Resistance to conventional anthelmintics is on the rise, and folks everywhere are looking for alternative options out of sheer necessity.

Unfortunately, no one really seems to have a clear idea of what natural alternatives are best.

For as many people are there are out there claiming that diatomaceous earth or herbal formulas have worked for them, there are an equal number of folks claiming that they don't.

I've found several studies hinting that various natural treatments such as pumpkin seeds, papaya seed, or chicory may be effective in reducing the parasite load in ruminants; however, no one seems quite ready to proclaim one option as the clear winner.

Naturally, the amount of funding available to study something like pumpkin seeds is going to be a lot less than the funding available to study a drug company's latest concoction.

And then there is the issue of ingredients ... It's possible that one preparation of herbs might contain more of the plant constituent needed to eliminate the parasites, depending on where and how the plants were

grown. And an animal with a minor load of parasites is going to respond to treatment differently than an animal with a heavy load. And different types of parasites will respond differently to treatments. Kind of overwhelming, huh?

After my hours of research, I am wholeheartedly convinced of one thing:

There is much more to managing the parasite load in your homestead herd than just dosing them with a tube of dewormer every couple of months.

The topic of parasites and deworming should be looked at from a holistic angle—we must evaluate and manage the homestead as a whole, instead of simply depending on a patch (chemical dewormers) to take care of the problem for us.

I bet you came to this chapter looking for a cut and dried formula you could follow for your critters, huh? Well, that is what I originally set out to bring you, but instead, I'm going to give you a different sort of recipe.

Think of it as a deworming formula for your entire homestead.

Natural Deworming: A Different Sort of Recipe

There is one thing of which I am thoroughly convinced: your best bet in managing parasites in your grazing animals is through the introduction of proper grazing management principles. Well-managed pastures and fields are the foundation of a healthy herd.

Teach yourself how to become a steward of the pasture first, and then look to worming treatments as a secondary measure.

A Recipe for Reducing Parasite Loads

- Don't overstock your pastures or overgraze your land.
- Rotate, rotate, rotate! In the wild, animals cover a large area of ground. They don't stand in the same little square for weeks on end and graze it down to dirt. They take a bite and move on. Try to mimic this natural movement as much as possible on your property.
- Practice division- Even if you only have five acres of pasture, you can still divide it into smaller sections to enable you to move your animals frequently. Portable electric fence tape is an excellent option to consider. Or, you can build some sort of movable pen like a chicken tractor or goat-mobile.
- Avoid grazing down pasture grass to less than four inches tall. Parasites tend to live close to the ground, so the shorter the grass, the greater the risk.
- Diversify- allow multiple species to graze on the same piece of ground. Graze the cattle, and then allow the goats or chickens to come in right after them. This can help to break up the life cycle of many parasites.
- Keep your water tanks clean.
- Provide constant access to a quality source of minerals. Animals that are suffering from nutritional deficiencies are generally the ones who will have the most problem with parasites.
- Cull animals that are continually affected. It is said that 80% of the worms generally live in 20% of the animals.¹¹ Identify which animals are perpetually troubled, and remove them from your breeding program if possible. Select breeding animals that show a natural resistance to worms.¹²

Signs of a Wormy Animal

When evaluating your herd for parasites, watch for the following indicators. Keep in mind that if your animal is portraying one of these symptoms, it doesn't necessarily mean it is infested with worms. But these signs can go hand-in-hand with a parasite problem.

- Scours or diarrhea
- Slow growth and/or weight loss
- Decreased appetite
- Less milk production in dairy animals
- A rough hair coat
- Anemia (goats): To check for this, gently pull down the goat's lower eyelid. It should be bright red or pink. If it is pale pink or white, this could indicate a problem.
- A pot-bellied appearance
- A positive fecal test. The best way to determine whether or not you need to be concerned about parasites is to take a manure sample to the vet. They will perform a fecal float and examine the sample under a microscope. The benefit of doing this is that they will be able to tell you exactly what kind of parasite you are dealing with, which can help you to target your treatments more effectively. If you have a microscope, you can learn how to do your own fecal tests. Here's a tutorial: <http://fiascofarm.com/goats/fecals.htm>

Natural Anti-Parasitic Options

If you are following the homestead management techniques listed above, chances are, you won't have too much of a problem with parasites.

However, if you still find yourself dealing with worms, there are some natural remedies that are worth trying. The list of things that people use as DIY-dewormers is lengthy, and unfortunately there is much debate over the effectiveness of many of the options. I've decided to list out some of them out here, share the information I found on the topic, and then let you decide which options will best fit your herd.

If you are looking for a bunch of fancy clinical trials, you won't find much. There just hasn't been much official research (yet) on many of these ideas. However, there is nothing stopping you from conducting your own research. In fact, I encourage you to do so--you just might become a natural de-worming guru in the process.

The more I study plants and natural remedies, the more I am convinced that many of the following plants and substances do indeed have natural deworming properties, regardless of what any preliminary studies may show.

However, if we are looking to one particular item to fully replace our chemical dewormers, we will continue to be disappointed. In my opinion, it appears that God made many different plants with vermifuge properties that are *designed to work together* with animals that have the foundation of a healthy diet and lifestyle that mimics the order of nature.

Wormwood (*Artemisia absinthium*) Wormwood is a bitter perennial that has been used as a deworming agent for centuries. It's a very common ingredient in many herbal deworming formulations. However, it should only be used for short periods, as long-term usage may be hard on the liver and kidneys. Wormwood should also not be administered to pregnant or lactating animals.

A study done at Lincoln University showed promising results in the use of wormwood to combat parasites in sheep and goats.¹³

Black Walnut Hull (*Juglans nigra*) Black Walnut hulls are commonly crushed into a powder and added to anti-parasitic formulas for animals and humans alike. Avoid long-term use of black walnut, and omit it if you are preparing a mixture for horses or pregnant animals.

Other Herbs: There are many different herbs which are reported to have anti-parasitic properties: thyme, basil, sage, fennel, ginger, and clove are just a few. The dried versions of these plants are usually crushed and mixed into herbal formulas in various ratios. Before mixing up any herbal concoctions at home, be sure to do the research first, to make sure none of the ingredients are contraindicated for certain species or pregnant or lactating animals.

Garlic: As mentioned above, garlic is a must-have for many aspects of homestead life, but is especially useful when it comes to deworming.

Garlic is a favorite vermifuge among many natural farmers and can be used for chickens, goats, pigs, cattle. (There seems to be a possible issue in feeding large amounts of garlic to horses, so proceed with caution.¹⁴) Garlic appears to be effective by not necessarily killing worms, but rather by making the intestinal tract stronger.¹⁵ A study conducted on sheep showed a considerable drop in parasite loads in lambs given a garlic juice preparation.¹⁶

Dosage recommendations seem to vary greatly from farm to farm, and everyone has a favorite method of feeding garlic, whether it is fresh cloves from the palm of your hand, or powdered garlic sprinkled on top of a ration. I suggest playing around to see what your animals prefer. While most critters seem to love the spicy addition to their feed, some are less-than-impressed if you add too much, too soon.

Although some people like to give garlic on a daily basis, I prefer to offer it on an occasional basis instead, such offering it for a week or so,

and then taking a break for one to two months. While garlic is not something you should be overly worried about, it shouldn't be fed in great excess, as conditions such as Heinz-body anemia can result in rare cases.¹⁷

Feeding Garlic:

Sheep/Goats- Start with around one tablespoon per animal—slightly less if the animal is young. One producer treats her flock with a garlic/molasses mixture five times per year.¹⁸ Be advised that if you have dairy goats, feeding garlic has the potential to make their milk taste funky.

Pigs: One natural pig producer uses two tablespoons of minced garlic once daily each month to help supplement the natural worming protocol of his hogs.¹⁹

Chickens- I like to mix granulated garlic into my free-choice herbal mix, and it is the first ingredient they pick out. Other flock keepers offer fresh cloves that have been minced or crushed, or garlic powder sprinkled on top of feed.

Cattle- I nearly pulled my hair out trying to find a recommended dose of garlic for cattle. While many people report feeding garlic, I was unable to find any set-in-stone dosage recommendations. Therefore, I would suggest playing around with your herd to see what they prefer. Again--remember that feeding garlic to your milk cow might make her milk taste gross.

Diatomaceous Earth (DE)

As mentioned previously, DE is a common ingredient in homemade deworming concoctions, even though several recent studies have concluded that DE had no anti-parasitic effects when administered internally to sheep and goats.^{20, 21}

However, there are scores of farmers and homesteaders who happily report using DE as a dewormer with great success.

In my experience, it appears as though DE is most effective against pests when used in a topical manner. I have witnessed first-hand a decrease in flies in my chicken coop after sprinkling it on the floor. I personally think sprinkling it across the floor of the barn or coop might be a better use of this ingredient, versus giving it internally.

Remember to wear a dust mask when handling DE to avoid inhaling the fine powder, which can be irritating to your lungs.

Papaya Seeds (sheep/goats)

A recent study has shown promising results in using papaya seeds to manage parasites in goats.²²

Papayas aren't exactly native to where I live, but the possibility of using papaya to combat parasites has a lot of people talking online. The biggest issue I see with this would be how to source enough papaya to treat herds in regions where the fruits are not native.

If you have access to papayas, it might make for some interesting homestead experimentation.

High-Tannin Forages

Tannins are compounds found in a variety of plants. Studies have shown that forages containing high levels of tannins, such as sericea lespedeza, dock, sulla, big trefoil, and chicory, could have the potential to help control parasites in ruminants.²³

In particular, sericea lespedeza is a high-tannin legume that is considered a noxious weed in several states. It has been shown to help reduce the hatchability of parasites, and if you happen to be overrun with

it, a herd of goats or sheep can help to manage its spread, while potentially benefiting at the same time.²⁴

Cattle will consume it as well, but are slightly pickier than goats and seem to prefer the younger, more tender plants.

I don't have these forages on my homestead, but if they are native in your area, it would be wise to learn how to use them to your advantage.

Pumpkin Seeds

Pumpkin seeds are yet another natural option that receives rave reviews among homesteaders and hobby farmers alike, yet they have little scientific research to back their effectiveness.

I was able to find a study done by Delaware State University that explored the idea of using pumpkin seeds to deworm goats: "The seeds of pumpkins and many other vine crops are believed to contain a deworming compound called cucurbitacin, which has been used to expel tapeworms and roundworms in domestic livestock species for years."²⁵

However, the researchers admitted they experienced difficulty in getting the goats to consume the full amount of pumpkin seeds, and the resulting fecal samples did not show any promising results.

I don't go to any great lengths to seek out pumpkin seeds for my animals, but I do like to offer them the insides of my pumpkin and squash harvest during the fall. Some folks like to dry and then grind the seeds before offering them to their animals, but I have a hunch that raw is probably best.

While pumpkin seeds probably can't be depended on to be a miracle dewormer, I definitely think they have the potential to add nutrition, and possibly anti-parasitic benefits to the diets of goats, chickens, cattle, and pigs on the homestead.

Copper Oxide Wire Particles (for goats)

Copper is an absolutely vital component of a goat's diet. Goats that are deficient in copper are prone to a variety of health problems, including large parasite loads. It's important to make sure your goats have additional mineral options available to them, such as blocks or loose mineral, especially if you suspect your pasture or forage is lacking.

Some goat producers supplement their herds with copper sulfate to ensure they are receiving enough copper in their diet. The problem with copper sulfate is that it can be toxic in large amounts, so it is a delicate balancing act, especially if you are applying the process to sheep, which require less copper than goats.

There has been discussion in recent years over using copper oxide wire particles (COWP) in place of copper sulfate.²⁶ Basically, this is just as it sounds--tiny bits of copper wire are placed inside a gelatin capsule and fed to the goat. Kinda crazy, huh? The idea is that the copper will release slowly into the animal's system, therefore reducing the chance of an overdose.

To be perfectly honest, I have a hard time swallowing (pun intended) the thought of feeding my goats bits of wire. However, if copper deficiency was a struggle in my area and seriously jeopardizing the health of my herd, I would absolutely consider this possibility.

Pat Coleby, author of *Natural Goat Care*, suggests the following supplement for fiber and meat goats: ²⁷

- 25 pounds of dolomite
- 4 pounds of yellow dusting sulfur
- 4 pounds of copper sulfate
- 4 pounds of seaweed meal (kelp)

This mixture must be kept completely dry, or it will lose its efficacy.

Coleby also notes in an article written for [Acres USA](#):

“This lick can be used as a dairy supplement at the rate of two grams per head per day and it would also be a good idea to have seaweed on free access as well. For hand-fed goats I run the copper sulfate through the feed at a rate of a full teaspoon per head per week. Dark-colored goats may need more than this and the rate can be increased; those who run the all blacks should make a note.”²⁸

Is your head spinning from all the possibilities I just listed? I know the feeling! As I mentioned above, I firmly believe none of these options are designed to be used as a one-size-fits-all, fool-proof method for deworming your animals, but rather as supplements to a properly managed herd.

If homestead and pasture management is our number one priority, it is likely that our parasite issues will be few.



General Animal De-Worming Recipe

If you are still itching to get your hands on a recipe, you might enjoy experimenting with this one, reprinted with permission from the [Bulk Herb Store](#).

- 1 cup dry mustard seed - powder
- 2 cups thyme leaf - cut
- 2 cups wormwood herb - cut*
- 1 cup black walnut hull - powder* **
- 2 cups sage leaf - chopped
- 1 cup garlic - minced*
- 2 cups rosemary leaf - chopped
- 1/2 cup cloves - chopped
- 1 cup psyllium seed - powder
- 2 cups diatomaceous earth

* Do not use on pregnant or lactating animals

** Omit black walnut hull if you are using this formula for horses.

Instructions:

1. Mix all of the ingredients together. Store it in an airtight container.
2. Sprinkle the blend on top of the animal's feed twice daily for seven days. (I would suggest feeding it with a small amount of grain, as it will get lost if you dump it on top of a flake of hay.)

Dosage Suggestions:

Adult goats: 1 tablespoon both morning and evening.

Adult ponies: $\frac{1}{4}$ cup both morning and evening

Adult horses/cattle: $\frac{3}{4}$ cup both morning and evening

Other animals: Use your own judgment in adjusting the amounts of the dosage according to the animal's size.

Decrease the amount given if feeding to younger animals.

Notes

>> If your critters don't seem to care for the top-dressing method, use the recipe below to turn it into a cookie.

>> If you are missing one or two of these ingredients, it still may be worthwhile to mix up the recipe anyway.

Check out the Resources page for help sourcing some of these ingredients:

<http://www.theprairiehomestead.com/natural-homestead-resources>



Deworming Cookies

The easiest way to administer herbal dewormers to your animals is to sprinkle the mixture on a bit of grain. However, if some members of your homestead turn up their snouts at your offering, try these deworming cookies instead.

Makes 14 goat-sized cookies containing approximately one tablespoon of dried herbs each

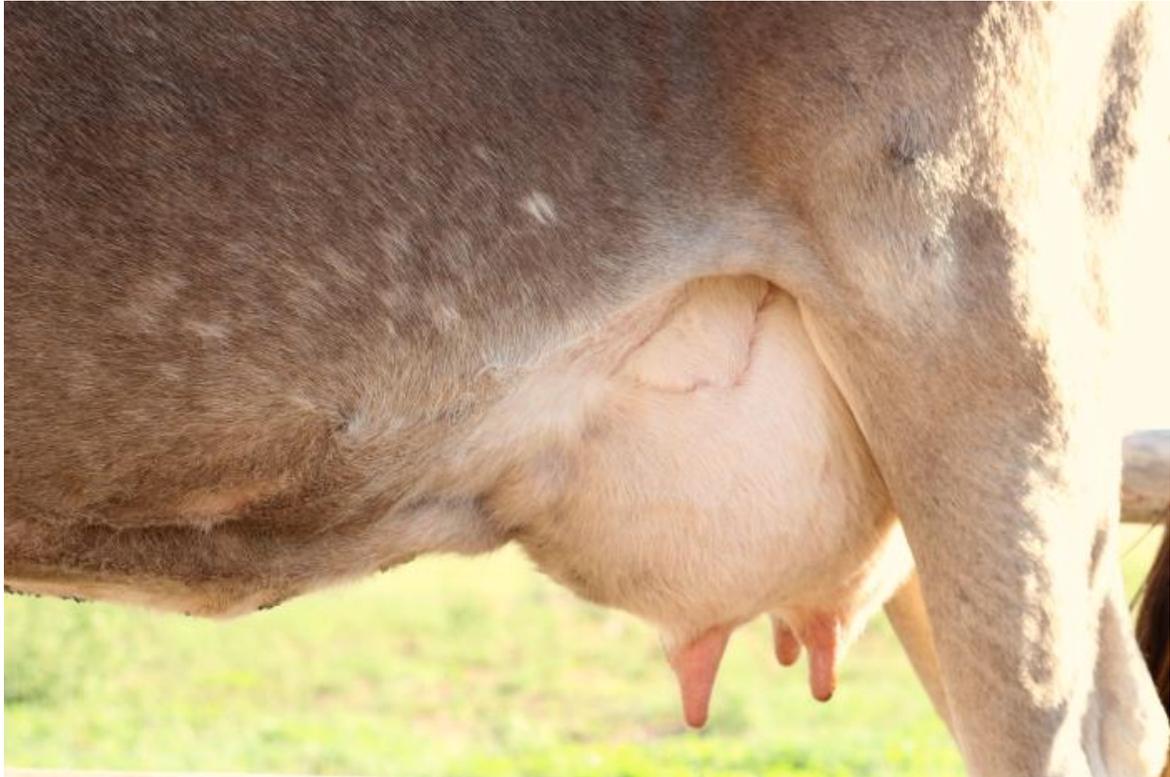
- 1 cup dried, crushed herbs
- ½ cup whole wheat flour
- 1/3 cup blackstrap molasses
- Water (optional)

Instructions:

1. Combine the dried herbs and flour in a mixing bowl and drizzle in the molasses. You may need more or less depending on what herbs are in your mixture. Use a fork to mash everything together, and once it starts to form a ball, switch to kneading it with your hands.
2. Keep working the mixture until it sticks together and isn't as crumbly. If it is still too dry, add in a bit more molasses or a teaspoon of water. There is really no wrong way to make these cookies, so adjust the ingredients as needed.
3. Divide the mixture into fourteen cookies. Store in an air-tight container, or you can put them in the freezer for long-term storage.

Notes

- As written, this recipe makes the perfect amount to dose one adult goat with the above deworming recipe.
- This method will work for any type of herbal medicine, not just deworming.
- I've tried making this without the flour, but it was far too crumbly. However, it might work depending on what type of herbs you are using.
- If you are making this for a larger animal, it will need to be doubled (or quadrupled!)
- If your animals aren't impressed with cookies, try mixing the dried herbs with a small amount of olive oil and grain instead.



The Milking Parlor

Home dairy animals are making a comeback and it makes me absolutely giddy. Who cares about buying a brand new car? Having a milk cow (or goat) is the new status symbol—at least in my humble opinion.

There is nothing more rewarding than returning to the house after morning chores carrying a heavy bucket filled to the brim with foamy, raw milk.

Factor in all of the beautiful things you can do with that milk, and you'll quickly understand why home dairying just might be my most favorite part of homesteading.

Most commercial dairies feed high levels of concentrates (grains) to push the animal's production to maximum capacity. But my home dairy routine is fairly basic, and I keep my milk cow and dairy goats on a simple grass-based diet.

Could I be getting more milk if I fed grain and pushed my cow to produce more? Probably. But I don't need five gallons a day right now, and I think keeping her production level at a more normal amount keeps her healthier in the end.



Soothing Udder Balm

Many commercially available udder salves are made from petroleum products. I don't know about you, but it seems a little silly to put a highly-processed, petroleum-based oil on my animals' udders when there are so many natural and nourishing food-grade oils available.

This simple salve can be used on your goats, cattle, and sheep. It's safe enough to eat (although it won't taste very good ...), and simple to mix up.

This recipe also makes a soothing treatment for your own hands, so don't be afraid to rub the leftovers into your fingers when you are done applying it to the udder.

- ½ ounce beeswax
- 1 ounce shea butter OR cocoa butter
- 1 ounce coconut oil

- 3 ounces calendula infused oil (directions below) OR plain olive oil
- 10 drops frankincense essential oil*
- 10 drops lavender essential oil*
- 5 drops roman chamomile essential oil*

*Other essential oil combinations can be found below

Instructions:

To make calendula infused oil:

1. Fill a very clean, glass pint jar three-quarters of the way full with calendula flowers.
2. Cover the buds completely with olive oil and cap tightly.
3. Place the jar in a warm, sunny window and allow the mixture to steep for two to four weeks. (The longer, the better.)
4. Strain out the leaves and discard them. Store the oil in a cool, dark place.

In a hurry? Place the herbs in the top of a double boiler, and cover with several inches of olive oil. Bring the oil to a very, very gentle simmer for about sixty minutes. (Be sure to keep it at a very low heat.) Strain the herbs, bottle the oil, and store in a cool, dark place.

To make the salve:

1. In a double boiler, melt the beeswax. (I don't have an official double-boiler. Instead, I place the beeswax in a Pyrex measuring cup (or some other stovetop-safe container), and then place the cup in a large saucepan filled half-way with boiling water.)
2. After the beeswax has melted, add in the shea butter and coconut oil. Once everything has liquefied, remove it from the heat.

3. Gently stir in the calendula oil and essential oils.
4. Pour the mixture into a small glass container (select a container with a wide mouth to allow for easy access) and store the salve at room temperature.
5. Massage the salve into the udder as often as needed. I like to apply it right after I finish milking.

Other Essential Oil Options

- Lavender (soothing & healing)
- Clove (numbing)
- Melaleuca (antibacterial)
- Peppermint (mastitis relief)
- Frankincense (soothing and healing)

Other Herbal Options

- Comfrey
- Plantain
- Lavender
- Chamomile

Notes

>> Once this salve becomes cold, it is nearly impossible to scoop it out of the jar. So I wouldn't recommend leaving it out in the barn during the winter months. I like to keep it in my mudroom and then slip it into my pocket as I head outside with my milk bucket.

>> This recipe lends itself well to tweaking. If you prefer it firmer, add more beeswax. If you prefer a softer salve, add more olive oil. And don't worry too much about precise measurements-- it's very forgiving.

>> This method will work for making other types of herbal-infused oils and salves as well.

>> Why calendula? Calendula is a valuable herb with antibacterial and anti-inflammatory properties. It is also a favorite herbal remedy for dealing with cuts, scrapes, and burns.



Reusable Lavender Barn Wipes

Sometimes it's just handy to have a wet wipe when you are down in the barn. These all-natural wipes are mild and reusable, so you won't have to keep buying paper towels or baby wipes at the store.

- 1 or 2 old t-shirts (or other rag of your choice)
- An old baby wipe box or other container with a lid.
- 1 ½ cups water
- 2 tablespoons sweet almond oil (or other liquid carrier oil)
- 1 tablespoon mild castile soap
- 20 drops lavender essential oils

Instructions:

1. Cut the t-shirts or rags into squares. You don't need to measure, just eyeball it. I try to cut them in a rectangular shape that will fit into a baby

wipe box. I can usually get approximately thirty wipes from one t-shirt. Stack them inside the box when you are finished.

2. Mix the water, oils, essential oil, and castile soap together and pour half of the mixture over the wipes in the box. Flip the stack upside down, and pour the rest of the solution over the top, making sure that the wipes are evenly moistened.

3. Use your reusable wipes whenever you have the urge to reach for a paper towel. They are handy for wiping off animal boogers, or grooming duty down in the barn.

Notes

>> Alternatively, you can cut up paper towels and use them instead for a more disposable option. However, I prefer to use materials that I don't have continually purchase, which is why I stick with rags.



Disinfecting Udder Wash

If you walk through the aisles of your local farm supply store, you'll probably find several commercial udder wash options. Many home dairy enthusiasts also use bleach or iodine to wash udders before milking, but I've never personally found a need to use any harsh cleansers on my animals.

For several years now, I've simply cleaned my goats and cows with a damp hand towel before I start milking, and I've never had a single issue.

However, if you would like to try something a little more potent than plain water, this recipe should do the trick.

Wipes are handy since they are always ready to go, and you don't have to go searching for extra towels. However, make sure that you **only use a**

wipe once. After it has touched the udder, either wash it or toss it. Don't stick it back into your container, as it will contaminate the clean wipes.

- 1 quart water
- ¼ cup apple cider vinegar
- 10 drops melaleuca (tea tree) essential oil
- 10 drops thyme essential oil

Instructions:

1. Mix all of the ingredients together and place the mixture into a spray bottle.
2. Spray down the udder, and then wipe it off with a towel. Or make homemade udder wipes using this udder wash solution and the instructions for the barn wipes above.



Lavender Teat Dip

After the milking process is complete, it is common practice among many dairy folk to dip their animal's teats in some sort of antibacterial solution to help seal the teat from any infection-causing bacteria that might be lurking.

According to Stephen Nickerson at the Louisiana State University Agricultural Center, teat dipping is “regarded as the single most effective practice for the prevention of mastitis.”²⁹

Personally, I've never really dipped my goats or cows, and I've never had a problem with omitting this step of the process. I suspect that the importance of teat dipping comes into play more in commercial dairy situations, where dozens of cows are being milked via machine. However, if you have struggled with mastitis or infection on your homestead, then this is something you definitely need to consider.

There are many different chemical teat dips on the market, as well as numerous recipes floating around the internet for do-it-yourself dips. Unfortunately, many of these recipes contain things like bleach or other harsh ingredients.

If you do decide to start dipping your dairy animals, you can avoid all of those problem ingredients by mixing up this recipe instead.

- 1 quart water
- 10 drops grapefruit seed extract
- 2 drops lavender essential oil
- 2 drops melaleuca essential oil

Instructions:

1. Combine all of the ingredients.
2. Either spray this solution on the teats after you are finished milking, or pour a small amount into a cup and dip each teat.

Notes

>> Why grapefruit seed extract? It is a fairly easy-to-find ingredient with proven antibacterial properties.³⁰

>> Remember to discard the solution after you are done dipping. Do not pour it back into the main jar.



Homemade Acid Wash for Dairy Equipment

Milk is full of calcium, and after a while, that calcium can cause a build-up on equipment that can be difficult to remove.

Commercial dairies use a variety of harsh chemical washes to clean their equipment, but I haven't found those to be necessary in my homestead-dairy experience.

After you finish straining your milk each day, it's important to wash your equipment (buckets, funnels, strainers, etc) with cool water to prevent build-up from forming.

Even though we have incredibly hard well-water, I have little trouble with milkstone, since I make sure to always rinse my equipment immediately with cool water after milking—even if I don't put it through a cycle in my dishwasher until later.

You shouldn't need to use an acid wash every day, but it's not a bad idea to use it on your equipment on a weekly or monthly basis, just to keep everything nice and sparkly.

- 1 gallon cool water
- 2 cups white distilled vinegar

Instructions:

1. Mix the vinegar and water and soak your equipment in the solution for several hours to remove scale or hard water deposits.
2. Complete the process by washing everything with hot, soapy water, or running it through your dishwasher. (I personally prefer to use my dishwasher, as it gets hot enough to sterilize everything.)

Notes

>> The length of soaking time depends on the degree of buildup

>> Make sure to completely rinse the vinegar from the equipment, otherwise, it will cause your milk to curdle, and that would be sad ...



THE FLY SPRAY MIXOLOGIST

Bugs are a big part of homesteading. And it's important to keep in mind that our goal is not to eliminate every creepy crawly that makes its way onto your homestead. There are numerous beneficial insects that we should encourage to stick around.

However, in the thick of summer, there is nothing worse than being pestered by those annoying little biting flies or mosquitos, and I can promise you your animals feel the same way.

So why not just grab a bottle of insecticide?

Good question. Back in the days before I became a crazy, crunchy, homesteader-person, I used loads of chemical fly sprays on my horses. But even back then, I still had an unsettled feeling about coating them with pesticides, especially when a good portion of it would always end up in my mouth. (It just happens, whether you like it or not ...)

The final straw came when I started to milk my cow. I knew there was NO way I was going to douse her in pesticides and then pour my child a tall glass of raw milk that had been sitting in a cloud of permethrin ... Not gonna happen.

Furthermore, there are studies linking chemicals like DEET, malathion, and permethrin to neurological impairment in lab rats.³¹ That's enough evidence to make me say, "No thanks."

But c'mon... Do these homemade sprays really work?

I had a reader call me out on the blog the other day and ask for studies proving that homemade insect sprays work.

I'll be upfront: no, I have not submitted my homemade bug sprays to be tested in any double-blind clinical trials. However, when I spray them

on my cows and horses, the flies leave. That's proof enough for me, and I'm going to say that they work--for the most part.

Depending on your climate, location, and species of bugs, different concoctions will work better for some than for others. This doesn't mean if you don't have success with one spray you should throw up your hands and declare all DIY bug sprays are a waste of time. Rather, you will need to play around with different mixtures to find out what works best in your unique situation.

Remember, these sprays are repellents--they won't kill the insects. So the flies won't drop dead after you spray them. (Sorry.)

You will need to reapply these sprays often--especially in areas of high humidity, or after it rains. As much as I wish that I could spray my cow on Monday and have the repellent last all week, it doesn't quite work that way ...

These sprays should work well for any of your homestead critters—horses, pigs, goats, dogs, and cattle.

Cautions

- ✓ Please be extremely cautious if using any of the essential oil mixtures around your felines. Kitties and essential oils generally don't mix, so it's best to use a plain herbal spray on them, or just skip the repellents altogether.
- ✓ Animals often have preferences or dislikes for certain smells, just as we do. Before dousing an animal with any sort of strong-smelling concoction, I like to allow it to give me thumbs-up (hoof up?) first. If I allow it to smell the nozzle and it displays a very negative reaction, I will probably avoid using that spray altogether.

- ✓ A handful of essential oils are phototoxic--particularly many of the citrus varieties. This means if you apply them to bare skin and spend time in the sun, they will heighten your risk of sunburn. If you plan to mix up a spray for an animal with a thin hair coat or bare skin, I'd avoid adding any of these into your mixture.
- ✓ Be cautious spraying these around an animal's face--especially the eyes. If you make their eyes burn, it's likely you'll have a difficult time applying the spray next time around.

There are a million-and-one ways to mix up your own DIY fly sprays, and as I mentioned above, their efficacy will depend on your location and what type of bug you are battling. Don't be afraid to turn your kitchen into a temporary laboratory and do some mixing and experimenting.



Basic Formula

- ✓ 50-80 drops of essential oil (either a single oil or a combination)
- ✓ 1 quart of water
- ✓ A booster (options below)
- ✓ A binder (options below)

Instructions:

1. Select your essential oils. I usually choose between two and five different kinds.
2. If you plan to add a booster to your mixture, substitute it for half of the water (two cups).
3. If using Epsom salts as a binder, mix one teaspoon of salts with the essential oils, and then mix into the water. If you are using any of the other binders, you may add them right now.

4. Combine all of the ingredients in a spray bottle (a clean, repurposed one is fine). Give it a brisk shake, and spray generously on the animal, avoiding the eyes and nose.

Having a hard time finding glass spray bottles?

Save your one liter glass vinegar bottles-- most spray tops will screw right on, and they are the perfect size for barnyard fly concoctions.

Essential Oil Options

- Citronella
- Clary sage
- Patchouli
- Frankincense
- White Fir
- Cedarwood
- Juniper
- Pine
- Juniper
- Catnip
- Lemongrass
- Geranium
- Patchouli
- Peppermint
- Lavender
- Lemon*
- Bergamot*
- Sandalwood
- Melaleuca (aka Tea Tree Oil)
- Basil
- Rosemary

- Marjoram
- Ylang ylang
- Clove
- Cilantro
- Thyme
- Eucalyptus

*phototoxic

Boosters

These boosters will add an extra punch to your fly spray concoctions. Use a booster to replace half of the water in a recipe, if desired

- Apple cider vinegar (especially raw)
- White distilled vinegar
- Witch hazel

Binders

These help to incorporate all of the ingredients. If you choose not to use a binder, just remember to thoroughly shake the mixture before applying.

- Natural, biodegradable liquid dish soap
- Castile soap (do NOT combine castile soap with vinegar, as it will create slimy mess)
- Aloe vera gel
- Epsom salts
- Vodka or other alcohol

Check out the Resources page for help sourcing some of these ingredients:

<http://www.theprairiehomestead.com/natural-homestead-resources>



Rosemary Vinegar Fly Spray

I've experimented with a lot of different blends, but this one has been my favorite so far.

- 2 cups raw apple cider vinegar
- 2 cups water
- 20 drops rosemary essential oil
- 10 drops lemongrass essential oil
- 10 drops cilantro essential oil
- 10 drops melaleuca essential oil
- 3 drops natural liquid dish soap (not castile soap)

Instructions:

1. Combine all ingredients in a spray bottle. Apply generously and frequently.

Notes

>> For extra rosemary power, soak several sprigs of fresh rosemary in the two cups of vinegar for twenty four hours. Strain out the rosemary, and then add in the rest of the ingredients.



Fly Oil Formula

If a typical water-based spray just isn't cutting it, try mixing up fly oil instead. It's much stronger, and I've found it to be longer-lasting and more effective in fighting off swarms of biting flies.

- ½ cup carrier oil
- 90 drops essential oil

Instructions

1. Mix the carrier oil (see options below) and essential oils.
2. Store the oil in a small glass container out of direct sunlight.

To apply:

Rub the oil on the trouble areas of the animal--this might be around the ears, along the spine, under the belly, or any other area that you see flies congregating. You can use a small rag to apply the oil, but I generally just use my fingers. It's messier, but it prevents precious oil from being soaked up into a towel.

Notes

>> So far, my favorite fly oil blend has been thirty drops of melaleuca, thirty drops of eucalyptus, and thirty drops of lemongrass in an almond oil base.

>> *Carrier oil options:* Olive oil, sweet almond oil, castor oil, avocado oil, apricot oil, sesame oil, or fractionated coconut oil.

>> Fractionated coconut oil is coconut oil that remains liquid, no matter what the temperature. Regular coconut oil is great stuff, but it turns solid at temperatures below seventy-six degrees Fahrenheit--which would turn your concoction into a solid chunk.

>> A swarm of biting flies was attacking my milk cow one day, and my sprays were not cutting it. I mixed up this oil and stood down in the corrals to watch the results after I applied the oil to her coat. Sure enough, the flies steered clear of any area I had rubbed with the oil. She definitely appreciated it.



Basil Mosquito Spray

Tormented by mosquitos? Try this simple, herbal spray. Any of the above combinations can be helpful in battling mosquitoes as well, but this is an ideal option if your essential oil supply is limited.

Recipe used courtesy of [Accidentally Green](#)

- 1 heaping cup fresh basil leaves
- 10 drops basil essential oil (*optional*)
- ½ cup boiling water
- ½ cup vodka

Instructions:

1. Place the basil leaves in a glass container and pour the boiling water over the top.

2. Allow the leaves to steep for around three hours.
3. Squeeze as much of the liquid as you can from the leaves. Pour this liquid into a spray bottle, and add in the vodka. Shake and apply anywhere the skeeters are biting.

Notes

- >> This recipe can be used for both humans and critters.
- >> For an added punch, mix some other essential oils into this recipe. My suggestions would be rosemary, melaleuca, or thyme.



Feeding Yard Birds

When I first set off on a mission to come up with a homemade chicken feed recipe, I assumed it would be as simple as grabbing a couple different types of grains, mixing them together, and then feeding them to my happy little flock.

Boy, was I wrong! I quickly discovered the topic of homemade chicken feed is almost as controversial as religion and politics. EVERYONE seems to have very strong opinions on the subject, and there is loads of conflicting information floating around the Internet.

Initially, I found a lot of folks saying it's dangerous and irresponsible to mix your own chicken feed. Their argument is that there is no way a backyard flock-keeper could ever compete with the complexities found in commercially-prepared feed. Furthermore, they stated that homemade chicken feed could potentially be harmful to home flocks.

I have to admit that this scared me a bit when I first heard it. I most definitely didn't want to do anything that would bring harm to my hens, so I avoided the subject entirely for quite some time.

But as I pondered my predicament, I couldn't help but wonder how my great-grandmother would have fed her flock, back before commercially-bagged feed became the norm. Obviously, somehow the chicken species has survived throughout the centuries without the use of feeds formulated in factories.

I like what Carla Emery, the matriarch of modern-day homesteading, says in her must-have manual, *The Encyclopedia of Country Living*:

“The notion that you must have modern, commercially prepared, or mixed-by-formula chicken feed to own chickens in an insult to the intelligence and honor of thousands of years of chicken farmers who domesticated the animals and kept the genetic lines going right up to the

time-line doorstep of our present era.”³²

Well-put Mrs. Emery. I couldn't have said it better myself.

My defiant nature eventually won out against the naysayers, and I became bound and determined to learn as much as I possibly could about the topic of homemade chicken rations.

When did commercial feeds start?

Commercially prepared animal feeds initially made their debut in the early 19th century. William H. Danforth founded the Robinson-Danforth Commission Company in 1894. The company's name was later changed to Ralston Purina, and the methods of feeding farm animals were changed forever.³³

I was excited to find a reprinted article on the website of the Manitoba Department of Agriculture and Immigration that highlighted common commercial chicken-feeding practices of the 1940s.

In the vintage article, producers were encouraged to feed their flocks a diet of basic grains (wheat, barley, oats), meat and fish meal, alfalfa, fish oil, and plenty of milk to drink. Allowing the flock to graze on pasture was also highly recommended.³⁴

The article goes on to state that, “A farm supplied with wheat and coarse grains, well-cured alfalfa or clover hay, and plenty of skim milk, provides practically everything required in the laying diet.”

After reading that, I started to feel pretty optimistic about mixing my own feed, as it appeared to be far less complicated than I had originally thought.

But as I continued to dig, I came across yet *another* article on the Manitoba Department of Agriculture and Immigration website that pointed out all the *problems* of the 1945 diet, and explained how our “modern” feeds are far superior.³⁵ *sigh* Back to square one ...

So, what would great-grandmother have used?

In a smaller family farm or homestead-type setting, the chickens would have been fed kitchen scraps, leftover grain from animals, and whatever greens and bugs they could forage from around the yard.

Keep in mind the birds that loitered around great-grandma’s yard were different than the breeds we have today. Our modern-day strains of layers and meat-birds are bred for maximum production and fast growth. Grandma’s chooks were slower growing, and probably a better fit for a mix-and-match diet.

Promoters of commercially-prepared feed are quick to say great-grandmother’s chickens were not producing as many eggs as they should have. But I can’t help but think that chickens must have still been a somewhat profitable venture, otherwise they would have never been such a mainstay of farms, homesteads, and ranches all over the world.

If you are interested in raising old-fashioned breeds, [The American Livestock Board Conservancy](#) is a wonderful place to start. Choosing to raise heritage varieties is not only a wonderful way to help preserve breeds that are teetering on the edge of extinction, but many of them are better suited to a homestead-style diet anyway.

What's the Problem with Commercial Chicken Feed?

It depends.

I'll be the first to say that not all commercial chicken feed is evil. There are several companies out there producing very high-quality, organic feeds.

But as we begin to become more aware of our own diets, the logical next step is to look at what our animals are eating.

I have to admit; I felt slightly hypocritical going to so much effort to source local, natural food for myself, and then turning around and buying the cheapest, most processed feed available for my flock.

Many commercial feeds are highly processed and contain unnatural additives and ingredients, as well as various animal by-products. Now, chickens are not vegetarian by nature, so it doesn't bother me a bit if they eat meat scraps or bugs. Left to their own devices, they will hungrily devour insects of all kinds, as well as the occasional unlucky mouse.

However, the problem with the blood meal, bone meal, or meat meal that often makes up the protein component of commercial feeds is that it is generally a by-product of the slaughterhouse industry. I personally avoid eating commercially-processed meat because of the pharmaceutical use and health risks associated with the meat. Therefore, you can just imagine what you'll get if you include waste-products of that industry in your chicken feed. No thanks.

Also keep in mind that sometimes it's hard to tell how long that bag has been sitting on the feed store shelf before you take it home with you. Any longer than forty-five days, and the feed will be lacking some serious nutrients.³⁶

Pros + Cons of Mixing Your Own Feed

Pros:

- You have complete control of what goes into your mix.
- You can mix small quantities to ensure that your flock is consuming the freshest feed possible.
- You can often purchase the components of the recipe in bulk, thereby saving money on the feed.
- Oftentimes you can source a majority of your ingredients locally, which supports your local farmers.
- The chickens will be eating a more natural diet without added antibiotics and junk.
- It may be slightly less expensive.

Cons:

- There is the potential to create an incorrect ration that could possibly withhold important nutrients from your flock.
- You will need to track down each ingredient, which can be very tricky in some areas.
- You must mix feed in small batches to prevent spoilage. This will create another reoccurring homestead chore to add to your list.
- It may be more expensive.

So what's a homesteader to do?

I really struggled with deciding what to recommend in this section of the book. I definitely do not want to lead anyone astray and cause a wave of nutritionally-deficient flocks, but my common sense tells me that the idea of commercially-bagged feeds being the **ONLY** viable option is a bit silly.

So, I'm going to give you some basic info, along with several different recipes, and allow you to make the choice for yourself.

If you find that sourcing ingredients in your area is time consuming and difficult, then you may want to stick with commercially prepared options. However, if you are up for an adventure, I encourage you to do some research of your own and hunt around to see what grains and supplements are available to you in your local community.

It took some heavy research and lots of phone calls, but I was finally able to find several sources of organic, locally-grown grains in my area. I encourage you to hunt around and find as many of the ingredients locally as possible. Look for small farms or grain elevators. Generally the "name-brand" feed stores will be the most expensive and carry the least amount of variety.

Honestly, I feel more comfortable playing around with the mixing of my own feed during the summer months when my flock is already out free ranging and has a wide range of bugs, grass, and greens available to them. This tends to cut their feed consumption down anyway, and it provides extra protein and other nutrients.

I have chosen not to include any recipes or instructions for chick starter or grower rations. Because of the unique nutritional requirements required by growing chicks, I personally prefer to just purchase commercially-prepared feed for this short period of a bird's life. However, if you are interested in mixing your own, further information can be found on these webpages:

1. <http://naturalchickenkeeping.blogspot.com/2013/03/organic-chick-starter-feed-recipe.html>

2. <http://purpledancingdahlias.blogspot.com/2011/03/how-to-make-your-own-chicken-starter.html>

The Three Pillars of Chicken Food

A good chicken feed should contain three main categories of ingredients:

1. Energy (carbohydrates & fats)
2. Protein
3. Supplements

Now, the actual feedstuff you choose to create a complete feed is up to you, and what you choose will greatly depend on your location and availability of ingredients.

Possible Energy Options:

The most common way to add carbohydrates into your flock's ration is through the addition of grains. It's a good idea to include a variety of grains in your mix to maximize the amount of nutrients, and minimize any issues that may be connected to feeding too much of one variety.

Grain Options: Wheat, corn, oats, barley, rice, milo, millet, rye, kamut, and triticale (Just to name a few)

You may offer the grains whole, cracked, or ground. Keep in mind that cracked/ground grains will need to be used as soon as possible (usually before thirty to forty-five days), as their nutrient content decreases rapidly once they are processed.

Fat/Oil Options: Flaxseed oil, olive oil, almond oil, apricot oil, cod liver oil, tallow, sunflower seeds

Possible Protein Options:

Protein is an absolutely crucial component of your chicken's feed. Laying hens and growing birds must have some sort of protein supplement besides just grain.

A laying hen (18+ weeks of age) needs her diet to be approximately 15%-18% protein. (Some flock owners provide a feed higher in protein during the summer when the birds tend to eat less.)

A meat bird (6+ weeks of age) needs its diet to be approximately 16%-20% protein.

Animal/dairy options: Fish meal, insects (worms, grasshoppers, mealworms, maggots, soldier grubs, etc), whey, skim or whole milk, and clabbered milk.

Vegetable options: Whole roasted soybeans, soybean meal, field peas, comfrey, flaxseed meal, linseed meal, cottonseed meal, peanut meal, corn gluten meal, brewer's yeast, and alfalfa.

Protein Composition of Common Poultry Feed Ingredients

Keep in mind that *these numbers are averages*. The actual protein content of each feed will depend on that particular feed, what variety it is, and the method in which it was grown. If you can, try and find the exact protein content from the grower or producer. Some of these components (like fish meal), might have the percentage listed right on the bag.

It is possible to have feed samples analyzed for nutritional content. But this can be time consuming and cost-prohibitive, especially for homesteaders and small farmers. I've included the websites for several feed testing labs on the resources page:

<http://www.theprairiehomestead.com/natural-homestead-resources>

Feed	Average Protein Percentage
Alfalfa, dry/processed	17-20%
Barley	11-12%
Brewer's Grains (dried)	25-28%
Buckwheat	21%
Corn	8-9%
Corn Gluten Meal	45-60%
Field Peas	24%
Fish Meal	35-70%, depending on the product
Oats	12-13%
Peanut meal	51%
Rice Bran	13-15%
Sorghum/Milo	9-11%
Soybeans, Meal	45-48%
Soybeans, Whole roasted	36-58%, with 48% being average
Sunflower meal	28-46%
Triticale	12-15%
Wheat, bran	12-14%
Wheat, middlings	16-18%
Wheat, whole	11-14%
Millet	13%

Remember, not all protein is created equal. Sure, feather meal might satisfy the technical requirement of protein for a ration, but I hold to the opinion that it just isn't as nutritious as a ration with the same protein percentage made up of a more wholesome ingredient. Have you ever seen your flock gorging themselves on feathers? I sure haven't, and for good reason.

Possible Supplement Options:

Depending on your flock's main ration, there are many different ingredients you can offer them to boost their nutrition. Every flock keeper seems to have a favorite supplement, and here are a few of the most common ones:

Pre-Mix- A pre-mix is simply a feed supplement that has already been formulated to contain the vitamins, minerals, and (sometimes) probiotics your flock requires. One popular option is Fertrell's Nutri-Balancer.³⁷

Salt- Most commercially-prepared feeds contain the salt that a flock needs in their diet, as do the majority of premixes. Otherwise, you may want to offer a small feeder of free-choice salt to your flock.

Kelp- As mentioned previously, kelp is a valuable source of vitamins and minerals for all the critters on your homestead, and your chickens are no exception. If the pre-mix you are using doesn't already contain kelp, offer it free-choice in a small feeder.

Charcoal- I like to leave a chunk of charcoal in my chicken coop and allow my birds to peck at it as they desire. Charcoal doesn't possess any nutritional value, but studies have shown it can actually reduce the amount of ammonia in their manure³⁸ as well as binding toxins in their gut. If you have a wood burning stove in your home, or a fire pit outside, it is simple to harvest pieces of charcoal for your birds. Just make sure that the charcoal you are using comes from untreated wood.

Grit- Grit is basically sand or small pebbles that aid in the grinding up of seeds or whole grains in the bird's gizzard. Chickens don't have teeth, so they need a bit of help grinding up the feed in their digestive tract, especially if their diet includes whole grains.

There are two types of grit: soluble and insoluble.

Soluble grit is a form of calcium that dissolves in the bird's digestive tract and helps make strong bones and egg shells. The primary component of an eggshell is calcium, so it is vitally important that your laying hens receive all the calcium they need. Even though my pre-mix contains calcium, I always offer some form of soluble grit to my hens in a separate feeder. There are several different options available:

- *Limestone* is a sedimentary rock composed primarily of calcium carbonate. It is very important to only purchase agricultural limestone for your chickens. Avoid the dolomite limestone, which is what is used in construction-type applications. There is a big difference.
- *Oyster shell* can usually be found at your local feed store. It is an excellent source of soluble grit for your flock.
- *Aragonite* is a mineral that consists of calcium carbonate. It can be formed by precipitation in either salt-water or fresh-water environments. It is thought to be more easily absorbed than oyster shell.
- *Egg shells* can be collected from your flock and crushed and fed back to them to provide a source of supplemental calcium. More on that on below.

Insoluble grit does not dissolve in the chicken's digestive system--it is used by the gizzard to grind up feedstuffs. If you free-range your flock, it's likely they'll get enough insoluble grit from their foraging activities, especially if you have a driveway close by. If your flock is not able to free-range, then offer an insoluble grit source, such as granite grit.

Some Problem Ingredients

Flax seeds- Flax contains high levels of omega-3s, which is wonderful for you to consume through eggs. However, flaxseed meal is notoriously unstable and goes rancid easily. If you do decide to include flax in your ration, consider these tips:

- Store whole flax seeds in the refrigerator.
- Only grind small amounts of flax at a time.
- Just skip the grinding altogether and use whole seeds in your feed mix. (If you *are* including whole seeds, make sure your flock has plenty of available grit to help them grind up these hard seeds in their gizzards.)

Flax should not compost more than 10% of a ration, as large amounts can cause the eggs to taste funny.

Corn- A popular addition to most bagged animal feeds, corn is high in energy and generally easy to obtain. However, more and more people are trying to move away from corn--not only in their own food, but in their animal feed as well. My biggest concern with corn is the fact that much of it is genetically modified. If you are able to find organic corn, it may be a cost-effective addition to homemade feeds.

As long as I am able to purchase organic corn, I personally feel comfortable including it in my feed as an energy component.

Soy- Soy is a common addition to many commercial chicken feeds and homemade blends.

However, there is growing concern among several groups as to whether soy is a safe addition to either human or animal diets.

This article from the Weston A. Price Foundation website summarizes many of the concerns related to soy consumption:
<http://www.westonaprice.org/soy-alert>

Potential Issues with Soy

- Soy has been known to cause infertility in animals
- A lot of soy is genetically modified
- It can cause an increase in estrogen
- It can hamper the absorption of calcium and other nutrients
- Many people are allergic to soy, and if chickens are fed a soy-based diet, the eggs can cause an allergic reaction³⁹

That being said, soy is a popular chicken feed for a reason. Commercial flocks appear to perform well when they are fed rations containing soy, and it is usually easy to obtain.

Soy must be heat-treated in some way. Because of the anti-nutrients they contain, raw soybeans are harmful to your flock and should always be avoided.

If I had access to organic whole, roasted soybeans, I most likely wouldn't have a problem feeding them to my flock. I appreciate what Joel Salatin has to say about this topic in the addendum of his book, *Pastured Poultry Profit\$*:

“The research impugning soybeans, to my knowledge, has not been done on the whole bean, but only on derivatives, like soybean oil or soybean meal (the oil is pressed out) or some other portion of the soybean. To demonize the soybean for bad effects of its parts and pieces is like demonizing corn on the cob because high fructose corn syrup causes diabetes. We all know that whole foods have natural checks and balances that do not exist in processed food. I'm not ready to throw out a whole food as being inherently evil.”⁴⁰

So, I'm going to leave the final soy decision up to you. If you or someone in your family has an allergy to soy, then you'll definitely want to avoid it. Otherwise, it might depend on the options you have available in your area.

Some folks are starting to use field peas in their feed mixes in place of soybeans. This is definitely a viable option, but it might take some work to source these peas.

This article contains some basic soy-free rations using winter peas:
<http://www.themodernhomestead.us/article/Soy-Alternatives.html>

Fish meal- Fish meal is considered to be a high quality protein source with a superior amino acid profile. It works well with other proteins to create a more complete protein in the finished feed.

However, certain fish products may contain traces of heavy metals (such as mercury) which can be unhealthy for both you and your chickens.

Other considerations:

- Fish meal can be expensive.
- It can be hard to source. (I had a difficult time finding anywhere to purchase it in my area, outside of one feed mill that is approximately two hours away from where I live.)
- It is not recommend that fishmeal compose any more than five percent of a ration, as the fishy taste and smell can cause some chickens to reject the feed. So, it generally must be combined with some other form of protein.
- Fishmeal is definitely not a local ingredient for me. I have some heartburn over depending on a protein source that has to be shipped thousands of miles to get to my homestead.

That being said, I am not saying you shouldn't use fish meal in your ration, just be aware of the issues connected to it. If soy is something you most definitely want to avoid, then a ration containing fish meal just might be your best bet.

Can Chickens be Grain-Free?

There is much debate over the topic of grain consumption, whether it is by humans, cattle, hogs, or chickens.

As I stated earlier, I'm a firm believer in the benefits of grass-fed ruminants. And I stand behind the belief that a grass-fed beef steak is nutritionally superior to a corn-fed steak from a feedlot steer.

However, chickens aren't ruminants, and their digestive system is quite different from a cow or goat.

Most chicken enthusiasts will answer the question of chickens needing grain with a resounding "yes!"

However, many grain-free proponents argue that grains aren't natural to a chicken's diet, since you will never see a chicken roasting a soybean, or jumping up to pluck a kernel of corn off of a cornstalk.

But then, I would have to argue that having chickens (originally a tropical bird) living in Wyoming isn't exactly natural either. There is no way my flock would survive out here on the high plains without aid from humans.

As I hunted for any information I could find on grain-free chickens, I was thrilled to stumble across Nichole Sawatzky who blogs at www.hopecentric.com. Nichole has had impressive results feeding her chickens a completely grain-free diet, and she generously allowed me to interview her for this book.

Jill: Many experts claim it's impossible to feed chickens a grain-free diet. How did you become inspired to try?

Nichole: I have lost count of the chicken farmers who told me I could never raise grain-free chickens. No one could tell me why it was impossible, but they were quick to stomp on my desire to try. I was on a mission to feed my daughter, so I was not easily dissuaded.

Ellie has severe allergies to corn, soy and grains. Her sensitivities have improved thanks to the Gut and Psychology Syndrome diet, but she remains the most sensitive to these three. She does not tolerate meat from animals that have been fed corn, soy, or grain, and finding even a corn or soy free chicken is nearly impossible. Eggs became a critical part of her healing journey, and we were unable to find any she could eat. She needed them, and her daddy and I felt it was our job to provide them.

Jill: What were your best sources in researching poultry diets?

Nichole: There have been three main sources for my information on raising poultry. My number one resource for all things chicken has been Harvey Ussery. He is an incredible wealth of experience and knowledge, and I consider his book a required reading for any chicken farmer. In addition, I have found breeders who focus on heritage birds, and farmers who practice sustainable or biodynamic principles are a great place to glean information. Last has been the young owner of a local feed store. With two degrees and a ton of experience, he has answered questions, and helped me to piece together our feed.

Jill: Have you noticed a difference in the quality of the eggs/meat when you feed your flock a grain-free diet, versus a conventional, grain-based one?

Nichole: I have yet to find an egg yolk as orange as ours, and we have compared quite a few. I have no idea if that is due to feed, or just due to fresh, pastured eggs from healthy hens. As for the meat chickens, it has been amazing to compare our farm birds to organic chickens from the store. All chickens we have butchered so far have been heritage birds over six months old. They take longer to raise and so we were prepared for tougher meat. This has not been the case. They also have these incredibly huge fat deposits that make for some pretty awesome broth. We even bagged fat from one rooster to render separately. This could be attributed more to the breed rather than the feed, but either way, they are certainly doing great on the grain-free feed.

Jill: *Has it been a struggle to maintain the chicken's weight/condition/production on a grain-free diet?*

Nichole: Our chickens have been incredibly low maintenance and remarkably healthy. We do focus on heritage breeds that maintain all of their instincts for foraging, and who prefer pasture over their feed.

We have not yet successfully started chicks on grain-free feed, primarily because I have not had the time (or desire) to hand-grind our feed. We start switching them over when they come out of the brooder and are able to start their own foraging. Instead we have been using an organic, corn, and soy-free feed.

Jill: *Anything else you'd like to add?*

Nichole: Even if allergens are not a concern regarding what you feed your chickens, I strongly encourage chicken farmers to eliminate soy and genetically modified products from their chicken's feed. There is more than

enough evidence that what an animal eats shows up in its meat, and that in turn affects the health of those who eat it.

After speaking with Nichole, I'm feeling much more hopeful at the thought of a grain-free flock. And I think it goes to show that there isn't one right way to feed a chicken. If you are interested in her recipe, you'll find it on page 131.

Is there a perfect chicken-feed ingredient?

I'm going to say no. If you research long and hard enough, you *will* find someone *somewhere* with some sort of objection to pretty much every single food a chicken is capable of eating, whether it be soy, wheat, corn, fish meal, or even apple cider vinegar.

In my opinion, your best bet is to provide the widest variety of feed ingredients that you can to minimize the possibility of a large amount of one particular ingredient causing problems.

Just use common sense, try to mimic a natural diet as much as possible, and you'll probably be just fine.



Culinary School for Chicken Chefs

It's the moment of truth. You've done your research and you are ready to ditch commercial chicken chow forever. But now what?

How to Source Ingredients

Depending on where you live, this can be one of the trickiest parts of mixing your own chicken feed.

And first glance, it appeared that I was up a creek when it came to local feed mills in my area, and I quickly became frustrated as I made phone calls. Any of the feed stores I called in the large, neighboring town only sold pre-mixed, bagged feeds, and if they did happen to have any whole grains, corn was usually the only option.

When I would ask a clerk if they had ingredients like whole roasted soybeans or barley, I could hear them rolling their eyes through the phone.

But being the stubborn homesteader I am, I kept calling and Googling, and ended up with a handful of different options by the time my treasure hunt was complete.

Tips for hunting down chicken feedstuffs in your area:

- ✓ **Check small towns.** I quickly learned that my options greatly increased the farther I went from our main town. I was pleased to find several small feed mills in the neighboring towns around me.
- ✓ **Ask other homesteaders what they are feeding.** Just mentioning the topic of homemade chicken feed at my monthly organic food co-op brought me several offers of folks willing to share their recipes and sources.
- ✓ **Go straight to the source.** See what farmers are growing in your area. You may be able to skip the feed mills altogether. I was ecstatic to discover we have a local organic wheat farmer near the

teeny tiny town we call home. Organic wheat grown just a few miles from my house? Yes please!

- ✓ **Be willing to travel.** I ended up calling around in about a one hundred mile radius from where I live. You may have to travel a little to secure your ingredients. But, if you pick up large amounts at a time, it will be worth your fuel.
- ✓ **Price compare.** I found that prices can vary quite a bit from feed mill to feed mill. It pays to call around and keep a list or chart of each company's prices.
- ✓ **Team up.** Buying in bulk will almost always get you the best prices. Go in with other chicken keepers and homesteaders to order large quantities, and then split it up when you get home.
- ✓ **Be willing to skip "certified organic."** If I have the choice to purchase grains from a local farmer who used natural methods, but couldn't afford to get his products USDA certified, I would jump on it. Just because it doesn't have the official label on it, doesn't mean it's might not be high-quality, natural feed.

Check out the Resources page for help sourcing ingredients:

<http://www.theprairiehomestead.com/natural-homestead-resources>

Things to Keep in Mind as You Mix Your Own Feed

1. **Always measure by weight, not volume.** Now would be a great time to invest in a small scale of some sort, or even a bathroom scale and a bucket will work in a pinch.
2. **Make changes slowly.** As you switch your flock from one ration to the next, give their systems time to adjust. Start by mixing a small amount of the new ration in with the old, and gradually increase it over the period of about a week or so.

3. **Remember that the lower the outside temperatures, the greater the flock's feed intake.** This is why some chicken owners like to provide a ration with slightly lower protein content in the winter when the flock is consuming more, and a slightly higher protein ration in the summer when they are prone to eat less.
4. **Laying hens must have some sort of protein supplement besides just grain.** So if you were hoping to just throw them a handful of cracked corn every so often, you'll probably end up running into problems. (Unless you have a major onslaught of bugs)
5. **Poultry eat to satisfy their energy requirement first.** If the ration is improperly balanced, they will end up filling up on carbohydrates, and miss out on the protein they need.
6. **If you are feeding birds less than twelve weeks old, avoid barley or wheat.** The gluten-content of these grains can result in digestive issues that can be harmful, or even fatal.
7. **If you are using cracked or ground grains, only mix as much feed as the flock can consume in two to four weeks.** This ensures that your birds are getting the maximum amount of nutrients from the grains.
8. **Ask around.** If you are purchasing your ingredients from a feed mill, sometimes they will mix it all together for you. I was happy to find discover the mill where I purchased my feed—they mixed up my custom recipe and didn't charge me any extra.

Mixing vs. Choice-Feeding

Traditionally, chicken feed components are combined together and then offered to the flock in a single mixture. I've actually read several sources that say it is important we balance the diet ourselves, since the chickens are not smart enough to know what nutrients they need.

However, I was intrigued to read that the University of British Columbia has had promising results in offering a variety of feedstuffs cafeteria-style, and allowing the flock to control their own rations.⁴¹

I currently am offering supplements such as kelp, herbs, and eggshells to my flock in cafeteria-style feeders, and I hope to continue to experiment with this idea more in the future.

Seven Ways to Cut Chicken Feed Costs

Regardless of whether you decide to mix your own feed or purchase it from the feed store, there are multiple ways to decrease the cost of your monthly feed bill.

1. ***Free range as much as possible.*** I realize this isn't possible for everyone, but if you can, allow your chickens to roam around your yard. Not only will this greatly supplement your diet, it can also help to control bug populations, and keeps them from becoming bored. And there is something just soothing about watching chickens scratch around your front porch.
2. ***Bring the yard to the flock, if the flock can't roam the yard.*** When my hens must stay confined to their pen in the summer months (usually because they are destroying my almost-ripe tomatoes), I like to pick large handfuls of weeds or grass and toss them over the chicken-run fence. The girls definitely enjoy rummaging around in the green matter.

I also like to take a bucket to the garden with me when I weed, and I collect all the weeds in the bucket and transport them to the flock as well.

3. ***Ask for leftover vegetable and fruit scraps at the grocery store.*** Not all stores will allow this, but ask if you can have the wilted lettuce, squishy tomatoes, and bruised apples.

Some folks also collect stale bread items from bakeries, but I personally avoid this. Many of the bread items sold in stores like donuts, breads, rolls, or muffins are made with heavily processed ingredients and additives. They might be okay for the occasional treat, but they aren't something I'd recommend feeding on a regular basis, just as humans shouldn't eat them as the bulk of their diet.

4. **Grow some of your own feedstuffs.** Grains, cover crops, greens, sunflowers, and various veggies are good places to start.
5. **Offer leftover milk and whey.** If you own dairy goats, cows, or sheep, then you are familiar with the feeling of drowning in milk. When you're floating in milk and have made all the yogurt and cheese you can handle, consider sharing your excess with your chickens. Leftover milk and whey are full of protein and most flocks will enjoy the treat. For an extra boost of probiotic nutrition, clabber your raw milk by allowing it to sit out at room temperature for several days until it begins to thicken. (Do not attempt this with pasteurized milk. You will not have the same results.)
6. **Save kitchen scraps for your flock.** I personally keep a small plastic bucket on my countertop and am continually tossing in bits of leftover bread, celery ends, carrot peelings, watermelon rinds, and more. It's a feeding frenzy when I show up at the coop. My chickens have even been known to chase me down in the yard when they see me carrying any sort of white bucket. It's insanely satisfying to watch your birds turn kitchen waste into orange-yolked eggs.
7. **Cull non-productive members of the flock.** I know that many of you keep chickens as pets, and that's perfectly fine. But if you are truly trying to cut costs, it may be time to turn non-producing hens into nourishing chicken soup. I know this thought might cause some of you to recoil in horror, but keep in mind that is exactly what great-grandma would have done.

The Appetizers



Free Range Feeding Frenzy

I realize free-range flocks aren't in the cards for everyone. If you have an urban flock, then it probably won't be possible to allow them to roam freely around your yard.

However, if your location permits, there are definite benefits to allowing your chickens to run free.

Benefits of Free-Ranged Chickens:

- **You're letting the chicken be a chicken.** Chickens were made to scratch, hunt bugs, and pick at weeds and grass to their little hearts' content. My chickens genuinely enjoy being loose in the barnyard, and I genuinely enjoy watching them peck and explore (as long as they stay away from my garden ...).

- **Pest control.** Every once and a while, we get a plague of grasshoppers or moths, and the chickens go wild hunting them down. It's a splendid source of protein, and it gives them something to do. They also enjoy picking through the manure piles in the corrals, which cuts down on fly larvae and spreads out the valuable nutrients contained in the cow piles.
- **It supplements their diet.** I notice a drastic decrease in the amount of feed my flock consumes when they are allowed to roam. I find myself filling their feeder much less, which definitely saves me some cash. Plus, the weeds and bugs they eat make for healthier birds and healthier eggs in the long run.
- **There is something so idyllic about having chickens in the yard.** Seriously, I love having hens running around while I'm outside working. It just feels right, ya know? It's totally entertaining to sit outside after a long day's work and watch them loiter around the yard. (Sometimes they'll even hop up on the deck to visit. And poop.)

Problems with Free-Ranged Chickens:

- **Predators-** Chickens are high on the delicacy list of many animals including hawks, coyotes, bobcats, foxes, raccoons, and stray dogs. It is absolutely devastating to have your flock demolished by a predator, but it's a risk you take every time you open the gate.

I've personally decided I am willing to accept the possible threat of predators, rather than force my chickens to be cooped up their entire lives. However, depending on the type and amount of predators in your area, you may decide keeping them safely in their chicken yard is a better option.

- **Destruction-** Nothing can demolish a flower bed or garden spot faster than a flock of well-meaning chickens ... I've learned this the

hard way, and have spent many hours constructing various fences to keep my chickens out.

In their enthusiasm to scratch and explore, they will yank up seedlings and bury delicate plants in mere seconds. I have also had them nearly smother my poor raspberries by repeatedly pushing mulch over the top of them ...

If you are trying to grow vegetables while you grow your flock, expect to invest in fencing or build a chicken tractor, which is a mobile chicken pen which allows the birds to scratch and graze while staying confined. A quick online search will yield tons of ideas for constructing a chicken tractor of your own.



Grow a Salad Bar

Chickens love a good salad bar as much as you do, and they especially appreciate variety if they are confined to their coop.

Spend some time scouting around your homestead to see if any of these gems can be found growing in your yard, cleverly disguised as weeds. Or, plant a selection of these herbs in your garden.

Most of these plants can also be dried and stored for later use, which provides a special treat for your flock during the winter months.

If growing or foraging isn't an option, then you may opt to purchase the dried versions of these herbs instead.

Plant Name	Reported Properties and Notable Benefits
Alfalfa	Source of protein, amino acids, source of chlorophyll

Basil	Antibacterial
Calendula	Antiseptic, anti-inflammatory, digestive aid,
Catnip	Repels insects
Cilantro	Source of vitamin A, antioxidant
Chickweed	Soothing & healing, calcium, potassium, digestive aid
Comfrey	Protein, amino acids, calcium
Dandelion	Various vitamins and minerals, calcium, iron
Dill	Promotes respiratory health, antioxidant
Fennel	Laying stimulant, reproductive health
Garlic	Laying stimulant, antibacterial, natural dewormer
Lamb's Quarter	Protein, calcium
Lavender	Calming and relaxing, antibacterial, antiseptic
Lemon Balm	Antiviral, calming,
Marjoram	Laying stimulant
Marsh Mallow Root	Supports respiratory and digestive systems
Mint (all varieties)	Insecticide, digestive system,
Nasturtium	Antiseptic, natural dewormer
Nettle	Calcium, protein, vitamins A, C, & K, dewormer
Oregano	Antibiotic, antiviral, antiparasitic
Parsley	Laying stimulant
Plantain	Protein, minerals, vitamin C, K, & B
Rosemary	Promotes respiratory health, repels insects
Sage	Antioxidant, repels insects
Sunflower Seeds	Oil and fat
Thyme	Antibacterial, natural dewormer

This is by no-means an exhaustive list of all the things that you can grow in your chicken salad bar. But hopefully, it will give you a good place to start.



Herby Hors d'oeuvres

My friend Lisa over at [Fresh Eggs Daily](#) frequently offers herbs to her flock, so I asked her to share her expertise in this area. She says:

“Nearly all of the culinary herbs offer various health benefits for both hens and humans. Growing a variety of edible flowers and herbs will enable you to add a multitude of nutritional benefits to your chickens’ diet at low or no cost. Especially important in the winter when other greens are not plentiful, dried herbs and flowers make a nice addition to your feed mix year round. Pick a selection of herbs and flowers, then air dry and crush them, then store them in an airtight container. Adding a few cupfuls to each bucket of feed will provide all kinds of benefits. Of course fresh herbs can also be fed when they are in season, but I find that many herbs the chickens turn their beaks up at fresh they will readily eat in the dried form.”

The following herbs can be mixed and matched into your own custom blend depending on what you have available. Choose at least one herb from each category below for a well-rounded supplement:

Laying Stimulants: fennel, marjoram, nasturtium and parsley

Respiratory Health: lemon balm, dill, oregano and thyme

General Health: cilantro, sage, spearmint and tarragon

Orange Egg Yolks: alfalfa, basil, dandelion greens and marigolds

Feather Growth: anise, fennel, garlic, mint and parsley

Any of these herbs, or a combination of them, can be mixed into your flock's ration, or offered in a separate container free-choice.



Herbal Trail Mix for Chickens

I use dried, crushed herbs for this formulation. However, you may certainly use fresh ones if you have them available. Feel free to mix and match other herbs from the lists above.

- 1 cup alfalfa
- 1 cup dandelion
- 1 cup nettle
- 1 cup granulated garlic
- ½ cup fennel seeds
- ½ cup peppermint leaf

Instructions

1. Mix all ingredients together and store in an air-tight container.

2. Offer the mix to your flock free choice.

Notes

>> My hens went crazy the first time I offered this to them. They especially liked the garlic, which can also function as a natural de-wormer.

The Entrees



I have come to the conclusion that there are a million-and-one ways to feed a flock of chickens. In my research, I've come across people proclaiming great success at feeding a huge variety of diets—including everything from straight corn to fancy organic mixes.

I was thrilled to find a nutritionist at a nearby feed mill who formulated the follow three rations for me to make sure they were balanced in energy, protein, and necessary minerals.

I've included a very basic option with ingredients that should be somewhat easy to source for most folks, as well as slightly more “exotic” rations if you are determined to have a corn-free and soy-free flock.

Basic Layer Ration

16% protein. Makes 100 pounds

- 39.5 pounds ground or cracked corn (39.5% of ration)
- 25 pounds whole roasted soybeans (25% of ration)
- 25 pounds whole hard winter wheat (25% of ration)
- 7.5 pounds calcium carbonate (7.5% of ration)
- 3 pounds Nutri-Balancer Premix (3% per ration)

Instructions:

Combine all ingredients thoroughly and offer free-choice in feeders.

Notes

>> If you are using cracked or ground grains in this recipe, feed within thirty days for optimal nutrition. Whole grains will keep much longer.

>> This ration is designed to be fed to hens that are eighteen weeks of age or older.

Corn + Soy-Free Layer Ration

16% protein. Makes 100 pounds

- 15 pounds whole wheat
- 24 pounds whole milo (sorghum)
- 17.5 pounds rolled barley
- 18 pounds linseed meal
- 2.5 pounds brewer's yeast
- 2.5 pounds fish meal
- 10 pounds alfalfa meal (ground)
- 6 pounds calcium carbonate
- 4.5 pounds premix (salt, vitamin, mineral, other additives)

Instructions:

Combine all ingredients and offer free-choice in feeders. Since this recipe contains rolled barley, feed it within thirty days for optimal nutrition.

Notes

>> This ration is to be fed to hens that are eighteen weeks of age or older.

>> Alfalfa provides a quality protein when used with other, more concentrated protein meals. It also provides a source of xanthophil which gives the yolks a lovely orange color. Some alfalfa is genetically modified, ⁴² so look for organic options if you are trying to avoid GMOs.

>> Many people like to add extra ingredients such as kelp, small black oil sunflower seeds, flax, or diatomaceous earth. These ingredients can be added according to label recommendations, being careful not to overdo them to a point that makes the diet unbalanced, especially in terms of energy.

Corn + Soy-Free Broiler Ration

20% protein. Makes 100 pounds

- 50 pounds of milo (sorghum) (When feeding birds in the starter phase, grind the milo. Once the birds reach the grower phase, the milo may be used whole.)
- 32.5 pounds linseed meal
- 10 pounds brewers dried yeast
- 5 pounds fish meal
- 1.5 pounds calcium carbonate
- 0.25 pounds dicalcium phosphate
- 0.50 pounds salt
- 0.25 pounds premix** – this amount may vary depending on the type of premix you are using

Instructions:

Combine all ingredients thoroughly and offer free-choice in feeders.

Notes

>> If you are using cracked or ground grains in this recipe, feed within thirty days for optimal nutrition. Whole grains will keep much longer.

>> Using other grains: because this ration is fed from start to finish, special consideration should be taken when feeding chicks. Wheat and barley contain high levels of gluten which can cause “sticky butt” syndrome—a potentially fatal condition for young birds. These grains may be used in the ration after the birds advance past the starter phase (approximately six weeks of age).

>> Depending on the premix that you use, you may also opt to mix in other additives such as kelp, flax, or diatomaceous earth. Just be careful not to overdo them, as this can throw off the protein to energy balance, which is important for growing birds.

>> Pay close attention to recommended feeding rates with broilers. Fast growing birds that mature in eight weeks may need to have their feed intake controlled from four weeks on to prevent over-growth, heart attacks and breaking down of the legs. The slower growing birds that mature in twelve to fourteen weeks may be fed free-choice throughout the growing period.

Simple Grain-Free Chicken Feed (for layers or broilers)

Recipe created by Nichole Swatzky of [Hopecentric](#). Used with permission.

16-18% protein. Makes 100 pounds of feed

- 45 pounds white proso millet
- 27 pounds safflower seeds
- 20 pounds sunflower seed chips
- 8 pounds black flax seeds

Instructions:

Combine all ingredients and offer free-choice in feeders.

Notes from Nichole:

>> This ration is designed to be fed to hens that are eighteen weeks of age or older.

>> The recipe for our hens has changed over time. We adjust it according to the size of the flock, breeds, specific needs at the time, and cost of the ingredients.

>> Our laying hens also get free choice oyster shell, and as many kitchen scraps as we can provide. As long as they have enough area to roam and forage we don't have to supplement much. Chickens in a restricted environment will need more feed, and will need additional protein added to their diet.

>> This recipe is not recommended for chicks. Chicks in a brooder need ground feed, small grit, and large amounts of additional protein since they can't go source their own.



How to Sprout Feed

Even though they might look innocent, sprouts pack an impressive nutritional punch, for both humans and poultry. Sprouting is a frugal way to provide your flock with increased nutrients, especially during the winter months.

The Whole Grains Council reports that not only are sprouted grains easier to digest, but the process can also increase the quantities and bioavailability of many of the vitamins and minerals contained in a seed.⁴³

Personally, I don't feel the need to sprout during the summertime, since my hens have more than enough green matter to forage for around our yard. But Wyoming is a dry and desolate place from October through March, so this is the perfect opportunity to green up my flock's diet by means of sprouting.

What Can I Sprout?

Lots of stuff! Any sort of seed that is adequate for sprouting for human consumption will work for your flock as well.

My personal favorite is wheat, but you can also use whole peas, sunflower seeds, birdseed, oats, and alfalfa seeds, just to name a few.

Make sure the seeds you get have not been treated with chemicals in any way, so avoid packets of seeds that are meant to be planted in your garden, particularly if they aren't organic.

Some grocery stores sell sprouting seeds, but if you plan on implementing a full-time sprouting program, purchasing the baggies from the health food store will cause serious damage to your bank account. So it's a better idea to purchase whole grains from the feed store and sprout those instead.

You will need:

- Four or five buckets (three to five gallon size is ideal)
- Your choice of grain (my favorite is wheat, but you can sprout pretty much anything)
- Water



Day One:

- Fill bucket #1 one-third of the way full with grain and cover completely with water.
- Allow the grain to soak, completely submerged, for twenty-four hours.

Day Two:

- Drain the water from bucket #1, rinse the grain, and loosely cover. (If the weather is hot and dry, you may need to rinse a second or third time today, as the grains must be kept consistently moist in order to germinate.)
- Start bucket #2, repeating the process from day one, to allow a fresh batch of grain to begin the soaking process.

Day Three:

- By now, the grain in bucket #1 will probably have some tiny sprout “tails.” If so, it’s ready to feed. If not, rinse again and wait until tomorrow.
- Drain the water from bucket #2, rinse, cover, and set aside.
- Start bucket #3, allowing it to soak for twenty-four hours.

Day Four:

- Continue to repeat this process- feeding the grains with tiny tails, and soaking and rinsing the subsequent batches. If you can keep an assembly line like this going, it’s very possible to keep your flock in sprouted grains all winter long.

Snacks



Homemade Scratch Mixes

Think of scratch grain as a sort of chicken snack mix. While it's not a required component of feeding chickens, it can add a bit of extra nutrition to their diet, and provide them with entertainment at the same time.

Scratch grain (either commercially prepared or homemade), should not be fed as the primary source of feed. I don't feed much scratch in the summer time, since my flock has plenty of real-life scratching to do.

However, in the colder months when they are confined to their coop and chicken run, scratching around for grains can help to alleviate cabin, or should I say "coop," fever.

Scratch should not be mixed into your chicken's regular ration, but rather tossed out on the ground, or on the chickens' bedding. As they hunt for the grains, their digging and scratching will help to aerate the soil and turn the bedding.

If you have a section of your yard and garden that could use a little chicken tilling, try tossing generous amounts of scratch in that area.

There isn't much of a science to mixing up your own scratch. Really, any variety of whole grains can be mixed together.

Some possible options to include in your scratch mixture are:

- Cracked or whole corn
- Milo
- Wheat
- Oats
- Barley
- Sunflower seeds
- Split peas
- Millet
- Lentils

Basic Scratch Blend

- ✓ 1 part corn
- ✓ 1 part oats
- ✓ 1 part wheat

Instructions:

Combine ingredients and sprinkle on the ground, or any place you'd like your chickens to do some digging.



My Favorite Scratch Blend

This is what I happened to have around my homestead one day, so I threw it together. My hens love it!

- ✓ 2 parts corn
- ✓ 2 parts wheat
- ✓ 1 part peas
- ✓ 1 part lentils

Instructions

Mix the grains together. Sprinkle them on the ground, or any place you'd like your chickens to do some digging.

Notes

>> A part can be any measuring unit you like—an ounce, a pound, a handful, etc.

>> Don't worry about measuring these ingredients exactly. There is lots of room to experiment and play around with what your chooks prefer.

>> If you are using whole grains (which I always do when I mix up scratch), then you can mix up large quantities at a time without having to worry about it going bad.

>> Have little helpers on your homestead? Sprinkling scratch on the ground is an ideal task for kiddos of any age!

>> If you are trying to avoid GMOs in your chicken's diets, be sure to look for organic corn.

>> If you have local wheat farmers in your area, ask if they have any chicken-grade wheat that they would sell.



Boredom Buster Brick

Think of this recipe as a giant granola bar for your chickens. Blocks like these are a wonderful way to alleviate boredom in your flock, as well as discourage undesirable behaviors such as cannibalism or feather picking.

Some feed stores sell ready-made blocks, but it's simple to whip up your own version in your kitchen.

Recipe created by Five Little Homesteaders. Used with permission.

- 2 cups scratch grains
- 1 cup oats
- 1 cup cornmeal
- $\frac{3}{4}$ cup wheat germ
- $\frac{1}{2}$ cup raisins or cranberries

- ½ cup crushed eggshells or oyster shell
- 4 eggs + shells, crushed
- ¾ cup blackstrap molasses
- ½ cup melted coconut oil, tallow, or lard

Instructions

1. Mix the dry ingredients together in a bowl
2. Mix the eggs, molasses and coconut oil in a separate bowl.
3. Add the wet ingredients to the dry ingredients and mix well.
4. Pour your mixture into greased pans (see below for suggestions)
5. Bake for thirty to forty-five minutes at 400 degrees. You may need to bake slightly longer if you are using a deeper pan. The block is ready when the edges have become dark and the middle is very firm.
6. Allow to cool completely. Serve it to your chickens.

Notes

>> I was able to fit this entire recipe in one eight-inch round pan. But you could also divide it between two pans to help it bake more quickly, or use two nine-by-five inch loaf pans.

>> This is not meant to be a substitute for your flock's regular ration.

>> Feel free to play around with the ingredients to see what your birds like best.



Tasty Tallow Snack Bar

Modeled after the suet cakes offered to wild birds, this tallow bar is an excellent way to offer your flock a bit of extra fat and energy, especially during the winter months.

- 1 ½ cups melted tallow, lard, or meat drippings
- 1 cup unsalted sunflower seeds (in the shell)
- 1 cup dried fruit (cranberries, raisins, chopped apples, etc)
- 1 cup whole grains (scratch mix, whole wheat, or millet are ideal)

Instructions

1. Line a nine-by-five inch loaf pan with parchment paper, foil, or plastic wrap. Mix the seeds, fruit, and grains together, and place in the pan.

2. Cover the dry ingredients completely with the liquid fat. You may need to mash everything around with a fork to make sure there are no air bubbles.
3. Allow to harden completely. You can speed up this process by sticking it in the refrigerator for a while.
4. Remove it from the pan by lifting up on the liner to pop it out. You can cut it into several pieces, or feed the whole thing at once.

Notes

>> If you don't butcher your own animals, see if you can purchase fat trimmings or suet from your local butcher shop. Here is my tallow-rendering tutorial: <http://bit.ly/1eu8aH8>

>> Another option is to save the fat that you drain from frying up hamburger and sausage. Store it in the freezer until you have enough to make this recipe. A little bit of bacon grease is fine, but I would avoid using large amounts because of the nitrates and sodium it contains.

>> Some other ingredients that would make great additions or substitutions to this recipe would be unsalted nuts or peanut butter. You can also sprinkle in spices and herbs such as garlic powder or cayenne pepper.



Other Chicken Delicacies

Chickens will happily devour kitchen scraps of all kinds, and I'm happy to oblige. I love not having to throw food in the garbage, and I know it's offering them a bit of extra nutrition at the same time.

This is by no means an exhaustive list of everything a chicken will happily eat, but if you are a newbie chicken keeper, it's a good place to start.

1. Apples and apple peelings
2. Berries
3. Grapes
4. Melons and melon rinds
5. Bananas (my chickens don't care for the peels)

6. Lettuce, spinach, or other greens
7. Carrot tops, broccoli stems, celery bits, and whatever else you have left after you are finished chopping up veggies for supper
8. Squash innards, seeds, and peels
9. Stale bread
10. Cooked or uncooked oatmeal
11. Sunflower seeds
12. Plain yogurt
13. Raw milk (either clabbered or fresh)
14. Leftover whey from cheesemaking
15. Meat scraps (If you've ever watched chickens free-range, then you know they aren't vegetarians. Small amounts of beef, pork, and fish make a fine treat.)
16. Insects- grasshoppers, beetles, mealworms. I personally don't have the time to catch bugs for my hens, but they are more than welcome to do their own insect hunting in my yard.
17. Garden leftovers. A dormant garden is the perfect playground for a flock of curious chickens. Allow your flock to free-range your garden plot in the fall after harvest is complete, or haul the various stalks, vines, and plants to their coop as you put your garden to rest for the winter.



What Not to Feed your Flock

The list of things that chickens CAN eat is much longer than the list of things to avoid.

There are a lot of varying opinions on this subject, and to be honest, I think I've probably fed all of the following items to my chickens at least once (well, minus the chocolate), without any problems.

But I still tend to avoid the things on this list, especially since some of these foods have compounds that can potentially build up in a chicken's system and may cause problems later down the road.

1. Avocados (the pit and peel)

The flesh of an avocado is fine. However, the pit and peel of an avocado contains a compound called persin, which can be toxic to birds.

In the past when I have tossed a peel or two into my chicken bucket, the girls never ate it anyway. I recently had a reader on the blog share that they lost several birds after giving their flock a box of overripe avocados. So I do think they should be fed with caution, if at all.

2. Chocolate

The bigger question here is, “Who in the world has leftover chocolate?” Chocolate is toxic to chickens for the same reason it is toxic to dogs. So, if there is any leftover chocolate to be taken care of, it’s up to you. (I am so sorry ...)

3. Citrus

I think the jury is still out on this one, but I’m including it in this list anyway. I’m not one hundred percent convinced citrus is bad for chickens, since I’ve heard varying reports. My hens won’t touch it anyway, so I don’t have to worry too much.

4. Green Potatoes

Green potatoes contain solanine- another toxic substance. It’s OK to feed your flock regular or cooked potatoes, but avoid the green ones.

5. Dry Beans

Cooked beans are fine- but their dried counterparts contain hemagglutin- a big no-no.

6. Junk Food

If you don’t eat junk food, then you won’t have any leftovers. So you won’t even have to worry about this one, right? Ahem. Highly processed food isn’t good for you, and it’s not good for your birds either.

7. Moldy or Rotten Food

For obvious reasons ... Just toss it.

8. Large amounts of onions

A few onions here and there are fine, but avoid large quantities, as they may have the potential to make the eggs taste a bit off.



How to Feed Eggshells

Like anything else, there are plenty of different opinions about feeding eggshells back to the chickens who laid them. However, one thing that everyone can agree on is that laying hens need a lot of calcium.

Homesteading folk have been feeding eggshells to their chickens for hundreds of years. It makes sense. Why throw away such an easily accessible source of the very nutrient that your chickens need most?

But won't it teach them to eat their eggs?

Maybe ... but it's unlikely. (Follow the tips below if you are really worried about this.) I have had a couple of egg-eaters in the past, but in my experience, feeding them eggshells didn't cause the problem. If

anything, I think providing the shells has helped to decrease it. Sometimes chickens will eat their eggs because their body is craving calcium. Of course, every flock is different, so I'm sure you *could have* that crazy hen that has her first taste of egg shells and then becomes a rabid egg-eater for the rest of her days ... It's highly unlikely, but that's my disclaimer.

This can be as simple or as complicated as you would like. **If you want, you can just crush the shells and toss them into your scrap bucket.**

However, many folks prefer to bake their eggshells before feeding them back to the flock. I personally no longer do this, but if you are concerned about the possibility of an egg-eater, then this can't hurt. And, baked eggshells are easier to crush anyway.

Instructions:

1. Collect eggshells from healthy, home-raised chickens
2. Spread the shells on a baking sheet and bake at 350 degrees for 5-10 minutes until they are brittle and easy to crush.
3. Crush the shells into bite-sized pieces, and offer them to your flock free-choice in a separate feeder.

Why crush the shells?

The reason I crush the shells is to make them unrecognizable as eggs. In the past, I've seen my chickens make a beeline for egg shaped objects. I think that crushing the shells prevents them from thinking that whole

eggs are a part of their every-day diet. Again, this might not be necessary with your flock. Experiment a little.

Can I feed my flock shells from store-bought eggs?

I personally try to avoid feeding store-bought eggshells to my chickens. It's not a huge deal--more of a peace-of-mind thing for me since I have no idea of the health status of the flock where the store eggs came from. I would hate to transfer some kind of unwanted bacteria to my healthy home-grown girls. You can always toss the store-bought shells into your compost pile if you like.



Barnyard Housekeeping



Bleach-Free Coop Cleaner

Many chicken experts recommending sanitizing and disinfecting your coop at least once per year, especially if you are bringing in a new flock or a fresh batch of baby chicks.

I used to follow this advice religiously, but I have to admit that I've recently slacked off a bit on my coop scrubbing. I've never had any diseases or illnesses move through my flock, so I couldn't help but wonder what exactly was so horrible in my coop that required such rigorous disinfecting.

I'm the type of person who is a big believer in the benefits of "good" germs. (aka, if I catch my toddler eating dirt, I don't freak out.) As long as your flock is healthy, I'm not so sure a complete sterilization is really ever needed. In fact, I think that frequently sterilizing your coop could actually

potentially cause issues. Master flockster Harvey Ussery has had excellent results with brooding new batches of chicks in coops with properly managed deep litter. He suspects that exposing the chicks to beneficial microbes early on actually strengthens their immune systems,⁴⁴ and I tend to agree.

Now, if you have been dealing with a contagious disease or infection, then by all means, disinfect that coop! Unfortunately, many sources suggest using bleach as a disinfectant. I like to call bleach “headache-in-a-bottle,” as it is one of the few things that can give me a rip-roaring headache in mere minutes. I don’t like using it around our homestead, especially when it comes in contact with our animals.

On the rare occasions I do deep-clean my coop, I mix up the following recipe. It’s all-natural and won’t give you a headache when you use it.

- ½ to 1 gallon of white vinegar- depending on the size of your coop.
- 20 drops melaleuca essential oil
- 20 drops lemon essential oil
- Squirt of liquid dishwashing soap

Instructions:

1. Pour the gallon of vinegar in a five-gallon bucket and add the essential oils and soap (the soap helps the essential oils to disperse in the water and not just float at the top).
2. Fill the bucket the rest of the way full with water.
3. Shovel and scrape all of the manure, dirt, shavings, cobwebs, and feathers out. I found a square shovel to be incredibly handy in scraping the floor. Old, dried chicken manure can be like cement.

4. Spray down the walls, floors, and ceiling with a hose to remove any stubborn bits, and then slosh the vinegar solution on the surfaces and scrub using a brush or small broom.

5. Rinse when you are finished scrubbing, and leave all the doors and windows open to allow everything to dry completely and get lots of sunlight.

Notes

>> My coop is rather large, so I usually end up using a full gallon of vinegar. Thankfully, it's cheap.



How to Whitewash

A generous coat of old-fashioned whitewash not only brightens the wooden walls of your barns and coops, but it can also deter bacteria and seal out insects. Plus, it just makes me feel cool when I say, “Yeah, I whitewashed my chicken coop today ...”

- 6-8 cups hydrated lime*
- 2 cups salt
- 1 gallon of water

* Also known as builders lime or masonry lime. This is different than the garden lime that you might sprinkle on your barn floor.

Instructions

1. Combine all the ingredients in a bucket and mix well. (A wire whisk worked the best for me.)

2. You are looking for the whitewash to be the consistency of pancake batter, so add more lime or water if you need too. Don't get hung up on exact measurements—I sure didn't.

3. Use a paintbrush or roller to apply it to the wooden surfaces of your coop, barn, or milking parlor.

Cautions:

Hydrated lime is a natural substance that is highly caustic. There's no reason to be scared of it, but it's important to take the proper precautions while handling it. Wear a dust mask when you are scooping out the dry lime to avoid getting any into your lungs, and safety glasses are a good idea too. If you get a bunch on your skin, it will make your skin feel super dry and kind of icky, but it's simple to wash off with water or neutralize with a bit of vinegar.

Notes

>> When I first applied my whitewash, I was pretty disappointed as it appeared as though it was barely covering the wood. However, I was shocked when I walked back into the coop several hours later to find it had dried into a gorgeous, bright white.

>> Whitewashing is far cheaper than paint (I only paid nine dollars for a fifty pound bag of lime--that'll make a whole lot of whitewash), and you don't have to worry about any paint fumes. And of course, it gives the wood the most charming finish.

>> This is most effective when used inside a structure. I'm afraid it would wash off after a few rainstorms if you were to apply it outside.



Water Tub Scrub

Like clean drinking water? So do your animals. Routine scrubbing of buckets and tanks are important in eliminating grime and algae build-up.

Most of the time, I simply use plain water and a scrub brush to clean my water tanks. But if you are in need of a little something extra, try this formula.

- 2 cups white vinegar
- 2-3 drops melaleuca essential oil (optional)
- 1 squirt of liquid dishwashing liquid
- A scrub brush

Instructions

1. Use a sprayer to rinse out the majority of the grime out of your buckets, and then jump in with your scrub brush. I have a dedicated “tank brush”

for this duty, but another option would be to pick up a toilet-bowl brush from the Dollar Store to keep in the barn exclusively for this task.

2. Mix the vinegar, essential oil, and soap in a separate bucket, and then add a splash to each bucket you are scrubbing clean.

3. Rinse thoroughly and allow your freshly-washed buckets to dry completely in direct sunlight for several hours.



Coop Spritzer Spray

Although this simple spritzer is not meant to replace proper coop management, it is a fun way to occasionally freshen things up.

The essential oils I've included in this recipe are helpful in creating a calming atmosphere as well as repelling insects.

- 2 cups white vinegar
- 2 cups water
- 1 tablespoon real vanilla extract
- 10 drops lavender essential oil
- 10 drops lemongrass essential oil
- 10 drops geranium essential oil

Instructions

1. Combine all ingredients and mix well.
2. Pour into a spray bottle and shake well before spritzing. Use it as often as you like.

Notes

>> Don't have these essential oils? Here are some other options: roman chamomile, lemon, peppermint, citronella, wild orange, thyme, bergamot, and rosemary.



Nesting Box Potpourri

It's not uncommon for wild birds to line their nests with herbs, which can provide antibacterial and anti-parasitic benefits to the nesting area. I enjoy adding a variety of aromatic herbs to my nesting boxes, and my hens definitely seem to appreciate the gesture.

Fresh herbs are the best, but dried ones will work if that is all you have.

- 1 part lavender buds
- 1 part peppermint leaf
- 1 part lemon balm

For fresh herbs: Harvest the herbs and stick them directly into the nesting box.

For dried herbs: Mix all the herbs and store in an air-tight container. Sprinkle a handful into a clean nesting box as needed to freshen. I've found my hens seem to congregate in the box that has the freshest application of this mix.

Notes

>> You definitely don't have to limit yourself to these three herbs for your nesting box mixes. Other excellent choices (either fresh or dried) would be: chamomile, basil, thyme, sage, oregano, calendula leaves, spearmint, or catnip, just to name a few.

>> I've noticed that I seem to find more eggs in the boxes that contain the most herbs... Coincidence? Maybe ... Or maybe not.



How to Build a Chicken Bathhouse

Just like humans, chickens appreciate a good bath. But, they aren't big fans of bubbles, and would much prefer a big ol' tub full of dry, powdery dirt.

If you've ever had a chance to observe a free-range flock, then you'll notice that it's only a matter of time before they make a point of finding the driest, dustiest spot they can and coating themselves in the fine powder. My once carefully-manicured flower beds are proof of this phenomenon. (They aren't manicured anymore ... I officially gave up.)

Dust baths give chickens the chance to clean their feathers and rid themselves of external parasites like mites or lice.

If your flock is confined in a coop or run with hard-packed ground, designate a bathing area so they can spend some time at the spa.

A bathing box can be as complicated, or as simple as you like. Technically, you don't really even need a box, but having some sort of container is helpful to keep the powdery stuff from blowing away.

Instructions:

1. Select the dust—the more powdery, the better. Different options might include wood ash (from non-treated wood), sand, diatomaceous earth, powdered herbs, and plain ol' loose dirt. You can also mix several of these together.
2. Find a bathtub. This can be a simple box made from two-by-four lumber (like you see in the picture above), a shallow plastic box or tub, or even just a designated area in the corner of your coop.
3. Add the dusting medium to the tub, and your chicken spa is open for business.

Notes

>> If you can, place your bathing box somewhere it won't be exposed to rain or snow. Otherwise, it will quickly turn into a mud bath.

>> Check and refill the tub often with fresh powdery stuff.

>> If you allow your chickens to free-range, they probably won't be too impressed with this concept since they likely already have multiple bathhouses located around your yard.



Do-It-Yourself Chicken Buffet Feeders

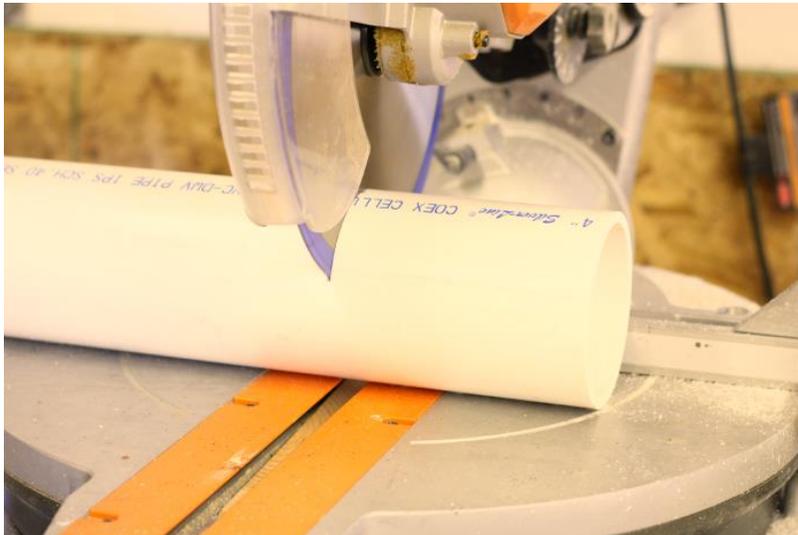
As you learn more about natural feeds and supplements, you'll probably find yourself with lots of little containers of different offerings for your chickens. These simple DIY "buffet feeders" are the perfect way to give your flock lots of options with minimal mess.

I'm including the list of pieces that we used for our project, but keep in mind that **there are dozens of different ways to assemble these feeders**. My best advice is to spend some time in the plumbing aisle of your local home improvement store playing with all the fittings and pipe.

Fill your feeders with grains, eggshells, supplements, kelp, or whatever else you plan on offering your flock.

- 4" cleanout with plug (for the top)
- Piece of 4" pipe
- 3" to 4" adapter
- Piece of 3" pipe
- Sanitary "Y" (3")
- 3" cleanout with plug (for the bottom)

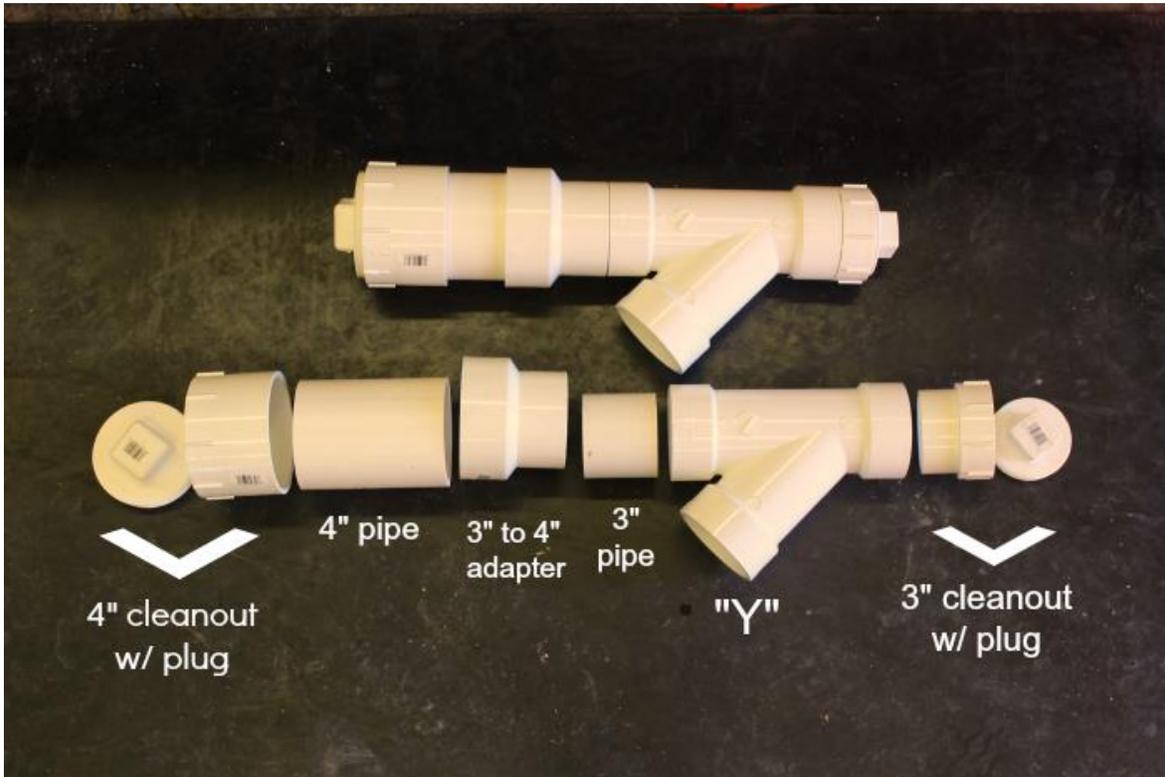
*(We ended up incorporating some of these pieces because they were leftovers from other plumbing projects. Remember—this is just **one** idea—there are dozens of possibilities!)*



Cut the long sections of pipe to the desired length. If you are planning on feeding a large amount of supplement, then make the sections longer, and vice versa.

Use a sharp knife to remove any frayed plastic from the edges.





Once you have the pieces cut and laid out, assemble each section.

We chose not to use PVC glue for this project, since it is some stinky stuff. Instead, we gently pounded each section together with a rubber mallet.





You can screw the feeder directly to the wall, or use a metal strap to attach it.

There are dozens of different ways to create feeders from PVC pipe pieces. Here is another design we came up with—be creative!





Growin' Stuff

I'll be the first to admit that gardening doesn't seem to be my special talent. Thus far in my homesteading ventures, I seem to be far more skilled at keeping my animals alive than my plants.

However, that is not to say I still haven't had some incredible gardening years with literal wheelbarrows of veggies being hauled into my house. (*OK, so the wheelbarrows were mostly filled with squash, but still.*)

Just like the other aspects of your homestead, gardens work best when approached from a holistic angle. We must look at the process as a whole and observe what works in nature, instead of singling out problem areas and blasting them with pesticides and herbicides.

To be completely honest, this delicate holistic gardening dance is still one I'm figuring out myself, and I admit I am still quite clumsy.

I'm inspired as I read the accounts of my fellow homesteaders who have had magnificent success with various permaculture gardening techniques, and I am determined to find a method that suits my windy little plot and dry Wyoming climate.

The thing that most inspires me about gardening is that there are many right methods. What works for one person may not work for the next--it all hinges on the different factors involved. In my mind, this leaves a lot of room for experimentation and innovation. I like that.

If you are like me and have experienced hardships with the traditional tilling method of gardening, you might find some of these permaculture techniques encouraging. I am in the process of implementing several of these ideas on my own homestead.

The Square Foot Gardening Method- This one gets rave reviews from a large crowd. It's the ultimate no-till set-up if you are working with small spaces. <http://squarefootgardening.org>

Lasagna Gardening- A no-till system of layering various compost materials to create nutrient-rich soil. There are numerous books and websites available on this method. <http://www.lasagnagardening.com>

Hugelkultur- Pronounced “hoogle-culture,” this ancient technique is not only fun to say, but it’ll earn you lots of raised-eyebrows from the neighbors. Starting with a foundation of logs, you use sticks, leaves, manure, and compost to create a hill. Theoretically, the logs will slowly decompose and create a super-nourishing base that mimics a forest floor. At least that is what they tell me. I have one hugelkultur bed in place, and hope to have some definitive results in the near future.

<http://www.richsoil.com/hugelkultur>

The Back to Eden method- I was intrigued the first time I watched the free video available at www.backtoedenfilm.com. I am itching to give this idea a try, and judging by the glowing reports from many of my readers; it appears to be a winner.



Essential Oils in the Garden

Essential oils serve an important purpose in the garden- both to repel pests and ward off disease. According to Valerie Ann Worwood, author of *The Complete Book of Essential Oils and Aromatherapy*, not only can essential oil usage in the garden increase yields, but it appears to also have an influence on the flavor and fragrance of the flowers, fruit, and vegetables.⁴⁵

There are many plants that naturally deter insects, which make them ideal for companion planting in a garden. So when you distill those plants and turn them into concentrated essential oils, the possibilities are intriguing.

A few of the most commonly used essential oils for the garden are:

- **Peppermint** – Ants, aphids, bean beetle, cabbage white butterfly, caterpillars, flea beetle, flies, lice, moths, beetles, spiders, squash bugs
- **Citronella** – Ants, fleas, flies, gnats, mosquitoes, moths, nematodes, ticks
- **Thyme** – Bean beetle, cabbage root fly, cabbage white butterfly, cutworm, ticks, chiggers, beetles, squash bugs
- **Lavender** – Black fly, flea beetle, fleas, flies, greenfly, mosquitoes, moths, white fly, ticks, chiggers
- **Rosemary** – Cabbage white butterfly, carrot fly, flies
- **Lemongrass** – Flea beetle, fleas, mosquitoes, ticks, chiggers
- **Patchouli** – Gnats, snails, weevils, woolly aphids
- **Sandalwood** – Weevils, aphids
- **White fir** – Slugs, snails, aphids
- **Eucalyptus** – Roaches
- **Clove** – Flies

Anti-fungal Oils

The following oils contain anti-fungal properties, and would make ideal additions to any of the fungicide recipes below:

- Patchouli
- Melaleuca
- Niaouli
- Oregano
- Thyme
- Cinnamon

(Many thanks to Amy Ouelette for putting together the majority of this list.)



Compost Juice

It's no secret that compost is one of the best fertilizers you can possibly add to your garden. And the sky's the limit when it comes to all the options you have when it comes to different styles of compost piles and the ingredients that you can use.

When I began my research on compost teas, I figured it would be a fairly easy subject to tackle ... Boy did I ever underestimate that one. Since when did poop and water get so complicated?

Compost tea is basically a brew made from water and finished compost. It has a myriad of reported benefits and I like to think of it as a natural alternative to the "miracle growing" products sold at the gardening stores in town.

Compost tea can add extra nutrients to your soil, and also has the potential to increase the microbe population in the soil. (I'm a big fan of good germs, and you should be, too.)

Unfortunately, there are approximately nine million different compost tea methods, techniques, and recipes ... And that is where it begins to get confusing.

The biggest differentiation in compost teas are the aerated or non-aerated varieties. *Aerated compost tea* (ACT) uses an electronic device of some sort (usually a bubbler for a fish tank, or something along those lines) to force oxygen into the brew, while *non-aerated tea* simply relies on water, compost, time, and a bucket.

As you can imagine, there is much debate as to which method is superior. Some folks swear by ACT and claim it is the only appropriate way to brew compost tea, while others reason that there is no scientific research backing these claims.

After a lot of digging around, I've settled on non-aerated compost tea for my homestead, and here's why:

1. *Simplicity*- While I will be the first to admit that there are probably benefits to ACT, I simply do not have the time to add another semi-labor intensive project to my homestead. If gardening is your primary passion, then by all means, I encourage you to do some research and become an aerated tea expert. But keeping it simple is my number one priority right now.
2. *History*- Different cultures have been brewing forms of compost tea for centuries. I'm pretty sure they didn't have fish tank motors.

As I mentioned above, if you want to pursue the ACT methods, I think that's great. But if you are a homesteader like I am who struggles to keep her head above water, let's keep it simple, shall we?

- 5 gallon bucket
- 1 shovel-scoop of high-quality finished compost
- Non-chlorinated water

Instructions

1. Dump the shovel-full of finished compost into the five gallon bucket. Fill the rest of the way with water. Stir vigorously, and set aside for about a week. Stir it once or twice a day.
2. When you are ready to use it, strain the compost from the water.

How to apply:

Your finished juice can be used undiluted, or if it turns out very dark, try diluting it 1:1 with water.

It may be sprayed directly on the leaves of your plants or poured around the roots and allowed to soak into the soil. If you are applying your tea to a large area, it can be diluted further.

Notes

>> Some sources warn against compost tea since they are worried it could harbor dangerous bacteria like salmonella or e.Coli O157:H7, since these organisms reside in manure. This is why **it is important to use finished compost**, and not raw manure. Other experts warn not to spray the foliage of a plant if you plant to consume it or its fruit right away.

Personally? I'm not too worried about this, but I wanted you to have the full story. Since I'm using compost from my healthy, grass-fed animals, instead of manure from questionable sources, I feel completely comfortable using compost tea in my garden. But in the end, I'll leave the choice up to you.



Homemade Fish Emulsion

(Recipe created by Underwood Gardens and used with permission)

According to Stephen Scott, owner of Terrior Seeds and Underwood Gardens, fish emulsions have a myriad of benefits for the home gardener.

“All fish emulsions are good organic nitrogen sources, but they also supply phosphorus, potassium, amino acids, proteins and trace elements or micronutrients that are really needed to provide deep nutrition to your soil community and plants. One of the benefits of fish emulsion is that they provide a slower release of nutrients into the soil without over-feeding all at once. It is usually applied as a soil drench, but some gardeners swear by using it as a foliar fertilizer as well.”⁴⁶

It's possible to purchase commercially prepared fish emulsion fertilizers, however, they can be costly and usually contain little to no active bacteria.

Thankfully, it's pretty simple to mix up a batch of DIY fish emulsion. The biggest drawback? The smell ...

- A dedicated 5-gallon bucket
- 10 cans of herring-type fish*
- Well-aged compost, sawdust, or leaves (or a combination of the three)
- ¼ to ½ cup of blackstrap molasses (*optional: to add additional minerals and sugar*)
- 1 tablespoon of Epsom salts (*optional: for added sulfur and magnesium*)
- ½ cup dried kelp or seaweed (*optional: will give an added nutritional boost to the mixture*)

* Anchovies, mackerel, or sardines will work. Watch the Dollar Store for deals on these.

Instructions:

1. Fill the bucket half-full with the compost/sawdust/or leaves. Fill the bucket the rest of the way with water. Add in the cans of fish, making sure to rinse out all of the juices and oils from the cans into the mix.
2. Add in the molasses, kelp, and Epsom salt, if desired.
3. Give it a good stir, and then allow it sit and ferment for two to four weeks, continuing to stir every couple of days. You'll definitely want to keep this bucket in an out-of-the-way location, since it will be quite smelly.
4. Keep the bucket covered, but don't make it air tight as it will build pressure as the process of fermentation takes place. A piece of screen or netting over the top will do the trick.

To use the emulsion:

You can either strain out the solids as soon as you are ready to use it and bury them in the compost pile, or leave them in the bucket to continue the brewing process as you use the emulsion.

As a soil drench: Mix two to three tablespoons of the fish mixture with one gallon of water and apply to the roots of your plants on a monthly basis.

As a foliar (leaf) spray: Mix one tablespoon of fish mixture with one gallon of water and spray directly on the leaves during the cooler portions of the day.

For the compost pile: Mix one half cup of fish mixture with one gallon of water to jump start your compost pile.

Notes

>> This brew will keep for a full year.

>> If you don't need a five gallon bucket of emulsion, this recipe can easily be halved or quartered.

>> Make sure that flies cannot get inside the bucket, otherwise, the emulsion will turn into a breeding ground for maggots. Trust me, I know.

Homemade Garden Spray Tips

There are many ways to use ingredients from your cupboards to create garden sprays that not only pack a punch, but will also keep you out of the pesticide aisle at the gardening store. Here are a few tips to keep in mind as you mix up your creations:

- Always do a **spot test** with homemade spray concoctions before dousing the entire garden. Spray one or two leaves and wait twenty-four hours to see what happens before proceeding, just in case ...
- Remember these bug sprays will repel the beneficial insects, as well as the not-so-beneficial ones. Therefore, I would advise you to **use them sparingly** and only if you are really struggling with an infestation. Remember, our goal in keeping a holistic homestead is to support the natural order as much as possible, and beneficial insects are a big part of that.
- Try to **spray these mixtures in the morning**, before the heat of the day.
- If you are using one of the sprays that contain spicy ingredients, you may want to wear sunglasses or some other form of **eye protection** while spraying, especially if it is windy outside!
- **Label, label, label!** You might think you'll remember what you mixed up in that mason jar last week, but I promise—you won't.
- If you don't have success with a spray, feel free to tweak the ingredients. **Results will vary depending** on your plants, climate, and species of insects.



Grow-Booster Plant Food

If your veggies need an added boost, try mixing up this two-ingredient fertilizer before reaching for the plant foods they sell at the gardening store. Epsom Salts contain magnesium and sulfate--two ingredients plants crave. This little recipe is especially appreciated by peppers, tomatoes, potatoes, roses, and potted plants.

- 2 tablespoons Epsom salts
- 1 gallon water

Instructions

1. Combine and spray on your plants every two weeks or so.
2. If you are having a tough time getting the Epsom salts to dissolve, try stirring them into a small amount of warm water before adding them to your sprayer.



All-Purpose Bug-Be-Gone

Recipe by Underwood Gardens. Used with permission.

This is a spray that should pack a punch for any insect that might be munching on your vegetable patch. Again, it will repel beneficial insects as much as it will repel the undesirables, so only use it if you absolutely need it.

- 1 onion
- 6 cloves garlic
- 1 cup apple cider vinegar
- 1 Tablespoon hot pepper sauce (Tabasco® sauce will do the trick)
- 1 teaspoon liquid soap
- 1 teaspoon cayenne pepper

Instructions

1. Roughly chop the onion and garlic. Place them into a blender or food processor with approximately 2 cups of water and puree.
2. Strain out the chunks, and mix in the remainder of the ingredients.
3. Dilute the mixture with anywhere from one quart to one gallon of water, depending on the level of your bug problem.
4. Spray on the leaves of your plants.

Notes

>> I had one recipe tester report instant results when she used this on her vegetable garden that was suffering from a major attack of caterpillars and grasshoppers. She only had to apply it twice (once in the evening, and again the next morning), and she said the results were amazing!

>> This is an aggressive recipe, so test it on a small area before soaking the entire plan—just in case.



Homemade Insecticidal Soap Spray

Another homemade bug spray variation- this one is especially useful if you are fighting aphids or mites.

- 2 tablespoons liquid soap (castile or a biodegradable dish soap)
- 4 drops rosemary essential oil
- 4 drops marjoram essential oil
- 1 quart water

Instructions:

Mix all the ingredients and spray on the leaves of your plants as needed.

Notes

>> Don't have these oils? Try wild orange, lavender, spearmint, peppermint, or lemon instead.



Non-Toxic Dormant Spray

Dormant oil is the generic term used for any oil mixture applied during the dormant period (usually late November to early spring). It works mainly by smothering pests and their eggs that may be attempting to overwinter in the bark of the tree. It is especially effective against aphids, mites, and scale.

Commercial horticultural oils are usually made from refined petroleum oil (mineral oil). However, it's simple to substitute a variety of food-grade oils instead. Cottonseed, soybean, and canola oil are three vegetable oils that are commonly recommended as replacements for mineral oil. While I don't personally use these processed oils in my recipes for health reasons, I don't have a problem using them in this application.

- 2 tablespoons vegetable oil of your choice, the thicker the better
- 1 tablespoon baking soda

- 1 teaspoon liquid castile soap
- 20 drops wild orange essential oil
- 20 drops lavender essential oil
- 1 gallon of water

Instructions:

1. Mix all of the ingredients together and place into a large pump-style sprayer.

2. Shake well, and spray on dormant trees, following the instructions below:

- ONLY apply dormant oil during the dormant season. This is usually from late November to early spring.
- Spot-test this spray on a small area before applying it to an entire tree.
- Do not apply if there are leaves on the tree, or it is beginning to form buds.
- Do not apply if the temperature is below 32 degrees Fahrenheit or above 90 degrees Fahrenheit.
- Do not apply if the tree is already stressed due to drought or other factors.
- Do not apply if the tree is wet, or there is a high-level of humidity that day.
- Avoid applying this mixture to black walnut, spruce, juniper, maple, or cedar trees.



Fungus Fighter Spray

If you are dealing with fungal diseases in your garden, you don't have to purchase commercial fungicides. Instead, reach for a natural option to fight powdery mildew, black spot, or other fungus issues on your veggies.

This mixture is a favorite among many gardeners, especially after Cornell University published their study confirming its effectiveness.⁴⁷ The original recipe calls for horticultural oil, but any liquid vegetable oil should do the trick.

- 1 tablespoon baking soda
- 1 tablespoon liquid vegetable oil
- 1 gallon water
- Optional: 10 drops of an anti-fungal essential oil (such as melaleuca, cinnamon, patchouli, niaouli, thyme, or oregano)

Instructions:

1. Mix all the ingredients together.
2. Spray lightly on plants that have been affected by fungal issues.

Notes

- >> Avoid spraying this mixture too heavily or dumping it on the soil.
- >> It's best to spray this in the morning, before the heat of the day.



Milk or Whey Spray

Wagner Bettiol, a Brazilian agronomist, discovered that not only does a spray of raw milk help to combat mildews, it also acts as a fertilizer for the leaves of the plant and can help in boosting production.⁴⁸ If you are a home dairy-er, this is an excellent way to put excess milk to good use. It's also an ideal job for soured milk or whey leftover from cheese making.

- 1 cup raw milk or whey
- 9 cups water

Instructions

1. Mix and spray on vegetables, shrubs, or flowers that are battling mildews or fungi. It can also be used as a soil drench.



All-in-One Spray

This recipe is designed to combat both insect problems and fungal issues in one easy-to-mix-up recipe.

- 5 garlic cloves
- 5 tablespoons olive oil
- 1 tablespoon castile soap
- 20 drops peppermint essential oil

Instructions:

1. Smash the cloves to garlic to help release the oils, and then allow them to steep in the oil for a minimum of twenty four hours. (Placing the jar in sunny window helps.)

2. At the end of the steeping process, strain out the chunks of garlic, and whisk the castile soap and peppermint essential oil into the mixture.
3. Dilute using two tablespoons of solution per one pint of water.
4. Spray on affected plants.



Non-Toxic Weed Killer

While this simple mixture is quite effective on pesky weeds, it won't be harmful to you, your kiddos, or your free-range chickens.

- ✓ 1 gallon white vinegar*
- ✓ 2 tablespoons liquid dish soap
- ✓ Sprayer (A large weed sprayer works the best and keeps your hand from cramping up ...)

*Regular white distilled vinegar (typically at 5% dilution) from the grocery store is OK for this project, but you'll have better results if you use a stronger version. Look for "agricultural" vinegar--it ranges from 10% to 20%. As you can imagine, 20% vinegar is more caustic, so wear gloves to protect yourself.

Instructions:

1. Generously spray this **undiluted** concoction directly on the weeds. Select a day when there is full sun and no chance of rain.
2. Check the areas you sprayed the following day. If the weeds aren't completely withered, you may need to re-apply. (I saw results in less than twenty-four hours after spraying.)

Notes

>> I had a very difficult time sourcing agricultural vinegar in my area. I called all of my local home/garden stores with no luck. I was able to find it on Amazon, but the shipping was outrageous. So, I wish you better luck in your vinegar search than I had!

>> Many vinegar weed spray recipes call for the addition of salt to the mix. I tried that, but found the end results to be the same whether I added the salt or not. And the salt seemed to clog up my sprayer anyway. So I just decided to keep it simple and omit it.

>> Remember: this will kill everything—not just weeds—so be careful not to spray it on anything important.

>> I've found that this works the best on smaller plants. If you have any of those monsters that come up to your knees, you'll need to pull them by hand.

Other Quirky Gardening Tips

Coffee Grounds

Believe it or not, some of the plants in your garden may enjoy coffee as much as you do. Coffee grounds contain a notable amount of nitrogen, which is especially appreciated by tomatoes, squash, and greens. You can mix your leftover grounds into your compost pile or sprinkle them on top of the ground as a thin mulch.

Egg Shells

Egg shells are a valuable commodity around my homestead. They are a favorite among gardeners who hope to combat blossom end rot in their tomato plants—a condition which is thought to be caused by a deficiency in calcium. Try coarsely crushing the shells and sprinkling in the bottom of the hole before you transplant tomato seedlings if blossom end rot has been an issue for you in the past.

Egg shells are also reported to be an effective slug deterrent, since the soft-bodied crawlers are said to dislike crawling over the jagged shards. I don't have slugs in my garden, but if I did, this would be the first thing I'd try.

Diatomaceous Earth

DE can be used as a natural pesticide in the vegetable garden. The downside is that it can be a pain to apply--and it needs to be reapplied often--especially if you have frequent rains. I would probably only reach for the DE if I had a specific plant that was struggling with an infestation. Otherwise, attempting to dust it over the entire garden would be time consuming, as well as harmful to any beneficial insects that you might have hanging around.

Conclusion

“Organic farming appealed to me because it involved searching for and discovering nature's pathways, as opposed to the formulaic approach of chemical farming. The appeal of organic farming is boundless; this mountain has no top, this river has no end.”

— Eliot Coleman, author of *The New Organic Grower*

It took me a while to think of myself as a farmer. I guess my mental image of farming has always involved thousands of acres of corn or wheat being harvested by a guy in a big tractor wearing overalls.

But as modern homesteaders, we have the distinct privilege of partaking in our own style of agriculture, and in my opinion, it is no less significant than the efforts involved in large-scale farming.

My friends, we have the opportunity to participate in an awakening—a unique period of history where people have had the chance to experience what a high-tech, industrialized food system has to offer, and they are saying “No thanks.”

We are choosing to return to our roots. To grow our own vegetables and raise our own meat. To teach our children the value of a hard day's work and the importance of understanding the intricate relationships in nature. To purposefully avoid the fancy chemical products in shiny packaging and reach for a bottle of vinegar instead.

I'm excited—are you? Every choice we make has an impact, no matter how small. So let's make good ones.

Happy Homesteading!

- Gill

Endnotes

1. Joel Salatin, *Salad Bar Beef* (Swoope: Polyface Inc., 1995).
2. “*The Health Benefits of Grass Farming*,” American Grass Fed Beef, accessed August 2013, <http://www.americangrassfedbeef.com/grass-fed-natural-beef.asp>
3. “*Power Steer*,” The New York Times, accessed August 2013, <http://www.nytimes.com/2002/03/31/magazine/power-steer.html>
4. “*Grass-Fed Beef: What are the Heart-Health Benefits?*” Mayo Clinic, accessed August 2013, <http://www.mayoclinic.com/health/grass-fed-beef/AN02053>
5. “*Antibacterial Effects of commercial essential oils on bacteria*,” Aromatic Science, accessed September 2013, <https://www.aromaticscience.com/antibacterial-effects-of-commercial-essential-oils-on-bacteria/>
6. “*Antimicrobial effect and mode of action of terpeneless cold-pressed Valencia orange essential oil on methicillin-resistant Staphylococcus aureus*,” US National Library of Medicine Pub Med, accessed September 2013, <http://www.ncbi.nlm.nih.gov/pubmed/22372962>
7. “*Complementary and Alternative Medicine Guide: Comfrey*,” University of Maryland Medical Center, accessed August 2013, <http://umm.edu/health/medical/altmed/herb/comfrey>
8. “*Diatomaceous Earth: General Fact Sheet*,” National Pesticide Information Center, accessed October 12, 2013, <http://npic.orst.edu/factsheets/degen.html>
9. “*Enteroliths*,” Kentucky Equine Research Equine Review, accessed July 2013, <http://www.ker.com/library/EquineReview/2002/HealthLine/HL07.pdf>
10. Joel Salatin, *Salad Bar Beef* (Swoope: Polyface Inc., 1995) 156.
11. “*Tools for Managing Parasites in Small Ruminants: Animal Selection*,” National Sustainable Agriculture Information Service, accessed August 2013, <https://attra.ncat.org/atrapub/summaries/summary.php?pub=398>
12. “*The Use of Sheep Breeds Resistant to Internal Parasites*,” Alabama Cooperative Extension System, accessed August 2013, <http://www.aces.edu/pubs/docs/U/UNP-0006/UNP-0006.pdf>
13. “*Use of Herbs for Sustainable and Profitable Production of Sheep and Goats Under Natural Grazing Conditions*,” Sustainable Agriculture Research and Education, accessed August 2013, <http://mysare.sare.org/mySARE/ProjectReport.aspx?do=viewRept&pn=LNC07-283&y=2010&t=1>
14. “*The Great Garlic Debate*,” Equisearch, accessed September 2013,

- http://www.equisearch.com/horses_care/nutrition/feeds/eqgarlic52815.
“Sustainable Management of Internal Parasites in Ruminants,” Northeastern Organic Farming Association of Vermont, accessed August 2013,
<http://nofavt.org/assets/pdf/Parasites.pdf>
16. “A Controlled Experiment to Measure the Effectiveness on Lambs of Wormers That Conform to the New Organic Standards,” Garlic Barrier, accessed August 2013,
http://www.garlicbarrier.com/2003_SARE_Report.html
 17. “Association of maximum voluntary dietary intake of freeze-dried garlic with Heinz body anemia in horses,” US National Library of Medicine Pub Med, accessed September 2013, <http://www.ncbi.nlm.nih.gov/pubmed/15822591>
 18. “Skylines Internal Parasite Control Program,” Skylines Farm, accessed September 2013, <http://www.skylinesfarm.com/parasitecontrol.htm>
 19. “Natural Worming for Pigs,” Little Pig Farm, accessed September 2013,
<http://littlepigfarm.com/natural-worming-for-pigs>
 20. “The Effects of Diatomaceous Earth on Parasite Infected Goats,” Bulletin of the Georgian National Academy of Sciences, accessed August 2013, <http://www.science.org.ge/3-1/Bernard.pdf>
 21. “Small Ruminant Info Sheet: Diatomaceous Earth,” SheepandGoat.com, accessed September 2013, <http://sheepandgoat.com/articles/DE.html>
 22. “UF/IFAS expert: Promising results from papaya for parasite-plagued goats,” IFAS News, accessed August 2013, <http://news.ifas.ufl.edu/2013/06/ufifas-expert-promising-results-from-papaya-for-parasite-plagued-goats>
 23. “Tannins for Suppression of Internal Parasites,” Journal of Animal Science, accessed September 2013,
http://journalofanimalscience.org/content/81/14_suppl_2/E102.full
 24. “Tools for Managing Internal Parasites in Small Ruminants: Sericea Lespedeza,” National Sustainable Agriculture Information Service, accessed September 2013,
http://www.attra.ncat.org/attra-pub/PDF/sericea_lespedeza.pdf
 25. “Pumpkin Seeds: Do they control worms?” Delaware State University Cooperative Extension Programs, accessed August 2013,
http://www.desu.edu/sites/default/files/Pumpkin%20Seeds-Worms_DJO.pdf
 26. “Tools for Managing Internal Parasites in Small Ruminants: Copper Wire Particles,” National Sustainable Agriculture Information Service, accessed September 2013,
http://www.ansc.purdue.edu/SP/MG/Documents/copper_wire.pdf
 27. Pat Coleby, *Natural Goat Care* (Austin: Acres USA, 2012) 90-91.

28. "Natural Cures for Top-10 Goat Ailments," Acres USA, accessed September 2013, <http://www.acresusa.com/toolbox/press/goat10.htm>
29. "Choosing the Best Teat Dip for Mastitis Control and Milk Quality," National Mastitis Council, accessed September 2013, <http://www.nmconline.org/articles/teatdip.htm>
30. "The effectiveness of processed grapefruit-seed extract as an antibacterial agent: I. An in vitro agar assay," US National Library of Medicine Pub Med, accessed October 2013, <http://www.ncbi.nlm.nih.gov/pubmed/12165190>
31. "Neurological deficits induced by malathion, DEET, and permethrin, alone or in combination in adult rats," US National Library of Medicine Pub Med, accessed July 2013, <http://www.ncbi.nlm.nih.gov/pubmed/14713564>
32. Carla Emery, *The Encyclopedia of Country Living* (Seattle: Sasquatch Books, 2012) 692.
33. "About Us," Purina, accessed July 2013, <http://www.purina.com/meet-purina/about-us#/timeline>
34. "Poultry Rations and Feeding Methods," Manitoba Agriculture, Food, and Rural Initiatives, accessed June 2013, <http://www.gov.mb.ca/agriculture/livestock/poultry/bba01s12.html>
35. "Comments- Poultry Rations and Feeding Methods," Manitoba Agriculture, Food, and Rural Initiatives, accessed June 2013, <http://www.gov.mb.ca/agriculture/livestock/poultry/bba01s23.html> manitoba
36. "Pasture-Raised Poultry Nutrition," Sustainable Poultry, accessed October 15, 2013, <http://www.sustainablepoultry.ncat.org/downloads/chnutritionhpinew.pdf>
37. <http://www.fertrell.com/poutrynurtibalancer.htm>
38. "Charcoal supplemented diet reduces ammonia in chickens' litter," The University of Georgia College of Agriculture and Environmental Services, accessed September 2013, http://www.caes.uga.edu/applications/gafaces/?public=viewStory&pk_id=4067
39. "The Soy-ling of America: Second-Hand Soy from Animal Feeds," The Weston A. Price Foundation, accessed June 2013, <http://www.westonaprice.org/soy-alert/the-soy-ling-of-america-second-hand-soy-from-animal-feeds>
40. Joel Salatin, *Pastured Poultry Profits* (Swoope: Polyface Inc., 1996)
41. "The Chickens Choose – Free Choice Feeding at the UBC Farm," The University of British Columbia, accessed October 2013, <http://ubcfarm.ubc.ca/2013/04/10/the-chickens-choose-free-choice-feeding-at-the-ubc-farm/>

42. "GMO Alfalfa- What to Know," Oregonians for Farm and Food Rights, accessed October 2013, <http://www.farmandfoodrights.org/current-issues/gmo-alfalfa/>
43. "Sprouted Whole Grains," Whole Grains Council, accessed June 2013, <http://wholegrainscouncil.org/whole-grains-101/sprouted-whole-grains>
44. Harvey Ussery, *The Small-Scale Poultry Flock* (White River Junction: Chelsea Publishing Company, 2011) 56-57
45. Valerie Ann Worwood, *The Complete Book of Essential Oils & Aromatherapy* (United Kingdom: Macmillan London Limited, 1991) 367.
46. "Best Homemade Fish Emulsion," Terrior Seeds LLC, accessed July 2013, <http://www.underwoodgardens.com/soil-building/best-homemade-fish-emulsion/>
47. "Effect of Sodium Bicarbonate and Oil on the Control of Powdery Mildew and Black Spot in Roses," *The American Phytopathological Society*, accessed September 2013," http://www.apsnet.org/publications/PlantDisease/BackIssues/Documents/1992Articles/PlantDisease76n03_247.pdf
48. "Effectiveness of cow's milk against zucchini squash powdery mildew (*Sphaerotheca fuliginea*) in greenhouse conditions," agrar.de, accessed September 2013, <http://www.agrar.de/agenda/bettiol.htm>