Rule Your Roost

A Beginner’s Guide to Raising Chickens by the Experts at Backyard Poultry
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How to use this eBook
In the next few pages, you will find a one-of-a-kind resource guide with “must-reads” about how to start your chicken coop. We debunk the myths and guide you to those first chicks in just five steps, each including a brief introduction, a helpful checklist and articles written by veteran chicken owners from all over the country.

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Introduction

Dear Readers:
You’ve made the decision: It’s time to get chickens.

You’re not going to let any of those lingering doubts keep you from your dream of having chickens any longer. Now the hard part ... You need to figure out how and where to start. Don’t worry. We’ve all been there.

That’s exactly what this book is all about. Think of it as your quick-reference guide to help you answer all those nagging questions you might feel a little silly asking. But you shouldn’t! Asking good questions is the key to successfully chicken ownership.

To help you answer those “silly” questions (as well as a few more detailed ones), this resource guide will lead you to industry experts, including the talented writers and editors at Backyard Poultry Magazine, who have spent years specializing in assisting readers in raising all sorts of poultry safely and efficiently.

What follows are five steps our collective experts all agree you should take to help you get your chicken coop up and running, and your flock producing, along with award-winning articles, books and online resources to help you.

Before we get started, Byron Parker of the Randall Burkey Company in Texas put together a solid piece for all those “dumb” questions you don't want to ask. It’s a must-read before you start digging deeper. We did not publish the whole article below, but you can read it in its entirety here.

1. Do I need a rooster for my hens to lay eggs?
   Okay, stop laughing! At one time, we all didn't always know the answer to this question. The answer is no, unless you want chicks. If you're just looking for eggs to eat and/or some nice yard pets, hens minus the rooster can provide you with plenty of farm fresh eggs without a single crow to wake you up in the morning.

2. How long do chickens live?
   The life expectancy of most standard chicken breeds shielded from predators and deep fryers can range from eight to fifteen years. There are many reports of pet chickens living as long as twenty years! With the increasing popularity of raising chickens as pets, I imagine someone will develop a new line of chicken coops such as nursing coops or assisted living coops for the growing population of elderly chickens. All joking aside, chickens are very hardy animals that rarely need a trip to a veterinarian, no matter how long they live.

3. What do I need when my chicks arrive?
   What you do need is a way to keep your chicks warm without cooking them. Depending on the number of chicks and your budget, there are several options. Most commonly used and most economical is a single lamp infrared brooder with a two-hundred-and-fifty-watt, red glass infrared bulb. Of course you will need a perimeter to contain the chicks inside the heated area — something as simple as an eighteen-inch high corrugated paper chick corral will get the job done. Place a small thermometer inside to ensure the correct temperature of ninety-five degrees (F) is maintained, dropping five degrees each week thereafter. A proper chick feeder and waterer is also necessary and you should provide ample space for the number of chicks inside. Pine shavings will work well as bedding. Although there are many other options, you want to avoid using material such as newspaper that does not provide stable footing.

4. At what age do hens start laying and how many eggs will they lay?
   Typically hens will start to lay when they are around five to six months of age and will lay
approximately two hundred to three hundred eggs annually, based on the breed type. Breeds like Rhode Island Reds, Golden Sex Links and White Leghorns are considered some of the most prolific egg layers. Peak production generally occurs at two years of age and slowly declines thereafter.

5. How much feed do chickens eat?
   The amount of feed a chicken will consume varies dramatically based on breed type, feed quality, climate, and other variables that make it difficult to provide one good answer. However, a typical laying hen will consume around four to six ounces of feed each day with an increase during cold months and a decrease during warm months.

6. How big does my chicken coop need to be?
   Because chickens spend most of their active time outside of the chicken coop, generally two to three square feet per chicken is sufficient space. Remember, you will need to provide space to roost at night and space for the nesting boxes. If you plan on keeping them cooped up full-time then eight to ten square feet per chicken would do, counting the outside run. In this case, more is always better. If you are planning on buying or building a mobile chicken coop, space requirement is minimized because it offers you the ability to frequently move the coop and chickens onto fresh ground.

7. How many nest boxes will I need for my hens?
   If you asked a slick nest box salesman, he would probably tell you the answer is one box for every hen and then tell you how much he likes you and how he is willing to give you a great deal if you buy today. Fortunately, I don't think there are many "nest box salesmen," especially slick ones. However, there are plenty of poultry supply companies that sell nest boxes and the answer they should give you is approximately one nest box for every five to six hens.

8. What is the best way to deal with internal and external parasites?
   Because we are dealing with an animal that we may eat or eat the eggs from, I prefer to recommend the more natural alternatives for treatment opposed to chemical use. "Food grade" diatomaceous earth is the fossilized remains of microscopic shells created by one-celled plants called diatoms and is the most popular natural product for controlling internal and external parasites. Chickens can be dusted with it to treat lice and mites, and it can be mixed with their feed to control worms. Another alternative all-natural product is Poultry Protector, used to control external parasites such as mites, lice, and fleas. Poultry Protector uses natural enzymes to control parasites and can be sprayed in all areas of the chickens' living quarters and safely on the birds as well.

9. What is the best way to protect my chickens from predators?
   Obviously, a well-built chicken coop is your first and best defense against predators. The coop should be designed to prevent predators from crawling through small openings or from tunneling under. Most troublesome predators come at night, so it may be a good idea to place a few NiteGuards around your coop. NiteGuard Solar emits a flashing red light at night that makes predators think they're being watched by something more terrifying than they are, forcing them to leave the area, and preventing predators from ever approaching your coop.

10. How do I get my chickens to go in the coop at night?
    Chickens instinctively move into their coop when the sun goes down. It may take a little coaxing for grown chickens to move into a newly built coop, but once they realize it's home, they generally go right in at night. Your job is to close the door behind them once they enter, and then to open it back up in the morning. If this sounds like something you don't care to constantly deal with, you can buy an automatic chicken coop door.
CHAPTER 1

Step 1: Know the chicken laws

You don’t want your chickens to be outlaws, do you? So while you may have decided you want to have a flock of one or a hundred (we recommend starting with just a couple, and growing from there), making sure you can live in relative peace with them is a whole different question. In recent years due to the downturn of the economy and better education about the public health benefits of raising poultry locally, we have seen hundreds of cities, towns and counties adapt or loosen their laws to help people own chickens. This is all great news for you as you begin your new adventure.

That said, many neighborhoods, homeowner associations and communities are strict about how many chickens are allowed per property, and how many roosters you can own at one time. And as many are showing across the country, some towns need a push from its residents to help adopt new laws or fix existing laws that unfairly prohibit raising chickens.

(Quick side story, and one we had to share. Recently, a person working with their town council, who had a member who insisted that roosters were just old hens.)

It may all sound like a lot of trouble, but don’t worry — you’ll find others in your community willing to help. But if you are starting from scratch, don’t be in a hurry, as creating an ordinance could take a year or more. Hopefully this isn’t the case, but just think about what your efforts will bring.

If you have an accepting law, then you’ve cleared the first hurdle. If you’re not sure where to start, here’s some more information.

Step 1 Checklist: Understanding the law

• To find your town ordinance, go online and search under “zoning” to see what the law is. If you have any questions and would prefer to talk to a human, call the zoning office or town hall administrator and ask them to help you. They are listed in the phone book. The government should be able to provide you a copy of the law, or at least show you how to access it if you so desire. Make sure you are one-hundred percent clear on the law before you begin, and definitely before you start buying chickens and building coops.

• In the area, meet your allies. There are dozens of groups all across our country that provide resources, advice, supplies and general knowledge to help you with any issues that come up.

• Talk to your neighbors. As Backyard Poultry writer Ana M. Hotaling found in her reporting, neighbors can be big of a bigger nuisance as city, town and county codes. She interviewed a family that had followed the law, but ran into a group of “unhappy neighbors who refused to recognize their right to farm.” As she wrote, it took a toll — both financially and emotionally — on the family, who in the end decided to move to a new house in an area that was more chicken-friendly.

• Finally, involve the community. If you feel nervous about how the neighbors will react, invite them over. Explain your plans to them. When you buy your first chickens, throw a “chicken party” and show all the neighbors. Heck, even let them name one or two and help take care of them. And of course, share the eggs. That usually wins a lot of friends, and smiles, which will go a long way to helping you start your coop.

Step 1 Resources:
Short articles:
“One dozen tips to help legalize backyard chickens”: Chicken writer Jono Miller of Sarasota, Florida, wrote the following piece in Backyard Poultry. It’s short, realistic and gives great advice. Read it here.

“How to pass a poultry ordinance”: This group in Madison, Wisconsin, fought hard and won. Here’s an article published in 2005 in Backyard Poultry that tells how.

Best books:
“How to Raise Chickens.” Veteran author and writer Christine Heinrichs wrote a stellar book that helps answer a lot of questions, and touches on the legal questions as well. Like us, she advocates the “open door” approach, especially in urban areas, which means inviting the neighborhood over to check on the chickens and see what’s happening first-hand. Read more about our bookstore and ways to buy this book here.

“Storey’s Guide to Raising Chickens”: A print edition, this is the definitive book on raising chickens and has more than 35 pages on how to build a great shelter for your chickens. Author Gail Damerow, a regular writer for Backyard Poultry, spent time in the third edition refining the first two best-selling editions. Read more about our bookstore and ways to buy this book here.


Online:
Backyard Chickens is a great resource, and the editors there have gone town-by-town, state-by-state to post the ordinances on their site. It includes more than 950 town ordinances, and can be found at www.backyardchickens.com.

BackyardPoultryMag.com. Warning. This is a shameless plug, but we have hundreds of articles we have previously published about chickens, and it’s worth a look. If we weren’t proud of it, who would we be? (End of shameless plug.)

Your town, city or county website should have links that allow you to search laws. Most urban areas already do. Also, most urban areas also have advocacy groups who closely track the laws. Finding out what groups are in your area is a good idea anyway, so give them a call and ask a bunch of questions. Some rural websites are not so robust, so you may just need to call the zoning office or someone like a town clerk.
CHAPTER 2

Step 2: Choose your chickens

There are hundreds of different breeds of chickens that vary in just about every size, shape, personality and color. Some lay blue eggs. Some do not. Some live more comfortably in cold temperatures than others. Some are big. Some are small. … You get it.

As any chicken expert will tell you, selecting the right breed will save you a lot of time, headache and heartache in the long run. To help you, below we listed below of places to start and to learn more about breeds.

Step 2 Checklist: Choose your chickens

• Set your goals. What will you primarily be using the chickens for? Eggs? Meat? Companionship? These all will have a factor on the breed that you should choose.

• Know your environment. Some chickens are better in warm weather, and some are better in cold weather. These preferences are worth looking into, especially if your temperatures are extreme.

• Narrow your options. After you have thinned your options down to just a few, we encourage you to contact the American Livestock Breeds Conservancy at: P.O. Box 477, Pittsboro, NC 27312, 919-542-5704, or email albc@albc-usa.org. Their Program and Technical Support staff can help you pick a breed and their annual Breeders and Products Directory can help you find a source of quality stock. Abstracts for the chicken breeds are posted on ALBC's website, to help you as you get focused on the right breed for you.

• Find a seller. The ALBC can help you with this as well. Whatever you choose to do, find a good, reputable seller. You may need to travel, especially if you live in an urban area. Also, talking to your egg and dairy vendors at the farmer’s market is a great place to start, as is speaking with groups in your area that are advocates for raising chickens.

• And finally, buy the chicks or chickens. They range in price from $3 to $5 per chick, and are around $10 for a grown laying chicken, with exceptions, of course.

Step 2 Resources:
Short articles:
“Six keys to selecting a chicken breed,” an article by Brandon Mitchell, a chicken farmer in Tennessee. It’s a quick, five-minute read that gives you a great introduction to the key questions to ask. (Published in the February-March edition of Backyard Poultry). Read it here.

“Getting the Facts on Chicken Breeds,” an article by Virginia’s Don Schrider, a nationally-recognized poultry breeder and expert. As he writes, chickens are not a “one-size-fits-all” type of animal. Read it here.

Why choose traditional poultry breeds? Christine Heinrichs, an expert on many things chicken, advocates for looking at buying a traditional breed with her article here.

Best books:

“American Standard of Perfection”: Pricy at up to $150 for this year’s edition, it’s the definitive, updated guide for poultry breeds and published by the American Poultry Association.

Online:
Breeds and standards can be hotly debated, so make sure you reference everything more than once to ensure you are getting exactly what you want. Here are a couple sites run by universities that are trusted and fairly easy to use.

American Livestock Breeds Conservancy: A great, official resource with breed details and comparisons. Simply visit [www.albc-usa.org](http://www.albc-usa.org) and click on the "Breed Information" button on the left of the page.

“Breeds of Chicken”. Oklahoma State put together a detailed website together about chicken breeds, although this one helps if you know what breed you are looking for. Otherwise, it’s a lot of clicking around. Find it at [http://www.ansi.okstate.edu/breeds/poultry/chickens/index.htm](http://www.ansi.okstate.edu/breeds/poultry/chickens/index.htm)

“Henderson’s Chicken Breed Chart”. This is the go-to chart for comparing breeds, and has been for the last decade. It’s pretty intuitive — not the most beautiful thing in the world, but informative. Find it at [http://www.ithaca.edu/staff/jhenderson/chooks/chooks.html](http://www.ithaca.edu/staff/jhenderson/chooks/chooks.html).

Finding a hatchery: This site does a good job of listing suppliers and hatcheries: [http://www.feathersite.com/Poultry/BRKHatcheries.html](http://www.feathersite.com/Poultry/BRKHatcheries.html). Here’s one more: [http://www.poultryconnection.com/hatchery.html](http://www.poultryconnection.com/hatchery.html). Also, Backyard Poultry subscribers can check classified and advertisements in each edition for reputable sources.
CHAPTER 3

Step 3: Build a coop

This can be a lot of fun, but don’t just get the prettiest one you see online or build your “dream coop” before doing a lot of thinking and design. Just like you took great care to select a breed of chicken, you also need to take great care in building a structure to take care of them. There are no limits to what you can do with a chicken coop, but there are a few basics that you need to understand.

Step 3 checklist:

• Get enough space. First, how many chickens are you getting? Experts vary in their suggestions slightly, but each chicken needs approximately three to four square feet of space in the hen house. Don’t forget, your chickens need fresh air and room to roam, so each chicken needs approximately four square feet of room in the chicken run, as they do like to exercise, and need it to stay healthy. Most agree — in this circumstance, more is always better.

• Make it predator-proof. It’s important to make sure that gaps in the coop are one-inch or less, and that the wire is attached to the frame in a secure way. Predators are clever, and can come in a variety of forms. Don’t just think about foxes — parasites are also dangerous for your chickens, and small rodents can carry those. Experts agree: Building your coop to keep out mice and other vermin is a good idea. Also, if you’re looking into electrical fencing, do your research. Not all work well, and fixing these fences constantly is no fun at all.

• Make it functional. Make sure it’s efficient and designed to keep your chickens healthy and happy. But also make sure it keeps you happy as well. Some folks choose to make their coops portable, so they can move it around their yards to follow shade patterns, or for easy weather-proofing ... or any number of seasonal issues and weather-related challenges.

• Make sure the roof works. Predators shouldn’t get in, and you should also think about getting more elaborate with weather protection, rain protection and predator protection elements. Plus, these are fun decorative elements that can help your coop look like part of your urban homestead.

• Think about nest boxes and additional ideas: You want your chickens to be comfortable, but they will most likely tell you where that is. One nest box could serve a flock of less than five or six chickens. Think about water placement, food placement, waste removal, perching habits and door access, which can help keep your flock healthy and your maintenance and routine work as simple as possible.

Step 3 resources:

Short articles:
Want to get artsy? This is what they came up with at the University of Colorado-Boulder.
Got an old doghouse? Convert it to a coop. Gail Damerow explains how here.
Make it like Barbie: Writer Dr. Samir Shain from California found this gem.
Make it portable. Here’s one idea created by Bill Dreger, a chicken farmer in Ohio.
Use recycled materials, like Michele Jobgen of Illinois and a bunch of other chicken lovers did. She and a bunch of our readers shared about their experiences here.
Just be creative: From solar-powered coops to fun nest boxes, here are a bunch of great ideas from Backyard Poultry readers.
Best books:
We really like “Reinventing the Chicken Coop: 14 Original Designs with Step-by-Step Building Instructions” by Kevin McElroy and Matthew Wolpe. It’s published by Storey. $19.95. Gail Damerow also wrote “The Chicken Encyclopedia,” an illustrated reference guide, which includes all sorts of ideas about coops. Read more about our bookstore and ways to buy this book here.
Online:
Want to just buy a coop and get on with it? Chickens are getting hip, and there are a number of new coop sites popping up daily. No matter where you go to shop for a coop or look for cool ideas, make sure you know what you need and don’t get suckered by something that looks cool, but isn’t safe for your chickens. BackyardChickens.com is is a great resource. It has dozens of coop ideas, along with pictures, how-tos and supply lists.
CHAPTER 4

Step 4: Help the chickens stay healthy

Of course you want to make sure your chickens are healthy and active. This means ensuring they have clean air, the right feed, a good water supply, plenty of space, are safe from predators and overall enjoy a comfortable living environment.

This is no small task, and if you find yourself constantly tinkering with different aspects, then you are most likely doing the right thing. Every environment will provide different challenges — from the oppressive heat in the south to the long, extended winters of the north, talking with other chicken owners in your area is a good idea to see what they go through and how they have adapted.

Knowing the local knowledge will be best, and this book is just to “get you started,” we will refrain from going into all the detail we really want to. But we just have to say, there are some basic best practices to follow, and you should invest a large part of your preparation into developing the proper techniques and routines for your flock.

Step 4 checklist:

• Build a coop-cleaning schedule. Your coop could be cleaned every day, every hour, and you’d find something to do. While that’s the case, who has time for that? Set a regular schedule and if it’s keeping them healthy, stick to it. Also, you can control a lot by how you build the coop and run. Need ideas? Some use tarps that are easy to clean, some build in removable pans to control waste in the coops. No matter what system you develop, ensuring your chickens are not living in their own filth will help control parasite infections in the chickens and the eggs and meat they can produce.

• Ensure the coop is ready for each season. Many chicken owners fail to adjust their coops in a timely fashion once winter sets in or after the hot summer days arrive. Stay on top of temperature control, and your flock will thank you for it. Adding or taking away insulation, moving the coop to shady areas and opening/closing extra ventilation are just a few ideas.

• Buy the right feed. Did you know that researchers found that chickens can actually choose to direct nutrients to themselves or to the egg? If you want healthy eggs, you need a healthy chicken, and that means feeding it correctly, especially if it’s laying. Calcium is needed, of course, but also salt, phosphorous, choline, protein and fat. Make sure your feed provides the right balance of these.

• Keep the water clean. Separate your water source from where they poop. A lot of chicken owners will hang their water from the ceiling, so it is uncomfortable for the chickens to roost on and, well, do their business. One tip: Organic apple cider vinegar in the water will discourage bacterial and fungal growth and aid their digestive system. Also, heating the water can be a simple way to provide warmth for the whole coop when it gets cold.

• Go the extra mile. Think adding apple cider vinegar is enough? Think again. Giving your hens oils and herb supplements will help them be as healthy as possible, especially if they are in egg production. Adding a chunk of charcoal inside the coop has been proven to help detoxify the chickens, which will eat the charcoal as a snack. There are a million ways to add a little bit of love into your basic feed, water and shelter routines, and we encourage everyone to add of a few of these to theirs. Not only will your flock be happier, but you will also be more satisfied with the
eggs.

Step 4 resources:
Short articles:
“Want healthy birds? Give them fresh air!” Don Schrider, a Backyard Poultry contributor from Virginia, wrote a great piece about what he’s learned about ventilation techniques. Read it here.
“Herbs for spring eggs and breeding”: Susan Burek and Laura Corstange, herb farmers from Michigan, wrote a good piece about general nutrition and how to incorporate the right herbs and oils into their diet. Read it here.
“Preparing the flock for winter.” Writer Harvey Ussery, a homesteader, lives in the cold mid-Atlantic region, and discovered a lot of helpful ways to winterize his flock. Read it here.
“Controlling mites in your poultry.” Chicken mites can cause your flock to become lethargic and lose egg production. Here’s a great guide to help prevent this from happening, written by Laura E. John from Poultryman’s Supply Company. Read it here.
“What an avian vet wants you to know ...” A great article by Oregon writer Sue Campbell, who did an entertaining job of listing ideas for health chickens, and pitfalls most urban chicken owners fall into. Read it here.

Best book:
“The Chicken Health Handbook.” Gail Damerow’s done it again, this time with her very helpful reference for small-flock owners. Charts and illustrations are abundant and easily outline treatment ideas and remedies for everything from poor egg production to cooked toe syndrome. Read more about our bookstore and ways to buy this book here.

Online:
Common Poultry Diseases. A nice, comprehensive list of ailments, along with symptoms, signs, treatment and prevention techniques, all put together by the University of Florida. http://edis.ifas.ufl.edu/ps044.
CHAPTER 5

Step 5: Keep learning and having fun

There is nobody who knows everything about chickens. But if you’re on step 5, and have your coop and chickens happy and healthy, then you already know that. After a few months, we encourage every new chicken owner to stop and ask themselves a few questions. It’s the gut-check time. Are you enjoying it as much as you thought you would? We hope so! Here are a few ideas to keep your flock progressing, as well as some more “advanced” ideas for those who are looking for new and different challenges and opportunities available to those who raise chickens.

Step 5 checklist:

• I am having fun.

• My chickens are healthy and producing what we want them to, whether it’s fun, eggs or meat.

• I feel like I’m good at it. Being good at it makes it a lot more fun, and when it’s fun, it is a lot easier to encourage others to do the same.

• I’ve met other chicken owners and have local resources for help. Tapping into the world community of chicken owners and lovers is the only way to ensure that you keep learning, you keep improving and you begin getting more efficient at raising your chickens.

Step 5 resources:

Here are a few ideas for those looking for more expertise in specific areas of starting your coop. Here’s to your future with chickens!

Egg resources:
The quality of the egg is a good sign at how healthy your chickens are. If they look right and taste right, then most likely you’re doing a great job. If the eggs are sickly looking, discolored, odd-shaped or diminutive, then you should start the process of figuring out why and fixing it. Also, if you are selling the eggs, you will need to know your state health code for what steps you must take in order to sell them legally.

“Backyard eggs are safe.” Gail Damerow and Lisa Jansen Mathews compiled this great page on egg safety.
The Colorado State University compiled a great safety checklist to help you with your egg handling. Find the link here.

Meat resources:
Choosing the right chicken breed is crucial to getting the best-tasting meat. Some cross-breeds have been designed to provide a lot of meat quickly in the life cycle of the chicken, even as early as six weeks, but this is not without controversy. Read one piece here.

For small-flock meat growers, the University of Missouri compiled an excellent, easy-to-read page with some great tips. So does a few other institutions. Find our page of helpful links here.

Breeding resources:

In 2004, scientists published the entire chicken genome, giving research laboratories and mass-market food providers the ability to begin experimenting with genetics of the breeds, what many naturalists call “Franken-chickens.” It’s easy to understand why this makes many people uncomfortable. To combat this, breeding your own chickens from well-known heritage lines would solve this issue, and has become increasingly common, despite the fact that eighty percent of meat chickens are provided by three consolidated farm companies in the United States. That said, breeding chickens can be rewarding, especially if you hope to grow your flock or
restore less common breeds. Here are a few articles and resources we liked:
Traditional breeding programs are getting rarer and rarer, but can still be very effective for your home flock. Read a great article by chicken experts on the issue, including some tips on starting your own mating and breeding programs.
Don Schrider wrote this piece on breeding his home flock in Virginia.
**Exhibiting chicken resources:**
Want to show off all your hard work and see how your flock stands against others? You’re not alone. Thousands of people compete every year at trade shows and 4-H contests to see who has the finest chickens around, and get a lot of enjoyment out of it. Not only do awards feel good, but they can also increase the value of your flock.
Here are a few places to start:
4-H: They are the best resource for information on all poultry contests, judging information and criteria to be included in your region. Contact your local office, or find our page of helpful links here.
The Poultry Guide put together a great page on showing your chickens. Find our page of helpful links here.
Talk to your local advocacy group or others who may know of cool, local competitions that are not on our radar. The types of groups are increasing in popularity.
About Backyard Poultry
Backyard Poultry is a bi-monthly publication based in north-central Wisconsin and owned by Countryside Publications, Ltd., a group of publications themed on livestock and homesteading. Backyard Poultry is best know as the original chicken magazine, and recently was given new life with the urban chicken revolution of the past decade. Unlike some chicken-themed publications, ours is not just filled with lectures from chicken experts in academic settings. It’s quite the opposite. We encourage our readers and subscribers to write us stories, take pictures and help inform other chicken lovers and owners about tips, tricks, ideas and solutions that make it all the more enjoyable. We publish several of these every edition, as well as articles from our experienced group of writers based around the world. We publish six editions per year at a very affordable rate that starts at $21 per year.
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Appendix 1: Reference Materials

Top 10 Chicken Questions Answered

By Byron Parker
Randall Burkey Company
Texas

It’s getting easier for people outside the backyard poultry community to understand why so many of us choose to dedicate a portion of our lives to raising and caring for chickens. I don’t get the same reaction I used to from suburbanites when they find out I raise chickens through casual conversation. Instead most people end up telling me about someone in their neighborhood that is raising a few chickens. In fact, it has become quite easy to influence outsiders to take part in this "unusual" hobby simply by telling a story or two about our beloved chickens and their unforgettable antics. Let’s face it, stories about dogs and cats are about as interesting as a glass of warm water and dry toast for dinner. Who hasn't heard the one about the dog that chased its tail? It’s not that it wasn't funny but I suspect your audience has seen this behavior before. Now tell the story about the rooster that chased your screaming mother-in-law around the backyard, suddenly people become very interested in what you are saying. You'll still have plenty of opportunity to talk about your dog when you raise chickens as the two can produce some entertaining and crowd pleasing stories, provided the story doesn't end with the dog eating the chicken. I remember sitting on he back porch with my wife enjoying an ice cold drink when my 85-pound dog came running across the backyard with his tail between his legs and a Buff Orpington roosting on its back while a Barred Rock chased behind. The chicken on his back quickly jumped off as Farley (my dog) crawled underneath my chair for protection and some comforting. I'm not sure how that all got started but since then we have replaced our "beware of dog" sign with an "Area Patrolled by Attack Chicken" sign.

A good story doesn’t always have to involve the chicken but rather the chicken coop. I love to tell the story about my 2-year-old son getting his head stuck inside our chicken tractor yelling "No! No!" as the chickens pecked and pulled at his curly blonde hair. Trust me; you don't have to make this stuff up! Raise chickens long enough (a few weeks will do) and you won't have to look very hard to find a hilarious story to share.

But it's not just the stories we share that make people from the small land owner to the urban adventurer commit to sharing their yard with a few chickens. It's not just the fact that more people realize the health benefits of eggs from backyard hens, not to mention the more humane lifestyle they are exposed to. Could it then be they are looking for the blood pressure lowering
effects associated with "pet" ownership that we keep reading about? Or could it be a way for people to escape back to the good old days by incorporating some of the sights and sounds we experienced during visits to Grandma and Grandpa's farm? The real answer is most—or all—of the above.

Most people end up raising chickens after one of three occurrences: 1) Intensive research suggested the positive aspects of raising chickens outweighed any possible negatives, 2) Dad has trouble saying no to his kids and came home from a recent trip to the feed store with six chickens, a toy horse collection, and two bags of candy but forgot the new shovel he went there for, or 3) Drinking beer while looking at poultry-related websites.

Conversely, I think the reasons many people don't raise chickens is because they believe chickens are strictly farm animals that require a lot of space, feel they don't have access to the types of supplies required, or stay completely sober when surfing the internet. In reality you don't need any more room in your backyard for a few chickens than you do for a dog and you can order a chicken coop, chicken feed, and most other poultry supplies online 24 hours a day.

But before you wake up with a hangover and an online order of Barred Rock chicks, let me at least bring forth some answers to the questions that most people ask before jumping into the backyard poultry arena. Keep in mind there are experts in the world of poultry like Gail Damerow, who have written books like The Chicken Health Handbook and Storey's Guide to Raising Chickens that can serve as guides into your new endeavor. However, although I am not qualified to be considered an expert, I did manage to read both books and have raised, or at least eaten, chickens most of my life, and spent the last 17 years in the poultry supply business, so I should be able to provide some unique insight into the world of backyard chickens.

To help do so, I have polled the operators at Randall Burkey Company who sell poultry equipment and live chicks on a daily basis and asked them to help me come up with the top 10 questions asked by people who are either planning to raise chickens or are new to raising chickens. Hopefully these turn out to be some of the same questions you might need answers to. Remember, no question is a dumb question if you don't know the answer. I remind myself of that whenever I talk to a mechanic. "The battery's dead! Doesn't my car run off gasoline?"
Chickens enjoy foraging for their food and this economical time-release feeder offers an easy solution when there is less foraging material available.

So here are the top 10 questions:

**#1. Do I need a rooster for my hens to lay eggs?**

Okay, stop laughing! You didn't always know the answer to this question. I will tell you that this is the most commonly asked question we get, so no one should be embarrassed. The answer is no, unless you want chicks. If you're just looking for eggs to eat and/or some nice yard pets, hens minus the rooster can provide you with plenty of farm fresh eggs without a single crow to wake you up in the morning.

**#2. How long do chickens live?**

The life expectancy of most standard chicken breeds shielded from predators and deep fryers can range from 8 to 15 years. There are many reports of pet chickens living as long as 20 years! With the increasing popularity of raising chickens as pets, I imagine someone will develop a new line of chicken coops such as nursing coops or assisted living coops for the growing population of elderly chickens. All joking aside, chickens are very hardy animals that rarely need a trip to a veterinarian, no matter how long they live.

**#3. What do I need when my chicks arrive?**

Boil some water and grab some clean towels! Isn't this what we heard on television when the mother went into labor? However, with newborn chickens, we only need to boil water if we plan on cooking them. What you do need is a way to keep your chicks warm without cooking them. Depending on the number of chicks and your budget there are several options. Most commonly used and most economical is a single lamp infrared brooder with a 250-watt red glass infrared bulb. Of course you will need a perimeter to contain the chicks inside the heated area — something as simple as an 18" high corrugated paper chick corral will get the job done. Place a small thermometer inside to ensure the correct temperature of 95°F is maintained, dropping 5° each week thereafter. A proper chick feeder and waterer is also necessary and you should provide ample space for the number of chicks inside. Pine shavings will work well as bedding and although there are many other options, you want to avoid using material such as newspaper that does not provide stable footing.

**#4. At what age do hens start laying and how many eggs will they lay?**

Typically hens will start to lay when they are around 5-6 months of age and will lay
approximately 200 to 300 eggs annually, based on the breed type. Breeds like Rhode Island Reds, Golden Sex Links, and White Leghorns are considered some of the most prolific egg layers. Peak production generally occurs at two years of age and slowly declines thereafter.

The Egg Cart'n Mini Byron uses in his backyard has a total of 24 square feet of living space. It will easily house 4-6 hens or 2 chickens and one 2-year-old boy.

#5. How much feed do chickens eat?

The amount of feed a chicken will consume varies dramatically based on breed type, feed quality, climate, and other variables that make it difficult to provide one good answer. However, a typical laying hen will consume around 4 to 6 ounces of feed each day with an increase during cold months and a decrease during warm months. Many types of feeders available today are designed to prevent feed from being scratched out to reduce wasted feed and lower your overall feed bill. Depending on where you are located, your chickens can nearly survive strictly by foraging for their food on a good size piece of property. Foraging for food is really the chickens' preferred method of eating because it makes life much more interesting for them as opposed to standing around the all-you-can-eat food trough. Even during the leaner times you can promote natural foraging behavior by hanging a "Free Range" feeder in your yard. With a timer that can be set to release varying amounts of pelletized feed, you can provide your chickens the sustenance they require while still allowing them the opportunity to act upon their natural instincts.

#6. How big does my chicken coop need to be?

Because chickens spend most of their active time outside of the chicken coop, generally 2 - 3 square feet per chicken is sufficient space. Remember, you will need to provide space to roost at night and space for the nesting boxes. If you plan on keeping them cooped up full-time then 8 - 10 square feet per chicken would do, counting the outside run. In this case, more is always better. If you are planning on buying or building a mobile chicken coop, space requirement is minimized because it offers you the ability to frequently move the coop and chickens onto fresh ground.
Don't let a slick nest box salesman sell you more than you actually need. This six-hole nest box will easily accommodate up to 24 hens.

#7. How many nest boxes will I need for my hens?

If you asked a slick nest box salesman, he would probably tell you the answer is one box for every hen and then tell you how much he likes you and how he is willing to give you a great deal if you buy today. Fortunately, I don't think there are many "nest box salesmen," especially slick ones. However, there are plenty of poultry supply companies that sell nest boxes and the answer they should give you is approximately one nest box for every 5 - 6 hens. Now this can, and does, vary somewhat but the point is this, if you have 25 hens you don't need to purchase 25 individual nest boxes. In fact, one six-hole nest box would probably be sufficient for 25 laying hens, or 6 extremely pampered laying hens.

#8. What is the best way to deal with internal and external parasites?

Because we are dealing with an animal that we may eat or eat the eggs from, I prefer to recommend the more natural alternatives for treatment opposed to chemical use. "Food grade" diatomaceous earth (DE) is the fossilized remains of microscopic shells created by one-celled plants called diatoms and is the most popular natural product for controlling internal and external parasites. Chickens can be dusted with DE to treat lice and mites, and it can be mixed with their feed to control worms. Another alternative all-natural product is Poultry Protector, used to control external parasites such as mites, lice, and fleas. Poultry Protector uses natural enzymes to control parasites and can be sprayed in all areas of the chickens' living quarters and safely on the birds as well.

Byron's friend Mike sprays Poultry Protector on a Buff Orpington. It's a non-toxic, all-natural product safe for use in the coop and directly on chickens to help clean away mites, lice, and fleas.

#9. What is the best way to protect my chickens from predators?

Obviously, a well-built chicken coop is your first and best defense against predators. The coop should be designed to prevent predators from crawling through small openings or from tunneling
under. Most troublesome predators come at night so it may be a good idea to place a few NiteGuards around your coop. NiteGuard Solar emits a flashing red light at night that makes predators think they're being watched by something more terrifying than they are, forcing them to leave the area, and preventing predators from ever approaching your coop.

**#10. How do I get my chickens to go in the coop at night?**

Chickens instinctively move into their coop when the sun goes down. It may take a little coaxing for grown chickens to move into a newly built coop but once they realize it’s home, they generally go right in at night. Your job is to close the door behind them once they enter, and then to open it back up in the morning. If this sounds like something you don't care to constantly deal with, you can buy an automatic chicken coop door such as the new Poultry Butler Automatic Poultry Door.

Whatever reasons made you decide to start raising chickens, personally I think you made a great decision, even if it happened to be alcohol induced. I guarantee you're going to have some great stories to tell about your life with chickens, and I wish I could hear every one of them.

To those of you who already have chickens, don't forget to pet the dog every once in a while. If you're like me, you still love your dog but wish it were eggs he was laying all over the backyard. Now that would be a great story!
One Dozen Tips to Legalize Backyard Chickens In Your Community

By Jono Miller
Sarasota, Florida

Across the country chicken lovers are fighting for the right to keep a few hens. The City of Sarasota is thought of as a Florida resort/retirement community with great beaches—an image that may not include backyard chickens, but after an 18-month campaign we secured a 5-0 vote to legalize backyard hens. Now you can learn from our experience and our mistakes.

We assumed that we could simply ask the City Commission to change the laws and they would. That was naïve. First we had to get the Commission to direct their planning staff to research the possibility and propose an approach. We worked with staff to shape that proposal. Then we had to go before the Planning Board (which did not support us) before actually getting a revised ordinance in front of the Commission.

Every chicken loves tomatoes, even this city chick, Sarah, a Buff Brahma. Photos courtesy of Jean Blackburn.

So here is what we learned:

1) Don't assume it will be quick and plan to work closely with those who will be framing the proposal. Our planners were cautious and skeptical at first, but came around once they learned about the experiences in other communities. Having planning staff support helped offset the unfavorable planning board vote. Luckily one of the city planners lived in the country and kept chickens, which leads to the next tip.

2) Your chances are greatly improved if you have supporters inside the system. Ideally, cultivate at least one supporter on the final decision making body, the planning staff, and any planning advisory board. These people can speak from the dais when you can't, and give you important insider tips on strategy and tactics. And having one early-supporter insider reduces the number of others you have to convince. If you can't start with a decision-maker that supports you, find some supporters who are savvy about local politics. One obvious source: former elected officials or other opinion leaders — we ended up with three former commissioners supporting us and that said a lot. If possible, identify a spokesperson who knows both chickens and the local political scene.

The media are pre-disposed to be on your side — the backyard chicken topic is trendy, and ready for puns and word play in both headlines and copy. Naming our group CLUCK and having slogans
like "Give peeps a chance" certainly didn't hurt. When we saw the headline Chicken Advocates Want Ban Scratched we knew the press was itching to cover our quest.

3) Make contact with media early and not just the news staff, — be sure to court the editorial boards, because you'll need them before any hearings. Our biggest local paper switched from a somewhat critical Hatch a Compromise editorial to Make Way for Chickens after we met with the editorial board and addressed their concerns. Reading a positive editorial in the local paper can help elected officials make the right choice.

Early on we made a commitment to "address all reasonable concerns" and to do so honestly. Whenever there is a disagreement about the impacts of hens, you want to be on the side that appears the more reasonable and researched. Document your assertions — there is a lot of information online, including on our Sarasota CLUCK blog: sarasotacluck.blogspot.com.

4) **If opponents have a valid concern, address it — don't ignore it or engage in personal attacks.** Treat your opposition with respect, even if they have not earned it — your behavior will eventually influence the decision-makers, even if it is subconsciously.

![Image of a chicken with a quote]

*This hen named Sarah, fits in well as a mascot for the "Sara"-sota Cluck Chicken Group.*

5) **As part of your reasonableness, be willing to compromise.** Decision makers will not understand chickens the way you do and will have some demands you believe are unreasonable. We had to let go of our quest for six hens and settle for four. And we ended up adding "comfort language" we didn't think was really necessary but which helped reassure skeptics. Start with your ideal (but reasonable) position but be willing to give a little — demonstrating you are not dogmatic about chickens reinforces the idea that you are not crazy chicken lovers (even if some of you are).

If your situation was like ours, you'll have a few reliable supporters that will show up at virtually all the meetings and hearings and a far larger group who are sympathetic but not as passionately engaged. Believe it or not, this second group may end up making the difference in your campaign.

6) Find every ally you can. People keeping chickens illegally in your community are justifiably reluctant to speak up, so get letters from those with supportive, sympathetic neighbors and redact (black out) their names and addresses leaving the city and zip code. Testimony from real neighbors who don't find chickens to be problematic can be very persuasive when compared to
speculative what-if horror stories. Seek out the county extension office, 4-H, local and slow food advocates, chefs and restaurant owners, farmers market people, community gardeners, CSAs, college students, young professionals, public radio, whoever.

And do whatever you can to document support. Elected officials find it easier to do the right thing if they are convinced the majority supports them and the vocal minority is just that; a small group of squeaky gears. Use petitions, but design the form to collect phone or email contact info. A list of supporter’s names and addresses alone won’t help you when you have to get people to a hearing.

7) Get names and contact info for everyone that attends a meeting, they have already proven they are willing to leave home to support chickens. These folks will be the source of most of your team leadership.

We found the Internet to be a valuable part of our campaign. One of us started a website with basic information about the campaign and our meeting info. Another started a Facebook group, which quickly grew to 500. Facebook is a great way to stay in touch, particularly with younger supporters. And I started a blog that automatically posted to a local news aggregator website that got our message in front of thousands.

8) Whether or not you own a computer, find at least one supporter who is computer savvy and use the Internet to your advantage. See if there is a local "Patch" news website or news aggregator website. In addition to getting our word out, the Internet was a great source of information and inspiration. Every argument thrown at us had already been addressed by people who had already gone through the process in places like Salem, Oregon, Springfield, Missouri, and Montgomery, Ohio. These communities made our success possible.

This handsome White Cubalaya rooster won't be living in Sarasota, or most other cities, once the guidelines are set up to allow chickens within city limits. Concern about noise/crowing are one of the main arguments for banning chickens in the city, so roosters are almost always banned.

9) All politics is local, so collect whatever geographic data you can about your supporters. You may eventually have to lobby neighborhood groups (we did), so knowing who your inside supporters are will be invaluable. Most of our opposition came from neighborhood organizations with predictable concerns about odor, noise, disease, etc. and some adopted anti-chicken
positions before they even heard what we were proposing. We looked inside those
neighborhoods to find our supporters and made sure their voices were heard at neighborhood
board meetings.

10) In every organization and every neighborhood there is at least one person, and usually more,
favorably disposed to backyard chickens. Your job is to find them and learn how to call on them
when they are needed. Even if they can't secure a "yes" vote, they can help neutralize the
opposition. And make sure those who speak at hearings are people who can vote for those making
the decisions. We learned quickly that our city leaders bristled at support from those outside city
limits.

11) There are people in your community who will benefit financially if backyard chickens are
legalized. Secure their support. Years ago they might have been seen as "special interests," today
they are part of reviving the local economy. Post information about your initiative at feed stores
(to get the attention of the local chicken underground who are buying feed for their stealth hens)
and while you are there, look for people that might build coops. Use the online National Poultry
Improvement Program (NPIP) searchable database to find hatcheries, independent flocks, and
dealers near you. These are nearby professionals dedicated to disease-free poultry. Your
supporters are their potential local market. These are the local folks with an economic interest in
your campaign, people who can get citizens to hearings.

12) Having a few gorgeous, mellow hens that can go to neighborhood meetings is a great idea. We
had a buff Brahma hen named Sarah that was our unofficial goodwill ambassador. No one could
take offense to Sarah and most were seduced by her fluffy charms. She drew people in and, after a
chat, most who met her signed our petition.

In retrospect, we're not sure why it took us so long, but all that is behind us and coops are
sprouting up all around town. I believe that if you have the patience of a broody hen, the focus of a
rooster, and unruffled confidence of Sarah the Brahma, you will prevail.

Learn more about Sarasota CLUCK at their blog: sarasotacluck.blogspot.com.

Jono Miller moved to Sarasota, Florida in 1970 to attend college. He graduated in 1974 with an area of concentration in
Environmental Studies.

By 1977 he was serving on local government advisory boards, volunteering with the Sierra Club and helping to teach about the
environment. Best known for his work on land protection, the Myakka River and water issues, Jono has received awards from
The Nature Conservancy, Sarasota County, 1000 Friends of Florida, and the National Sierra Club for his contributions protecting
environmentally sensitive lands in Sarasota County. In 2008 he ran for a seat on the Sarasota County Commission.

His most recent excursion in the political realm involved a successful 18-month campaign to legalize backyard chickens in the
City of Sarasota. He currently chairs the Myakka River Management Coordinating Council and the County's Environmental
Policy Task Force.
It takes a village ... 
MadCity Chickens political movement works to get a poultry ordinance passed

By Cherrie Nolden
Wisconsin

Mad City Chickens is a group of pro-poultry folks in Madison, Wisconsin who worked to make keeping chickens in their city legal and who now strive to educate and encourage homeowners to keep feathered friends in their backyards.

Prior to May 2004, chickens were not forbidden in Madison, but construction of a coop to house them was illegal. Yet there were enlightened people living in Madison, keeping chickens hidden on their properties, reveling in the self-sufficiency and pleasure chicken-keeping brought and frustrated that these innocuous creatures could not be legally kept. They were the Chicken Underground and initiated the political movement that brought the right of chicken ownership to residents of Madison.

They petitioned (then) Alderperson Matt Sloan to change the Madison Ordinance to allow a few chickens in backyards. The political climate was right and Matt drew up a set of rules based on those of other cities like Seattle and Portland that had allowed backyard chickens for years.

In the meantime, two (of the many) key people in the movement, Alicia Rhead and Bryan Whiting, spearheaded a campaign to gather public views and support for a pro-chicken and coop policy for Madison. They wrote articles for the neighborhood newspaper. Soon other articles were written about the chicken movement in Madison and Milwaukee papers, and they were interviewed on a local television station. Doctor Mark Cook of the UW-Madison Poultry Science Department wrote Matt Sloan a letter of support for the idea and neighbors wrote letters to their representatives. It was six months of non-stop chicken awareness, education and promotion, until the final passing of the Ordinance on May 5, 2004.

The particulars of the Ordinance are:
- Up to four domestic fowl allowed per single-family dwelling,
- No roosters,
- No slaughtering,
- Poultry shall be kept within a secure enclosure and not allowed to run free,
- Enclosures shall be located no closer than 25’ from nearest neighbor’s residence and
- A $6 permit is required (per household), to be renewed annually.

The group renamed itself Mad City Chickens, put madcitychickens.com on the Internet and, in June 2004, started holding chicken keeping classes: City Chickens 101 and Chicken Coops 102. There have since been eight CC101 courses and one CC102 taught, with between 8-12 people in each class. The interest is very high, with people being turned away for a Willy Street Coop chicken class after 60 people registered. The first Mad City Chickens potluck was held in January 2005 and a coop tour was organized for June.

I advertise for the group every Sunday at the Northside Farmers Market and at the Food For Thought Festival on the Square. The number of Madisonians now keeping chickens is growing in leaps and bounds.

But who can resist? A small, inexpensive, easy-keeping pet that lives outside all year long, produces food, is very personable, aesthetically unique and comes in so many varieties that you don't have to have just what your neighbor has. I don't know how it can get much better than this.

Don't Become a Nuisance
Every animal has characteristic odors associated with its body processes. They range from bad breath to body odors to manure odors. The effect of these odors is multiplied by large numbers of animals, but it is also increased by the support systems we use. These might include inadequate ventilation, improper drainage, poorly designed water systems, decomposition of manure before it is removed, spilled feed and so forth.

These things are all under the caretaker's control and they take place beyond the animal itself. They often combine with the normal animal odors to create a condition to which some people object.

Generally speaking, people who keep livestock and poultry accept some of the odors that go along with such production. Most people, however, are no longer familiar with animal odors on a daily basis. It must also be recognized that any given odor affects different people in different ways. Often this is conditioned by something else we associate with that odor, often a personal experience that was less than desirable.

Managing the odors from poultry so they do not become an intolerable nuisance to others is an obligation of the producer.

Zoning, the right to use one's land as he or she sees fit, the necessity for food production and being there first are all strong points in conversation. But they do not always stand up in court. Being declared a nuisance in spite of these things can result in being closed down by order of the courts.

It's an absolute necessity to keep odors from your place below an objectionable level. That level will vary with communities and individuals, but it will always be conditioned by what they think of you as a person.

Projecting a good image is a must. A neat, orderly farmstead with attention paid to details and a considerate attitude toward others is essential. These things must be coupled with good management of carefully designed facilities.

Give this some thought as it is an important part of raising poultry.

See page 57 for additional information on raising poultry in urban areas.
Six Keys to Selecting a Chicken Breed

By Brandon Mitchell
Tennessee

Chickens have the unique ability to adapt to a wide range of conditions, more than most species of livestock. Even with their adaptability, each breed is best suited for one type of environment more than another. But with so many breeds, how do you choose? I start with a systematic approach to find the best birds for my backyard based on: egg color and laying ability, size, disposition, heat and cold tolerance, feather color, and carcass quality and other uses.

Egg Color and Laying Ability

First I decide what egg color I want. If I'm selling roadside stand eggs, I prefer brown eggs. At least in my area, there is a misconception that brown eggs are farm eggs and taste better than white-shelled eggs. Truth be told they taste the same (if raised the same), but who am I to argue? Another misconception is that blue eggs are cholesterol-free. They actually have cholesterol levels similar to white and brown eggs (and they taste the same too). There is some novelty interest in them, but some people are just plain weirded out by them and even prefer white eggs over their blue-shelled counterparts. If my main concern is home use, I like variety.

Whatever egg color you choose, some breeds lay those eggs better than others. Most white-egg layers lay the most eggs, although Rhode Island Reds (brown shell), Black Australorps (brown shell), and Ameraucanas (blue/green shell) are excellent layers as well. Usually breeds that don't lay as many eggs do have some unique reasons to keep them. Many are heavy bodied, which means they are good winter layers (many small-bodied birds cease egg production in the cold months), and they have a good meaty carcass when their laying days are over. Others are old-style farm birds that are disease hardy, and are designed to lay a good number of eggs on little more than rocks and dirt.

Brandon suggests a variety of breeds add versatility and egg color options to your flock. Additionally, he enjoys the many feather colors.
Size Matters

Size is another factor, and probably the most important one to consider if your birds will be confined to a small area. Chickens range from the tiny 20 ounce Dutch bantam to the monstrous 13 pound Black Jersey Giant and everywhere in between. (Both the Dutch bantam and the Jersey Giant breeds were featured in the December 2011/January 2012 issue of Backyard Poultry. — Ed.)

Most catalogs break down chicken breeds into bantams and standard chickens, but you should consider their individual breed weight when filling a coop. The Dutch, Sebright, and Old English Game bantams are the smallest at 18 - 24 ounces. Bantam Ameraucanas, Wyandottes, Cochins, and Polish are a little larger (26 - 32 ounces), and Brahmas, Plymouth Rocks, and Rhode Island Reds are the largest ranging from 34 - 40 ounces. That’s a big size difference when you consider a Dutch bantam chick is only about half the size of a bantam Barred Rock chick.

The smallest standard chickens (at about four or five pounds) are the Leghorns, Hamburgs, Ameraucanas, Polish, and Anconas. Rhode Island Reds, New Hampshires, Black Australorps, Wyandottes, Naked Necks, Delawares, Sex-Links, and Andalusians range from 5.5 - 6.5 pounds. The Plymouth Rocks, Orpingtons, Sussex, Cochins, and Minorcas range from 7 - 9 pounds, and Brahmas and Giants are jumbos, tipping the scales at more than nine pounds for hens. One Brahma weighs about as much as six Sebrights, four bantam Wyandottes, or two Hamburgs. In a limited space, smaller is better, but on the open range, larger chickens are somewhat less susceptible to predation, although you’ll still lose some.

Disposition

Considering the space you may have your birds in, disposition is key to keeping birds healthy. Birds that are loose, flighty or even aggressive survive longer than more docile chickens like Buff Orpingtons. But trying to catch Orpingtons is a much easier task than Brown Leghorns.

When you crowd birds, like is the case in a small coop or moveable pen, aggressive tendencies result in more injuries, infections, broken eggs, and even dead chickens, so consider this before you put aggressive breeds in with overly docile ones. If you particularly like your docile chickens, it may be best to keep them separated. At the very least, leave out all but one rooster to eliminate fighting.

Raising Ameraucanas, which lay blue eggs, lets you offer the multi-colored eggs so often desired by purchasers of your farm eggs.

Temperature Tolerance

Unless you're in the far north or south, you probably don't think about heat or cold tolerance when picking chicken breeds. I rarely do, but you should consider a few things. Black feathered
chickens get hotter than light red, yellow, and especially white. Birds with single combs and light feather colors do better in hotter climates, but single-combed birds often suffer frostbite. Pea and rose combs are better choices for those cold nights. Feathers around feet can keep a dry chicken warmer at night, but if those feathers get wet, which is often the case in winter, it can lead to more problems than hens without feathers on their feet. Crested chickens have many of the same advantages and disadvantages as feather-footed breeds, although a crest is only a problem with rain, whereas a muddy pen affects feather-footed chickens whether rain caused the mud or not.

**Feather Color**

Aside from its ability to reflect or absorb heat, feather color is not very important, so why is it part of my criteria? Partly because there are so many chickens, it helps to break down the breeds even more, and partly just because I like some colors more than others. Some producers even like to color coordinate with their other livestock breeds, black hogs, black cows, black chickens and so forth.

There is one other practical reason to be concerned about feather color. If you tie lures for fishing, or can sell to someone who does, feather color is very important. Fly tying is all about matching the hatch (insect hatch, that is), so flies are tied to match the color of the insect as best as possible.

![A New Hampshire cross rooster adds size to Brandon's flock.](image)

**Carcass Quality and Other Uses**

Lastly are carcass quality and other uses. Fly tying, mentioned above, is one of these other uses, and you'll get the most feathers when "the hens stop laying and thy fryer starts frying." Cornish-Rock crosses grow the fastest and have the most meat, but they lay very few eggs if allowed to reach that age (most aren't). Spent hens are best slow cooked, and breeds like Delaware, New Hampshire Reds, Orpingtons, and all Wyandottes and Rocks produce good carcasses and lots of eggs before they're through. If you don't feel like butchering hens, you can sell them and excess roosters for ornamental purposes, meat, or bug control. You can also sell them earlier (when they're still laying) as discounted egg-layers.

With all this criteria, there are still plenty of choices out there. Start out with a few breeds. Keep the ones you like. Sell or eat the ones you don't, and each year try a new breed on for size. As they say, so many chickens, so little time.
Getting the Facts on Chicken Breeds

By Don Schrider
Virginia

There is a renaissance of interest in keeping backyard poultry. Every day more people decide to add chickens to their life. The most common question for these people is "Which breed is right for me?" The answer is not a one-size-fits-all response, but rather, to be accurate, is one that needs to consider the people, region, desired products and farming style.

The stunning Sultan chickens originated in Turkey, and according to legend, were used as living ornaments in Sultans' gardens. Photo by Cynthia Smith, Washington

Some things to ask yourself before getting the chickens are: What do I want the chickens to do? Lay eggs? If so, what color? Produce meat? Do I want a breed that likes to scratch a lot, or one that scratches very little? Do I prefer a calm breed or an active breed? How much space and how much freedom can I allow my chickens? What is the weather like in my region? Hot and humid? Extremely cold winters? What type of pens will I use for my chickens? Do I want a breed that will raise its own offspring? Do I want to help save a very rare breed? Which breeds do I find most attractive? The answer to these questions will help you make the best breed choice for yourself. But where, you may now be asking, can I go for good reliable information on chicken breeds to compare with my answers?

The Buckeye chicken is the only American breed created by a woman. Nettie Metcalf, Ohio, wanted a hard-working breed. The Buckeye is a good breed choice for climates with harsh winters. Photo by Jeannette Beranger/ALBC

The American Livestock Breeds Conservancy (ALBC) has enlisted my help to update and
complete its chicken breed profiles. Utilizing an extensive library of historical poultry literature and the experiences of various breeders of poultry, ALBC is compiling profiles of breeds that include such information as historic production rates, breed regional adaptations, modern and historic markets for breed products, breed personality and suitability for various production systems. The completed profiles represent a time consuming task of documenting the history and the characteristics for each of the 54 chicken breeds on the ALBC Conservation Priority List.

This effort has yielded many interesting facts. Did you know that Sultan chickens are originally from Turkey and were kept in the gardens of the Sultans? In Turkey they were called "Serai Taook" which translates as "Palace Fowl" or "Sultan's Fowl." According to legend, they were used as living ornaments in the gardens of Sultans. It is interesting to note that the first Sultans to reach England, surprisingly, were found to do less damage to grass runs than would be expected of a Cochin or Brahma chicken. Perhaps an ideal chicken breed for a small yard with a garden?

![Faverolle chicken](image)

The Faverolle chicken breed was created to supply a Paris market with meat and winter eggs. They are broody and winter-hardy. Photo by Jeannette Beranger/ALBC

Buckeye chickens are the only American chicken breed entirely created by a woman — Mrs. Nettie Metcalf of Warren, Ohio, in 1896. The name "Buckeye" refers to the similarity in color of these red chickens with that of a buckeye nut, and, of course, Ohio being the "Buckeye State." Buckeyes are noted as being the most active of the American class of chickens — not surprising since Mrs. Metcalf set out to create a breed that would not be lazy, but rather would work to earn its keep. As a result, Buckeye chickens produce very dark, dark-meat sections when processed — very dark meat represents fast-twitch muscle, just as it does in wild game. Highly adaptable, Buckeye chickens are an excellent breed choice for areas with very cold winters.

Beautiful and fluffy, Faverolles chickens certainly rank high for the "cuteness" factor. But behind this breed is a history founded on production. The Faverolles chicken breed was created with a mind to meat production and the production of winter eggs to supply the Paris market. During the 1900s this breed was considered the best French chicken breed yet produced; quite an achievement considering the French have long paid a great deal of attention to meat and egg production in their chicken breeds. Faverolles chickens arrived in America about 1901 and the breed was met with much enthusiasm. Faverolles hens make excellent sitters and the breed does quite well in cool climates.
The Spanish chicken, with a striking white face and earlobes, came to America from Holland in 1825. Not suited for winter temperatures, it is a great breed option for hot, humid climates. Photo by Dyanna Byers, California

The true aristocrat of the poultry world is the Spanish chicken. While flighty as chicks, the adult chickens hold themselves much as Spanish Dons—often striking a pose: head up, one foot forward, calm. What sets this breed apart is the tremendously long white earlobes and white faces. One thinks of the "melting faces" of Spanish chickens and the artist Salvador Dali comes to mind. But Spanish chickens predate this artist considerably — being ancient and of unknown lineage. The breed came to America from Holland in 1825. It was widely popular for its ability to lay a very large number of very large white eggs. Not suited to Northern regions, the Spanish chicken is a great choice for hot and humid climates.

Need more help? Contact the American Livestock Breeds Conservancy at: P.O. Box 477, Pittsboro, NC 27312, 919-542-5704, or email albc@albc-usa.org. Their Program and Technical Support staff can help you pick a breed and their annual Breeders and Products Directory can help you find a source of quality stock. Abstracts for the chicken breeds are posted on ALBC's website. Simply visit www.albc-usa.org and click on the "Breed Information" button on the left of the page.

Don Schrider is a nationally recognized poultry breeder and expert. He has written for publications such as Backyard Poultry, Countryside and Small Stock Journal, Mother Earth News, Poultry Press, and the newsletter and poultry resources of the American Livestock Breeds Conservancy. Text © Don Schrider, 2011. All rights reserved.

The American Livestock Breeds Conservancy (ALBC) is a nonprofit membership organization working to protect over 150 breeds of livestock and poultry from extinction. For more information visit www.albc-usa.org.
Why Choose Traditional Poultry Breeds?

By Christine Heinrichs
SPPAHistorian

Traditional breeds carry important, irreplaceable genes, the value of which remains for future events to determine. They may be the birds that will rescue the poultry industry of the future.

Traditional breeds, such as Rooster Cockburn, a Dorking, carry on specific traits such as strong foraging, broodiness, natural mating abilities, etc. Dorkings are a good dual-purpose bird with fine-textured meat. Photo courtesy of Marybeth Bullington, Oregon, and taken by J.J. Johanson.

Breed are the reservoir of genetic diversity in domestic animals such as poultry. A breed has a unique appearance, productivity and behavior. They breed true, which means that when they are mated together, their offspring are predictably like them.

Breed are a package deal, not a collection of individual traits such as comb type and body conformation. We cannot know all the genes that comprise a breed. To lose a breed is to lose the entire unique genetic package. All chickens are the same species and share some genes, but other genes are unique to the breed. Ducks, geese, turkeys and guineas similarly share traits within their species but carry others that make them quite different, both from other domestic breeds and from wild relatives.

Loss of a traditional breed operation is like the loss of a great library.

Traditional breeds are part of a culture that is being fragmented and lost. Traditional breeds do not flourish in industrial settings. The traits that make them special include being a good forager, good brooder and good mother (and father), alert protector, longevity, disease and parasite resistance, ability to mate naturally and with high fertility.
Choosing the right traditional breed for your situation works best when made part of a long-term plan. White Faced Spanish chickens are known for their strong egg-laying abilities and have a long history in the United States. Photo courtesy of Dyanna Byers, California

Traditional breeds are an important part of an integrated and sustainable farm. Each breed’s characteristics suit it to a climate and certain production goals. The Chantecler, developed in Canada, is suited to a cold climate. Mediterranean breeds such as the Leghorn, the Ancona and the Spanish group are known for egg laying.

Sustainable, integrated systems include poultry as working contributors to farm ecology and production. They consume weed seeds and insects. They consume green waste and produce high-nitrogen manure for fertilizer. They provide meat and eggs. They reproduce themselves and perpetuate the flock.

For the breeder, choosing which birds to breed is never simple. Flocks need variability to be vigorous and to avoid the pitfalls of inbreeding. On the other hand, birds need uniformity and predictability to retain breed identity. Industrial strains seek uniformity. Traditional breeds seek genetic diversity within phenotypic consistency.

In the 21st century, industrial chickens are controlled by a few multinational corporations dedicated to increasing profits, from a narrow genetic base. While that succeeds in the marketplace, it is inevitably vulnerable to failure. Such genetically similar birds are all vulnerable to the same diseases. The crowded conditions in which they are kept create conditions under which disease outbreaks spread rapidly and are often resistant to treatment.

SPPA’s mission encompasses all traditional breeds, whether they are currently included in a standard or not.

Breed standards are mainly physical but also behavioral. Selective breeding is guided by breed standards. The APA specifically includes mention of Economic Value. Conformation, plumage, comb and color are all significant aspects of the description.

Traits such as fertility, parasite and disease resistance and longevity are less easily observed than physical traits.
Cochins are an attractive, calm breed with good laying ability, and strong mothering skills. Photo courtesy of Mark Pacheco, Massachusetts.

Breed health depends on maintaining a viable population size in geographically separate flocks. Birds raised in different environments under the supervision of breeders pursuing different breeding strategies will insure a healthy, strong breed.

Hobby breeding can save rare breeds from extinction, but finding or creating a market for traditional breed poultry will generate market conditions that give them a more secure future. If breeders can sell their birds and earn income, they will raise more of them. Having an economic purpose fulfills one of the original purposes of domestic poultry.

Traditional breed poultry need to be more than living exhibits in museums. Offering the public the option of purchasing traditional breed meat and eggs will assure the future of traditional breeds as well as good food.

Christine Heinrichs is the author of How to Raise Chickens and How to Raise Poultry, which focus on raising traditional breeds in small flocks. Her books are available from the Backyard Poultry bookstore. As historian for SPPA, Christine maintains the collection of antique books and magazines, which she consults for research. Christine shares a wealth of information on her blog at http://poultrybookstore.blogspot.com. The SPPA is the oldest and only preservation organization dedicated solely to poultry. This singular focus allows the organization to concentrate the efforts of our membership on truly old and rare breeds. I cordially invite you to join the SPPA today for a reasonable $15. Just send your check or money order to Dr Charles Everett, 1057 Nick Watts Rd., Lugoff, SC 29078 or online.
A Modern Chicken Coop

Student Entrepreneurs Start Chicken Coop Company

By Eric Millinger
Colorado

Colorado Chicken Coops' co-founders Jeff Troutman (left) and Eric Millinger (right) with one of their coops on a farm near Boulder, Colorado.

In late 2009, Jeff Troutman, a senior at the University of Colorado at Boulder's School of Architecture and Planning, was searching for a unique design project for school. One of Troutman's professors had backyard hens, and suggested he look at designing a chicken coop. Disappointed by the lack of modern coops, Troutman set out to design an affordable, functional backyard chicken coop that would be visually appealing enough to be in a museum. Three months later, Troutman's chicken coop was on display in the Boulder Museum of Contemporary Art.

Many people at the exhibit opening were interested in buying the coop. The prototype had turned out great, but the coop itself wasn't quite ready for production and needed to be tested and streamlined. Since then Troutman and I, an Environmental Engineering student at the University of Colorado, have been working to enhance the coop through both architectural and engineering approaches. For eight months we were continually drawing, building, and testing. We solicited feedback from experts, amateurs, and everyone in between. Over time, we created a chicken coop that we're excited and confident about selling to customers. In May 2010 we started a formal business called Colorado Chicken Coops and are now selling the coops online.
Troutman’s first coop was on display at the Boulder Museum of Contemporary Art in Boulder, Colorado. The coop received a lot of interest, and led to the formation of Colorado Chicken Coops.

Balancing the Design

Designing coops for customers is very different than designing one for your own backyard. Durability and hen comfort are major considerations, though low material and shipping costs are equally important. These forces must balance in a shelter that hens will love and owners will love to have.

Our chicken coop is cut from plywood through a process known as digital fabrication. The coop is first designed with CAD (Computer Aided Design) software. The digital coop file is sent to an automated machine called a CNC (Computer Numerically Controlled) router. The CNC router makes precise cuts in the plywood and the result is a ready to assemble chicken coop that flat-packs for easy shipping to your home.
The Specs
Dimensions:
- 37" x 37" coop floor
- 15" x 15" lofted nest box
- 37" long, 2" x 2" roost
- 7' x 3.5' run (expandable modules)

Determining how many hens a chicken coop can hold varies based on breed and owner preference. In general, a good coop should have at least 2-3 sq. ft. of floor space per bird. The 37" x 37" coop floor results in 3.2 sq. ft. for three hens, and 2.4 sq. ft. per hen for four hens.

Experts estimate anywhere from 6-12 inches of roost space per bird. The 37" roost leaves 12.3 inches for three hens, and 9.3 inches for four hens.

A run must be large enough to comfortably contain the birds through the seasons. Larger size runs take up a bit more room but can be more enjoyable to have. By having a portion of the run extend underneath the coop, snow is blocked from covering the ground.

Materials:
- ½" thick MDO (Medium Density Overlay) plywood
- Cedar 2" x 2"
- Cedar shorts
- Galvanized metal hardware
- Galvanized welded-wire hardware cloth

MDO plywood makes up the body of the coop and is strong and structural through tough weather. This is the same type of plywood used for outdoor signs. The wood also incorporates only minimal use of polyurethane for durability. The material can be purchased at local lumberyards and can cost upwards of $50 for a 4' x 8' sheet.

Cedar, a strong and weather resistant wood, is used wherever contact is made with the ground. Nearly all plywood will deteriorate over time if in contact with the ground, so cedar is a good alternative. The cedar 2" x 2" posts comprise the frame to support the body of the coop and the shorts are used where the run contacts the ground.

Galvanized metal hardware is important to the longevity of the coop. Many brackets and bolts can be purchased at local hardware stores. Barrel bolt latches are ideal for coop doors because they are predator-proof. Corner brackets and L brackets are used to secure the coop body and run frame.

For the run fencing, 19-gauge welded-wire hardware cloth provides the best security against predators. This strong fencing is made from galvanized steel and is secured to the run frame with a series of screws and washers. This method holds up better than staples and over time will make a difference in the run's safety and security.
Coop Features

- Predator-safe hen door
- Convenient egg and access doors
- Optimized ventilation
- Winter wind block option
- Removable components

The hen door provides security from predators without any locks or latches. The system utilizes a wooden push/pull bar, from which the door can open and close without ever having to enter the coop or run yourself. To open, the bar must be pulled at an angle parallel with the door, easy for people to maneuver but difficult for predators. Two aluminum channels are used for the slide mechanism and require no maintenance. A small wooden block on the inside of the coop prevents predators from pushing the door open.

Adequate ventilation is important for both the health and comfort of your hens. Drafts are caused by air moving across a living space as opposed to above it, and vents located near the top of the coop help eliminate drafts. Ample ventilation is vital to prevent overheating in the summer months.

For the winter months, wind protection may be needed. This will depend largely on your climate and the hen breeds. Plexiglas inserts are great wind blocks because they seal off the vents while allowing plenty of natural sunlight to enter the coop.

Having removable components can be an advantage when it comes to cleaning. The coop floor, nest box, and roost can all be easily removed without any tools.
Just as assembly of the coop is easy, removing the roost, nest box base (shown), and coop floor makes maintenance a breeze.

**Required for Assembly:**
- Power drill or Phillips screwdriver
- 1 or 2 people

One advantage of buying a coop over building your own is the accelerated assembly process. The Colorado Chicken Coop takes about 45 minutes to assemble out of the box with only one person. Provided instructions and online videos also simplify the process.

*Above and below: Two examples of the coop complete with run extension*
Moving Forward

As two entrepreneurial-minded architecture and engineering students, we are continually learning about chicken coops, design, and business. Customer feedback has been crucial to our success so far, helping us to further improve the coop design and evolve in today's markets.

The Colorado Chicken Coop is now for sale and available online. The coop starts at $699 (plus shipping), and can be customized based on several options including color and run-size. For more information call 860-748-1248 or visit www.ColoradoChickenCoops.com
From Doghouse to Bantam Chicken Coop

By Gail Damerow

The converted doghouse is nice and snug for a few bantams, and has handles on the sides for easy moving.

Wanting a small, portable coop to house a few bantams but having neither time to construct one from scratch nor the desire to buy a pricey coop purpose-built for chickens, my husband and I hit on the idea of converting a doghouse into a chicken house.

At a local farm store we found an attractive 43-inch by 28-inch doghouse that required some assembly, readily lending it to being remodeled as we put it together. It came with a front and back (both with built-in legs), two sides, three floor panels, a roof, and hardware to put it all together. For the remodeling job we used salvaged plywood and hardware, along with some additional purchased hardware. The total cost was well under $200.

The ready-to-assemble doghouse came with two side panels, a front panel, a back panel, three floor panels, and a roof.

The first thing we did was replace the original slat floor with 1/2-inch plywood, using the original floor as a pattern to cut the plywood. The solid floor holds a deep layer of bedding to reduce draftiness, and also better protects the bantams from night-time prowlers. Besides, we had other plans for the original floor. We wanted to add a sidecar for nest boxes, and the lumber from the original floor gave us just enough material to match the rest of the coop.
The original slat floor was replaced with 1/2-inch plywood to reduce drafts, hold bedding, and provide security against predators.

The three original floor panels were disassembled and the resulting pieces used to complete the conversion.

Braces from the original floor were glued and screwed on the inside to reinforce the wall before nest holes were cut.

Although three 6-1/8-inch diameter nest holes were cut into the wall, two would have been far better.

Rather than being divided into three nests, as shown, the sidecar should have been divided in two, a center divider being needed for structural support.
Material from the original floor panels nicely finished the sidecar to match the rest of the coop.

Weather stripping around the top edge seals the nest boxes against drafts and rain.

The plywood sidecar roof is hinged for easy egg collection; the next step was to cover it with roofing shingles.
The original floor came in three glue-and-screwed sections. After removing the screws, we used a wide, sharp wood chisel to carefully separate the glued-on braces from the floorboards. For once, the usual non-stick Chinese glue turned out to be an advantage because it popped loose fairly easily. The released boards required only light sanding.

With the sides and floor put together, we next added the sidecar. We began by turning the coop on its side, with the side facing upward on which we would attach the sidecar, so we could mark and cut the nest openings. Now here’s where we made a slight miscalculation: We allowed for three nest openings in order to divide the sidecar into three nest boxes; two nests would have been better.

The three boxes we made are big enough for small bantams, but we didn’t take into consideration that our bantams, being Silkies, like to cuddle together even when laying eggs, and each of the three nest boxes is big enough for only one hen. As a result, the Silkies rarely lay their eggs in a nest but instead conspire to lay in a corner of the coop next to the nests.

For openings into the nest boxes we used a compass to mark circular holes 6-1/8 inches in diameter. To reinforce the wall between the nest openings, we took two braces from the original floor and glued and screwed them vertically on the inside, next to where the nest holes would be cut.

After the glue on the braces dried we drilled a pilot hole near the marked circle for each nest hole, then used a jigsaw to cut the holes, using a fine blade and working carefully to minimize splintering. Then we sanded the cut edges smooth.

Because the lumber from the original doghouse floor would not provide sufficient structural strength, we made the sidecar floor and sides from salvaged pieces of 3/4-inch plywood. We then
used the original floor pieces to veneer the outside so it would match the rest of the coop.

The bottom of the sidecar is 8-inches wide and long enough to span the end of the coop between the legs, with an allowance for adding the veneer siding. The ends are 8-inches wide by 9-inches high in front and 11-inches high in back. This difference in height from front to back provides a gentle slope for the hinged roof. The divider between nests is 8-inches wide by 9-inches high, not quite reaching all the way to the sidecar roof to leave a gap for air circulation.

The nest box pieces were assembled using a square, carpenter glue, and finishing nails. After the glue dried, we stained the inside of the box in an attempt to match the rest of the coop. Although the stain appeared to match based on the paint store's color chart, it turned out to be several shades darker than we would have liked.

For the back of the sidecar, and to cover the sides, we used some of the original floor boards, placing them starting at the top and leaving a little overhanging at the bottom for a drip edge to keep rainwater from seeping into the nests.

The sidecar is mounted to one end of the coop with two L-brackets on top and two bent T-braces at the bottom. Around the top of the nests we applied foam rubber weather strip.

The nest roof is constructed of 3/4-inch plywood, cut to slightly overhang the nests at the sides and front. We applied a piece of weather stripping to the back of the roof before mounting it with two hinges. We didn't have any green roofing material to match the original doghouse roof, so we used some brown shingles we had on hand.

To ventilate the coop we placed a 1/2-inch bumper at each front corner, which prevents the roof from coming all the way down at the front and along both sides. This gap provides a healthful air exchange while preventing either drafty conditions or wet conditions from driving rain, and it's not wide enough to admit snakes and other predators.

The original doghouse opening seemed too big and drafty for our little Silkie, and lacked a sill to retain the bedding, so we used the remaining floorboards to make the doorway smaller. With careful measuring and cutting, we had exactly enough floorboard lumber to complete the job.

The finished opening is not exactly centered, but is a little wider at the right to accommodate a feeder and drinker hung against the inside wall. Mounting the feeder and drinker on one side left just enough space between the doorway and the sidecar for a perch.

For a pop hole door we made a plywood ramp that hinges at the bottom and latches at the top for night time security. To keep out raccoons and other clever predators, the latched door is secured with a spring clip, which is hanging from a chain so it won't get lost during the day. The nest box roof and coop roof are similarly latched and secured. For additional security we fastened a Niteguard light next to the doorway.
A finishing touch includes handles fastened to each end of the coop for convenience in moving it. We noticed that they like to rest in the shade underneath the coop, so when we next moved the coop we set it up on concrete blocks to give them a little more room underneath.

Just when we thought our coop conversion was finished, we had to make two more adjustments. One was to replace the folding support hinges that hold the roof open while we take care of the feed, water, and bedding. The original flimsy support hinges soon bent and ceased to function properly.

Another unanticipated adjustment was to reroof the coop. The original roof lacked a drip edge, causing rainwater to run around the edge of roof and into the coop. A couple of salvaged pieces of metal roofing solved that problem.

Now our Silkies enjoy a snug, safe coop from which to venture forth to forage in our garden.

Gail Damerow has raised chickens for more than 40 years and shares her poultry-keeping expertise in these books available from our bookstore: The Chicken Encyclopedia, The Chicken Health Handbook, Your Chickens, Barnyard in Your Backyard, The
The Barbie Dreamhouse

Emily's Playhouse Chicken Coop

By Samir Shahin, M.D.
California

Paulina Shahin stands in front of the "Barbie Dream House" coop that her husband, Samir, designed and built for their flock of chickens. Most of the finishing touches are completed, including the wire mesh for the run under the house.

While our family was walking home from the beach, we saw three chickens in a neighbor’s front yard. That weekend we drove to a local hatchery and got four chicks. We did not have any prior experience with chickens but we learned rapidly. We put them under a heat lamp in the house. I am still shocked that my wife Paulina approved this venture, she is a city girl from Manhattan, New York who lived in a doorman building.

After Samir finished building the coop, he added a side run complete with perches and dirt baths.

With the new chicks already at the Shahin home, building the coop took on a new urgency. Daughter Emily fell in love with the birds, including a Gold Star and a Red Star chick.
The base is framed up, and the front and rear panels cut. This is the back of the coop, the square hole is for the back window. Note the bedposts in the corner and the height of the 4" x 4" posts inside.

The front door has the stained-glass window installed. The gate latches were put on. The hinges were pilot drilled and screwed in, then removed before the doors were cut to keep the hinges perfectly aligned during assembly. The doors were painted a contrasting color from the rest of the frame.

The rear of the coop has also been painted, and the back window installed. All the pre-painted components are now being put together. The side panels are leaning on back wall, painted blue on the inside, pink outside. The coop is placed on a wooden platform made from old gates.

Samir Shahin and son Sam take a break while building the coop. The handprints of Emily and Sam on the back wall were added to celebrate their involvement in building the coop. Every element in the coop, including the inside, was painted prior to assembly.
With the nest box door and the front door opened, you can see the stained-glass feature on the front door, and the window on the back wall, which offers plenty of air movement for the warmer California climate.

Sam and Emily playing in the coop when the chicks were first introduced to their new home.

Shiny, Rainbow, Coco, and Mad Dog have feathered out and are admiring their new home.

We found joy and wonder in watching our children, Emily (age 7) and Sam (age 5) play with chicks and fall in love with them.

So now I had about one month to get a chicken coop for our fuzzy pets.

The commercially available coops were basic, functional, but not anything that would enhance the look of our small backyard. I wanted something that would match the house, or look interesting. Having someone else build a custom coop seemed too expensive, and nothing they showed me was very inspiring.

So the rapidly growing chicks were still without a coop while I was at a medical conference, sitting for hours with a pad of paper and pencil in front of me. I started doodling and drawing pictures of chicken coops to keep awake. Then I drew my own rough plans, and made a basic materials list. When the conference was over, I was ready to get started.

I found whimsical decorations to add to my basic design just by walking the aisles at Lowe’s. For example, using bedposts to frame the outer portion of the coop, and crown moulding around the base outside. Also using wall paneling material for the roof, cutting the edges in a scalloped pattern. My brother Sudad gave me an antique stained glass window that I put in the front door.

Then I borrowed many tools, such as a table saw and power sander.

I used plywood with a hardwood veneer because it was smooth for painting. My daughter picked out the 6 Disney paint colors. After I cut all the pieces, I primed and painted them before assembling. I purchased keyed latches to keep critters out. I used two old wooden gates placed on their sides over the ground and the coop rested on that.

I have an electrical outlet inside with a small night light, and an outlet outside for Christmas lights. There is a multicolored lamp on the ceiling that went perfect with the color scheme.

I used clear acrylic tubes to make a feeder and waterer so that I could check the levels right away. They look futuristic and attractive. The two nesting boxes are easily accessible from the outside. Our chickens use the bottom nesting box about five times as often as the upper nesting box. At night they all crowd together on the roosting bars.

I designed this coop with the idea of having about six comfortable, pampered chickens.

I let Emily and Sam help as much as possible, and they signed it with their hand prints. Building this took two full weekends.
This was an immaculate dollhouse, my wife nicknamed it "The Barbie Dream House." The kids played in it before the chickens were old enough to move in.

The coop became a local attraction for our friends and neighbors. Just the fact that we have chickens in the city shocks and awes people. We are too happy to have them hold a chicken for the first time, and take home colorful eggs.

When we had a baby shower at our house, we used the chicken coop as a centerpiece and decorated with matching colors and decor. This set a vibrant, lighthearted tone to this special event.

Some of our well-meaning friends suggest I get out of practicing medicine and go into business manufacturing chicken coops. Nice idea, but I love my work and most people would not want to pay what I would need to charge to make this a profitable enterprise. So this is just a fun hobby.

**Materials:**

- 3 - 4' x 8' three-quarter inch plywood with oak veneer
- 6 - 2 x 4s
- 4 - bedposts (outer corners)
- 4 - 4 x 4 posts (inner supports)
- 4 - decorative post caps for inner supports
- 2 - 4' x 8' paneling used for roof
- 2" x 3" soft pine for roosting bars
- 2' x 24' wire mesh for bottom run area
- 1 - sliding bathroom window with opaque glass for rear wall
- 1 - decorative glass or stained glass for front door
- 2 - keyed latches for nest box and main door
- 6 colors 1 quart each - paint, "Disney Collection" from Home Depot

I added a 4' x 8' wire dog kennel enclosure that is the main chicken run. It's tall enough that we can walk inside. I put in a dust bath (local beach sand mixed with diatomaceous earth), and a feeder with oyster shell and grit. I feed the chickens organic feed, and vegetarian treats. (I thought squirrels were eating my garden strawberries and lettuce, until I caught Emily sneaking them to the chickens.)

We now have a total of seven chickens, very loved and pampered, and so friendly that one laid an egg in Emily's lap while she was petting it!

A few neighbors in Manhattan Beach have started to raise chickens, so I helped Emily begin a club, Children Owning Outstanding Poultry, or C.O.O.P. We had one meeting so far at our house and it was a blast for both the parents and the kids. After showing off our chickens, it turns into a big play date for the kids and a gab fest with hors d'oeuvres for the parents.

These chickens have been a joy, outstanding pets. They are comical to watch and are ravenously grateful when they are given treats. They give us pretty eggs that are delicious. All of this is wonderful.

*Dr. Shahin is the Medical Director and owner of ExpressCare Medical Clinic in Los Angeles, California. He has lived in Manhattan Beach for seven years.*
Movable Chicken Tractor Coop

By Bill Dreger
Ohio

Once the decision was made to keep a small flock of hens I began researching for the ideal coop design that would meet both the chickens' needs and mine. It had to be a compact and secure structure that gave adequate space for 10-12 hens. At the same time, I wanted to give my hens safe access to the outdoors without having them roosting on my porch railing.

*Nesting boxes are conveniently located outside the coop for easy egg collection.*

*The chicken run is completely enclosed in poultry net. The door drops to form a ramp and awning window gives light and ventilation.*

*The hinged roof gives full access to the coop interior for cleaning and extra ventilation.*

A movable "chicken tractor" type coop seemed the best route to follow in my design. So I endeavored to take the best aspects of various portable designs to incorporate into a coop that would best fill the bill.

My design features a 6' x 4' enclosed coop mounted 2' above ground. It has an enclosed pen under the coop protected in galvanized poultry netting and extended an additional 6' in front of the structure. Chickens are fully protected top and sides while in the outdoors. A hinged coop door that drops to form a handy ramp gives the birds quick access in or out of the coop. Total outdoor ground space is 6' x 10'. This allows birds plenty of fresh air and sunshine with the ability to get under the coop to get shade or escape rain.

Coop construction is mainly exterior plywood on a 2 x 3 framework using galvanized nails and screws. Outside pen area frame is from 1x and 2x pressure treated lumber. A large, homemade awning style window and several generous vent openings ensure good light and cross ventilation.
The insulated metal roof is front hinged to swing upward for easy coop cleaning and additional ventilation when needed. A side hatch door puts water and feed receptacles within easy reach. To save interior space, the nesting boxes hang off the coop’s rear wall-allowing fast and convenient egg collection from outside.

With a host of predators in the area, particular effort was made to protect the flock. All window and vent openings are covered with a double thickness of galvanized steel mesh. This same wire mesh is employed single thickness under the tongue-in-groove wood floor of the coop. Doors and awning window are equipped with double latches to thwart even the cleverest raccoon.

Every few days the coop complex gets moved 10 feet or so forward on a pair of rear wheels. This continually gives the hens fresh ground to traverse and keeps the area tidy. All in all this little portable coop keeps my nine hens healthy, happy, and safe.
The Jobgen family used boards from an old barn for the walls and floor of their new coop.

Tear Down the Old Building & Rebuild
Michele Jobgen
Illinois

The roost is simply a branch from the yard, and the nest boxes were found on the property, with plywood added since the bottoms had rusted through. The loose tin can on the waterer keeps the birds from jumping or sitting on it, resulting in a much cleaner unit.

We built our coop almost totally using recycled materials. We bought about $9 worth of screws. We recycled a barn that was falling in at a neighbor's farm. We used whole pieces of the barn walls for the coop's walls and floor. We used scraps of tin for the roof given to us by another neighbor. The old tin nesting box was actually on the property when we moved here. We just added plywood bottoms because they had rusted through. We screwed some shelf supports into the walls and screwed branches (instead of boards) about 2" thick for our roosts. The can on top of the waterer keeps them from roosting on it, helping the water stay clean longer. The bungee cords on the feeder let us know when it's getting low without having to enter the coop.

Move an Old Building to a New Site
Marci Fouts
Colorado
The original building wasn’t much to look at, but the Fouts family saw the potential.

Our chicken love-story started out like many others. Newly moved to clean country living in northern Colorado from metropolitan Phoenix, we started out with a small flock of six chickens in an A-frame portable coop in the backyard. We had many trials and tribulations; learning how to raise chicks, deciding when it was okay to turn the heat lamp off; how to dust for lice, etc. The next door neighbor's dog wiped out all of the flock except for one bird who was renamed Lucky. We started again and moved our portable coop to a safer location with a better fence. Our daughters, ages 8 and 10, were so excited when the first egg was discovered and they tried to guess which hen had laid the precious prize. Then it was onto the fair, where our oldest daughter won Grand Champion, Standard Other Breed, for her Ameraucana; the trophy was bigger than the bird. And that was it, we were hooked. We added more exotic breeds to our flock: bantam Sebrights, Frizzles and Silkies; and some new layers, giant silver Cochins and the reliable Leghorn. Before we knew it, we needed a bigger coop.

We live in a small town that continues to see development. While this is a positive thing for our economy, we feel a small twinge of disappointment each time we drive by a farm that has a for sale sign in front of it by a large developer. Such was the case for the building that we saved.

The Fouts loaded the old building onto a flatbed truck, and hauled it to the home site, below.

On the corner of Eisenhower and I-287 is an old brick farmhouse, along with several farm buildings, that look as if they have stood there for 100 years. Unfortunately, it was on the corner of a busy intersection and was prime location for a convenience store or gas station; so the land
was for sale and the buildings were to be demolished. We felt if we could save at least one of the buildings, we were doing our small part in continuing to maintain our community's farming heritage; not to mention keeping perfectly good materials from heading to the local landfill.

We called the developer, who gave us his permission to take one of the buildings from the site. We selected a small 8' x 8' building that sat on a 2' high concrete foundation and had been used to hang chickens after they had been slaughtered. It was full of trash, mice, bugs and cobwebs; but we could see its potential. We recruited some help and set about freeing our new coop from its current foundation and surrounding trees.

We thought that it would be a piece of cake to push the building onto the flatbed trailer, but that turned out not to be the case. The idea was to pull the building atop two round poles using a come along; however, the bottom slats of siding on the building started to crush and shred as they snagged and got caught on the poles. Putting their creative heads together, the guys slid a round pole horizontally under the building and rolled it slowly across the long poles onto the trailer. It was a slow process and took almost four hours to move the building from its foundation to the trailer.

After strapping the building down tightly, we had an eight-mile drive to the new location. It was slow going, but our new coop made it safely and was ready to be lowered onto its new foundation using chains and the good old John Deere. The new 2 x 4 lumber foundation was built with a solid wood floor on 4 x 4 skids with large eye hooks on the ends so that the building could easily be pulled with a tractor to whatever location we desired; and the coop was secured to the new foundation using 20 lag bolts.

![Coop](image)

With a bit of paint, new windows and lots of elbow grease, the coop is a lovely home for the Fouts' birds.

Then the fun work began. With paint scrapers in hand, we painstakingly scraped off 30 years of dried paint and old wood splinters; removed old rotted window panes and pulled lots of rusty nails. We went back to the farmstead and found an old wooden door on another of the buildings that we modified to fit our coop. We pulled down cobwebs and scoured the inside so that it was clean and sterile, and built new nesting boxes and roosting ladders. The old wood on the outside was so thirsty, it soaked up three layers of paint as we painted the building and trim to match our barn. We purchased fence panels that are used to make a dog run and wrapped the chicken yard around the side and back of the building to ensure that regardless of sun location, our flock had plenty of shade.

We moved our flock into their new home on a rainy Saturday afternoon. It was wonderful to watch them inspect their new quarters. They had plenty of space to walk around, scratch in fresh shavings and perch on their roosts, even with stormy weather outside. Our recycled chicken coop has become a beautiful addition to our property and we feel good knowing that we were able to take something old and make it new again.

**Indigenous Materials & Friends' Donations**
This is our chicken coop made from items friends and neighbors had lying around. We have 30 chickens at the present time living in the house.

The chicken coop is built with 75% recycled materials, galvanized roofing, 2 x 4s, and stone. The inside walls have hickory flooring left over from our son's house. The main expenses were concrete, the outside cage and wire. The pen is 8' x 16', and the coop is 8' x 8'.

This closeup of the door to the run shows the large spaced fencing. The Lantz family will add chicken wire around the entire run to keep out the numerous predators.

Using stone from the property ensures a coop that will last a lifetime. The firewood behind the coop offers another natural option for building a coop—cordwood building. A cordwood coop building instructions can be found in the book, Chicken Coops, by Judy Pangman. Another book on building with cordwood is Cordwood Building: The State of the Art by Rob Roy. Both books are available from the Backyard Poultry bookstore.
The young birds on the left have a beautiful coop and—at least for now—clean nest boxes ready for use when they begin laying.

We will be adding chicken wire along the sides of the cage for predator protection and we have chicken wire along the top of the pen also. We would have liked to have free range chickens but too many predators including fox, coyote, dogs and muskrat prevent that.

Many hours have been put into building this coop but my husband enjoyed doing it, and having our friends and neighbors admire it as it was being built.

**Use What You Have Now**

*Rocky Mountain Rooster’s Coop Bed & Breakfast—Hens Welcome!*

The Griesemers

Colorado
When the Griesemers thought the small coop wasn’t sufficient, they turned an unused loafing shed into a coop, and turned it into their new home. They filled the loafing shed’s dirt floor with hay, packed it in very tight, and then put plywood on top of that. They insulated the walls and ceiling, then put plywood over it. They added a window door and walk-out door for the chickens, put up a few decorations, and finished with a 12 x 12 x 24 run.

We got three Barred Rock hens and one Rhode Island Red rooster this spring and wanted to make sure they had great “accommodations” so my husband built this 12’ x12’ chicken coop with an attached 12’ x 12’ run. We call it The Rooster’s Coop Bed & Breakfast. They sleep in, come and go as they please and each hen lays nearly one egg a day for us. These are our first chickens ever and we can’t wait to add more to our flock!

![Image of chickens](image1.jpg)

The Griesemers had a perfect flock of three Barred Rock hens and one Rhode Island Red hen...until the Rhode Island Red began crowing.

We started our chicken journey in April, 2009 with four hens. They were the cutest little things. We named the littlest chick "Peep" because that was all she could do. What a precious little thing. We kept them in a 2’ x 4’ x 4’ wooden coop with two little nests and thought this would be perfect for them. After all, they were so tiny and seemed to be very content to cuddle for warmth. Things were going wonderfully and we couldn’t wait for our hens to turn six months old so we could have fresh eggs! We were reading all about raising chickens and were trying to be prepared. We had a heat lamp, lots of fresh food and water and we would spend loads of time with them, talking to them and bonding.

Month after month, our hens were growing, having all the feed, scratch, bread, oatmeal, cornbread and veggies, that their little hearts desired. We thought it was funny though, that little Peep was filling out differently than the other hens...and we thought her colors were just gorgeous. Three Barred Rock hens and one Rhode Island Red hen...what a perfect flock!

![Image of coop](image2.jpg)

All the comforts of home, for birds and humans alike.

To make a long (and very obvious) story short, we learned that little Peep wasn't a hen, but a rooster. One day we heard this little "hen" making the strangest sound, and we looked at each other and just laughed. Our little Peep was growing up and had just tried his very first crow! After a few short weeks, Peep was crowing and quite proud to be doing so. We decided that three hens wouldn’t be enough for this little guy, so we got two more hens, a Lakenvelder and a Brown Leghorn, both beautiful. And Peep was very happy his flock was growing...with all hens.

We decided that their little 2’ x 4’ x 4’ just wouldn’t do it, so we took an extra 12’ x 12’ x 12’ loafing shed and turned it into their new home. We filled the loafing shed’s dirt floor with hay,
packed it in very tightly, and then put plywood on top of that.

To complete the interior of the coop, the Griesemers built a six-unit nest box and added dowels for roosts. They separated the room with wood, laying down a thick layer of pine shavings on one side. On the other side of the room they laid linoleum to be used for storage.

The smallest hen, the Brown Leghorn, BeeBee, lays the biggest, whitest eggs the Griesemers have ever seen. A friend, after seeing the white egg, asked if it was from a goose! They just smiled.

Then we took 3” foam insulation, lined the walls and ceiling with that, and put plywood sheets on top of the insulation. On the front wall, we added a small window with a screen, a walk in door with glass and screens, and a little walk out door for the chickens. Next we built six nests, put hay in them, put up four roosts, separated the room with wood to lay a thick layer of pine shavings on the floor for the chickens. On the other side of the room we laid linoleum for us to walk on to go in to feed and clean out the coop. What a treat! Then we built a 12 x 12 x 24 run and attached it to the coop to insure the chicken hawks, falcons and other birds that we have here in Colorado wouldn’t have a meal to go!

Our girls just love the nests, coop and run and are now giving us around four eggs a day.

We both wish we had done this years ago! We love our chickens and adopt more hens. We now have nine hens and our rooster, Peep. Needless to say, he is a very happy rooster!
Coop Creations

Thinking Outside the Box

Reusing materials is a great and inexpensive way to house chickens. A few added touches, such as a fancy used door and flowerbeds can make an attractive space no neighbor would think to complain about.

The following pages show many other coop ideas to inspire your coop building decisions. Think outside the box, er, I mean coop!—Ed.

![Coop Image]

Kirche's Lil Chicken Coop is a modified Little Tikes playhouse that the kids have outgrown.

Mrs. Kirche Taylor, Kentucky

Our local newspaper ran an editorial last summer about the city ordinance on keeping chickens in the city. I have to say the article caught my interest. I love to garden and grow my own produce on a small scale, but the thought of actually being able to collect eggs from my backyard made me giddy inside.

![Chickens Image]

Velma, Lady and Macy

I researched possible coop kits, but the more roomy models were out of my budget. Sometimes we need not look further than right in front of us. When my oldest son was young he took a Little Tikes playhouse, elevated it from the ground, built a deck, railing and stairs. That was about 10 years ago and the boys have since outgrown this house. My dad is an awesome carpenter and with a few modifications, we had a wonderful coop and run. We added nest boxes to the house, built a 12’ x 8’ enclosure with roofing, added vinyl flooring to deck/house floor and added a reinforced fancy vinyl door. I present to you the chicken mansion we call the "Kirche's Lil Chicken Coop."
We faced a challenge with finding young chickens from a trustworthy source. We did not want tiny chicks, but rather hens that were ready for the outdoors. The first hen, Ruby, was obtained from not-so-great conditions at a flea market. Ruby sleeps in the playhouse sink in the evenings. She prides me with one egg a day. She waits for me to bring her treats and as far as I am concerned can live out her days here with me. I like to think I saved her from a short demise.

Nest boxes came from old dresser drawers and Ruby’s favorite roosting spot, the play-house sink are also recycled.

Our other three girls; Velma, a White Leghorn, Lady, a Black Australorp and Macy, a Dominique, were found by chance. My mom and I were lost on the highway looking for what turned out to be another bad poultry source and stopped at a truck stop for directions. My mom asked if they knew of anyone with chickens and the attendant said there was a gentleman that came in every day who was an organic chicken farmer. We took a leap of faith and left our number. He called that afternoon. His birds were just what we needed. He also gave us great advice: "Keep it simple."

The internet is a great source of information, but can also be confusing to new backyard chicken farmers. If you read or ask 10 different people a question, you could get that many answers.

Sometimes the best options are closer than you realize.

Dad, Norman Ford, modified the Little Tikes playhouse and built the run, saving money on a purchased coop.
The first hen the Taylors bought was Ruby, obtained from a flea market.

Makeover Offers Endless Entertainment—Twice
Thalia, Hawaii

Thalia built this coop with wood from an old play structure. The nest box (right) was also made from the recycled wood. (Note: we don’t recommend placing a roosting bar in front of the nest boxes, as it may encourage the hens to lounge about there and foul the nests.)

Our coop was built from an old wood play structure that was hit by a tree about 3-1/2 years ago and was never quite the same. As my boys grew it seemed to squeak and twist more with their growing size, so I decided to turn it into a chicken coop. The recycle project was a great lesson for my boys.

Taylor, my sister-in-law, was here on vacation and I asked her if she wanted to help. The only items we purchased were the screws, hinges, latch, chicken wire and corrugated roof.

Thalia’s sons enjoyed the play structure, but when it was hit by a tree it became unstable. Once it was turned into a coop, it again offered endless entertainment for the boys, as well as teaching a lesson in frugality.
Nature Provides the Heat with this Solarium
Carol Fishwick, Ohio

I thought you might be interested in seeing our chicken "solarium" which helped keep the hens warm and active during our snowy Ohio winter. A neighbor had had a fairly large (4' x 8') skylight replaced several years ago. I retrieved it from the scrap heap and leaned it up against the back of the barn, without having any clear idea of what I would do with it.

As poultry novices, we didn't realize that the chickens did not care much for ranging in the snow. So in early December we set up that skylight on cement blocks, leaned a couple bales of straw where the wind might come through, and cut a small door in the fencing. They loved it and daily thanked us with a healthy supply of eggs.

Retiree Finds Poultry Keeping the Cure for Boredom
Ken Holland, Kentucky

After 20 years in Florida with chickens, six years ago, I decided to come back home to Kentucky. We bought a home out in the country, just three miles from my hometown of Benton, with a population of about 5,000.

We are retired and we love gardening. That's fine for spring and summer, but at our age we have to spend most of our days in the house during the cold winters.

One day while I was waiting to get a haircut, I picked up a copy of Backyard Poultry. It was wonderful; it told me all I needed to know about curing my winter boredom (get chickens). I subscribed to it, and in my first issue I saw the chicken coop I wanted to build. It was in the Dec. 2009/Jan. 2010 issue, page 32. There was a beautiful coop of flagstone built by the Lantz family of Indiana.
Instead, he used foam board. He cut out stone shapes and painted them various colors to resemble stone. He warns that chickens love pecking the foam board, so he had to fence it off.

On a cold February day we started gathering material to build this 8' x 8' coop. Only I could not afford flagstone. So I bought six sheets of 2-inch thick 4x8 sheets of foam board (not Styrofoam). Foam board is strong and flexible. I then hand carved each stone from the foam board and painted them to look as much like flagstone as I could.

I fastened each piece to the plywood walls with nails and drove them in 1/8" deep and the foam board swelled over the nails and hid them. It worked out good. I needed to hurry; I wanted to order my chickens in March. I built a 35' x 100' barnyard for the chicken run and put 1/4" vinyl strips of spline 18 inches apart all along the top of the fence, then fastened each one to a 25' meter pole in the middle of the barnyard. I used this idea 20 years ago and it works perfectly against hawks.

Ken built outdoor perches, and his flock of 62 chickens really enjoy them.

I then put a gate in the back of the run to let the chickens out around noon to forage when the four-legged predators are not so active. I also have an electric wire around the barnyard for the nighttime guys. I built daytime roosting poles in the run and they love them. Little did I know how much chickens love foam board; they are crazy about it and will eat it up! So I had to put screen three feet high around two sides of the coop.

Ro-Ho Adds to Entertainment Factor

Now about Ro-Ho our rooster. He is a Braggs Mountain Buff, only five months old and still growing. He is worth his weight in gold. We have six breeds of chickens: Welsummers, Buff Orpingtons, Blue Laced Red Wyandottes, Cuckoo Marans, Black Jersey Giants and Braggs Mountain Buffs, 62 chickens in all. Our favorites are the Mountain Buffs. They are very gentle and lay big eggs. Ro-Ho is cock of the flock and I have never had a rooster like him in all of my years.

The king of the coop is Ro-Ho, a Braggs Mountain Buff that keeps the flock in line, including chasing them all into the coop at dusk.

When we let our chickens out to forage each day, most of them come in at a normal time to get
their treat and to go in to roost, but there are always seven or eight that want to linger till almost dark. Ro-Ho will not put up with that; it looks as if he counts them and knows if they're not all in. Then he stretches his neck and listens and takes off through the gate and up in the woods and slowly comes back driving two or three hens to the barnyard. He is very gentle with them but if they drag their feet too long he will whack one and they will continue on. When he gets them in he heads down into the bushy area and brings two or three more, until he is satisfied that he has them all in. He is the last one to go on the roost pole and then I go down to shut the gate.

One night as I was closing the gate, I noticed a hen coming up that Ro-Ho had missed, so I let her in, but she did not want to go in the coop. I tried to drive her in but she would not go; I was running back and forth, chasing a chicken that is cackling and raising all kinds of cain, and breathing hard at 77 years old. I thought to myself, "What do you think you're doing?"

About that time I heard a loud clunk from the coop. It was Ro-Ho coming off the roost pole and hitting the floor. He came out the little door and took one look at me and came flying and running down to me, and then took over my job. He ran that chicken around and around until she hit that hole and went in. He then stopped and reared back and looked at me as if to say, "This is the way you do it." Then he strutted into the coop and I shut them in for the night.

Ro-Ho’s antics are so entertaining that Ken had to set up chairs for the neighbors to watch in the evenings.

I have had a lot of roosters in my day but I have never had one like Ro-Ho. We have had to put chairs at the barnyard for friends and neighbors who come around at 6:00 or 7:00 pm just to watch him work. We are now starting another coop that will be bigger than this one.

Since the salmonella thing came out our chickens can't keep up with the demand for eggs. Country fresh brown eggs are in extreme demand here. We will be building a bigger barnyard to accommodate many more Mountain Buffs.

We love Backyard Poultry and wish it came out every month because we learn so much from other peoples' experiences.
Want Healthy Birds? Give Them Fresh Air!

By Don Schrider
Virginia

When he first visited, my friend Harvey Ussery was fascinated by the way I house my Leghorn chickens. Since then he has encouraged me to write an article sharing my thoughts and experiences on using Open Air pens.

My chickens do not have a tightly closed building to protect them in winter, but rather pens with half a roof and a tarp on two sides to block the wind. Most people would expect my Leghorns, with their large combs, to suffer frost-bite and to do poorly. But, in fact, they thrive in my pen system. How?

Fresh air and exercise help chickens stay healthy and withstand winter better than most people realize. Photos by Don Schrider

First we have to understand that our animals are healthiest when we give them conditions that allow them to express their natural instincts and which imitate their natural environment as much as possible. Chickens need to scratch — moving around all day in search of food, kicking with their legs and exploring with their beaks. They like to get up off the ground and perch, especially at night. On hot days they seek a shady spot; on cold days they seek a spot warmed by the sun. They need to dust bathe to keep insects off their bodies and to remove dry skin. They like to have some cover.

Next we have to understand what good health is for chickens and how it affects them. I actually came to understand this first with my flock of sheep. We had a friend that had no buildings for her sheep — only groves of trees and windbreaks. She had almost no health problems with her flock while some of our ewes always had runny noses in winter (pneumonia). We ran our sheep out of the barn and never had runny noses again! What made the difference? Clean air and exercise.

When animals defecate in a building, ammonia is released. When there is enough carbon matter in the litter, the ammonia is trapped. When there is not enough carbon matter, some of the ammonia evaporates and you can smell it in the air. Lung tissue is damaged at five parts-per-million of ammonia — our human sense of smell picks ammonia up at about 25 parts-per-million. In other words, when your chicken pen smells the fumes are already damaging the lung tissue of your chickens! To compound this issue, a tight building also tends to trap dust. Dusty air further challenges the lungs of the chickens, and the building limits the amount of exploring and moving the chickens will do.

Cultivating good lung health in our chickens is a cornerstone of having a healthy flock. Paying attention to the lungs is perhaps more critical for poultry than for mammals. Keep in mind that chickens have small, relatively weak lungs. They also have nine air-sacks — hollow sections of bone that circulate air. Their bodies do not sweat, but rather heat is regulated by expelling
moisture when they exhale. When the lungs of a chicken are challenged, the bird is much more prone to disease agents; it is no coincidence that most poultry diseases are respiratory in nature.

When I designed these pens, what I was looking to do was to create a simple shelter that would protect the chickens from harsh weather, yet give them lots of fresh air and a reason to exercise. Old research into open fronted chicken houses (pre-1900, conducted in Iowa, Minnesota, and Massachusetts) influenced my thinking greatly — if birds could thrive in those winters, why couldn't Leghorns thrive in Virginia winters? I also was looking for a system that would allow the chicken litter to break down as if the floor was a compost heap of sorts. Thus the half roof/half open format.

When you view my pens, you should think of how they operate. First, the basic pen is 10 x 10 foot. Across this I have a 5 x 10 foot roof. The purpose of a roof is to protect the birds from rain, snow, and sleet, give the chickens a sense of security, as well as to keep out predators. Since I wanted to keep the dust levels down, I only covered half the roof to allow snow and rain to mix with the bedding. Next, I wanted to have plenty of airflow, but wanted to break the prevailing winds and winter storms. So I placed a tarp to cover two of the sides of the pen. Using a tarp allows me to roll up the bottom or roll it back so as to cover less in the summer when more airflow is helpful. The tarp also provides some protection from sun. Roosts, feeders, and nesting boxes are placed to take best advantage of the combination of tarp and half-roof.

This simple pen was made from six sheep panels and a tarp, yet chickens winter very well under its protection.

The pens are also best oriented so that they face east. I have always preferred south facing pens, but with only half a roof there is too little shade in the summertime. The placement allows me to block the winter prevailing winds (north, and west) and the evening sun (west), which in summer can be a killer. To provide more shade in summer, I also attach some shade cloth, draped a tarp from the pen in "tent-like" fashion, and even use a plywood board propped against the pen to give a hidden recess and shade. (Chickens love little hidden areas, it makes them feel safe and it helps keep pecking and fights down when the chickens can get out of another bird's line of sight.)

For bedding I use straw. At first I tried using a deep litter of straw, but found this compacts too quickly and it was too slippery under the chickens' feet. Leaves worked well, but I had no place to store them once fall was over. I tried hay once, but I found hay molds too quickly for this pen style. Finally I settled on a light layer of straw mainly by happenstance. That is, I ran out of straw and could not make it out to buy more for a week. Observing the litter, I decided to wait and see what happened. Much to my joy, the remaining litter began to turn into dark, rich compost quickly. I then tried adding only a light layer of straw and found that my young birds no longer formed a hard pan of manure, and my adult birds would stir the litter beautifully every time I tossed a handful of corn into the pen. My nose also told me that there was no ammonia fumes to damage lungs.

Some of you might now be wondering if these pens can protect the birds from winter - and a few might be thinking it would be kinder to provide my birds with heat. Well, the truth of the matter is that providing a heat source actually weakens the birds' bodies, and the necessity of
keeping the building closed causes a buildup of moist air, dust, and ammonia — which work together to weaken lungs. A better approach is to provide fresh air in conjunction with exercise. Please keep in mind that frostbite on the combs of chickens has more to do with moist air and poor circulation of blood than cold weather. Did you ever play in the snow? (I'd say "as a kid" but some of us still enjoy sledding, etc.) Ever notice how once you get moving you get warm? This is because your heart rate increases as you exert yourself. Thus the old adage, "Firewood warms you twice: once when your split it, and once when you burn it!" The circulatory system of the chicken is of great importance. Give them fresh air, loaded with oxygen, and a place to scratch and their bodies will become warm.

In cold weather you will notice your chickens' habits change a little. They will seek cover less often, preferring to take advantage of sunny spots to warm themselves — their habit being to follow the sun as the day progresses. You will see few avoiding each other - almost as if their "personal space" is now smaller. They will also hold their body feathers up a little more, trapping more warm air. When provided a small pen, chickens in winter will be very sedate. But when you add a daily scratching opportunity and a larger pen, the chickens become more active. I would never go so far as to say that chickens are more active in winter, but healthy chickens will be more active in winter when given more space to explore.

It has been a wisdom to feed chickens scratch feed toward the end of a winter day. This practice is eminently valuable for three reasons: First, scratch feed is usually composed of corn, which gives fat to burn to stay warm, and often of wheat, which causes more heat when it is digested. Second, tossing the scratch down in the bedding not only employs the Ideal pens are not tight and heated, but rather are designed to protect from harsh winds, excessive sun, rain, and provide some sight barriers and cover for the home flock. These pens function beautifully in summer or winter. Notice even a propped sheet of plywood can be used to block snow or sun.
birds in turning and freshening the bedding, but the exercise warms them and fulfills their natural instinct and desire to scratch. Lastly, a chicken that has just eaten mash will always find more room for scratch feed — thus your birds will go to roost with more food in them to help them stay warm all the long winter night. This is especially important. Consider that in winter, when more calories are needed to stay warm, the birds have fewer hours to find food and a longer dormant period (night). But one should still monitor the body condition of the birds so as not to get them too fat. [See my article "How to Get More Eggs" in April/May 2010 issue of Backyard Poultry.]

My pens work for me and my chickens because they provide the chickens with what they need: fresh air without moisture and dust; wind breaks; shade; protection from rain; protection from driving winter winds; protection from predators; exercise; sight barriers and places to get away from each other; places to sun and to dust bathe.

Try spending time in your chicken pens and see if you are comfortable — if you find them smelly, dusty, or cold, then maybe you need to make a few changes. Enjoy your chickens and the compost they produce!

Don Schrider is a nationally recognized poultry breeder and expert. He has written for publications such as Backyard Poultry, Countryside and Small Stock Journal, Mother Earth News, Poultry Press, and the newsletter and poultry resources of the American Livestock Breeds Conservancy. He is currently writing a revised edition of Storey’s Guide to Raising Turkeys (and welcomes all turkey comments and contacts). He can be reached at brownleighorn@gmail.com. Text © Don Schrider, 2011. All rights reserved.
Herbs for Spring Eggs and Breeding

By Susan Burek, Herbalist
Moonlight Mile Herb Farm, Michigan
By Laura Corstange, Herbalist
The Wishing Tree, Michigan

Hatchability of poultry eggs is affected by many factors, but it is most directly affected by the general health and nutrition of the laying hen. High quality drinking water is necessary, and usually receives little attention compared to foods. Water is not only as critical as a nutrient to metabolism (minerals), but acts as a conductor for nutrient transportation from the seed, plant and insect matter eaten. Basic health and nutrition directly affects proper function of the reproductive system. In addition, the digestive system needs balanced nutrients to keep infectious disease and parasite loads in check. If we artificially incubate, we may focus entirely on external practices, such as egg collecting/storage and the mechanics of operating the incubator. Compared to a healthy hen, all those things are secondary. Successful incubation must start with a healthy egg, from a healthy hen. The hen’s internal health is not just about having quality water, vitamins, minerals, protein and calcium to create an egg, but it must also include overall proper functioning of the reproductive and digestive systems working in harmony to produce viable eggs.

Reproductive Health

The reproductive system can be compromised by poor daily nutrition and even more so by exposure to infectious disease. Low calcium levels are associated with egg binding. Tumors caused by disease in the ovarian tract can be a common cause of failure in the hen's reproductive organs and hens that are too fat can suffer prolapsed oviducts. Bacterial and respiratory infections can also derail the egg-laying process. Yolk peritonitis may result from secondary bacterial infection. The mature hen only has one active ovary (the second ovary does not develop), which can atrophy from disease or severe stress caused by a lack of feed or water. So as you can see, keeping your hens as healthy as possible will have a lot of bearing on producing vigorous eggs with a healthy vitality and viability.

Mating

Aromatic sages and rosemary are just some of the herbs available that have essential oils that can be put to good use in the nest and even in the coops. They can be used fresh or dried as natural insecticides and some good-smelling aromatherapy to boot!

Temple Grandin, acclaimed animal scientist, talks about the "rapist" rooster in her book, Animals in Translation. These roosters were bred through single-trait breeding, which causes unintended side effects when focusing on breeding for certain traits. The trait of "courtship" got bred out of some roosters. A normal rooster would do a little courtship dance before trying to mate with a hen. This "fixed action pattern" will trigger something in the hen's brain for her to crouch down into a sexually receptive position so the rooster can mount her. She doesn't crouch
down until she sees the dance. Since some roosters stopped doing the dance, the hens stopped crouching. So the only way the roosters can now mate is by using force by grabbing and jumping on the hen, and using force with their spurs. This copious mating can cause a loss of feathers to the hen on her back to the point of large patches of bare skin. This makes the hen susceptible to cuts from the rooster’s spurs. This can cause serious injury to the hen and intervention may be required. (See "Mating: A Cautionary Tale" on page 51.)

**Pathogens & External Environment**

The digestive system keeps pathogens and internal parasites in balance. Salmonellosis, Colibacillosis and other diseases can be transmitted to the eggs from the infected hen while the egg is being created. Infectious bronchitis is a highly contagious respiratory disease in chickens which may produce soft-shelled or misshapen eggs from hens, even long after they have been affected by the disease. It may, in fact, affect their laying for the rest of their lives. Raw garlic should be available as much as possible all year long to the hen, but especially while producing eggs to hatch, or provided mashed in the drinking water. It is good to also have raw garlic available when the chicks hatch, so they, too, will learn to eat it at an early age.

Keeping the nests clean during the laying/brooding process is very important, as contaminated nests can pass pathogens into the porous egg externally. In the wild, birds will use medicinal herbs externally and in their nesting environment. They will line their nests with highly aromatic herbs that contain strong smelling volatile essential oils. These oils can be antibacterial and anti-parasitic, and what with their aromatic nature, some herbs can be calming and help to relieve stress of the sitting hen. The newly hatched chicks can benefit externally by rubbing against these herbs in the first few days. There are many aromatic native and non-native herbs, but we recommend what is in your immediate environment, especially those that present themselves early in the spring like peppermint (antiparasitic, antimicrobial), spearmint (nerve), catnip (sedative, nerve, insecticide) and oregano (stimulant, antiparasitic, antifungal). Other examples might be wild bergamot, lavender, rosemary, sage, basil, thyme and fennel. A few handfuls of fresh herb should be sufficient, applied to the nest before the hen goes broody.

**Nutrition**

![Nutritious tea made from dried alfalfa is good for the whole flock, but especially beneficial for producing and broody hens to keep them healthy during the breeding season. This alfalfa tea recipe and more herbal information can be found at www.moonlightmileherbs.com.](image)

Good nutrition is important for creating a healthy egg. Hen’s internal system will switch from growth and health of the hen to supporting egg production. Researchers have discovered that chickens can actually choose to direct nutrients towards themselves or their eggs. During egg production, then, hens are weakening their own health. So it makes sense to generally supplement the feed of laying hens. Calcium is needed for the egg’s shell, but the egg also needs other nutrients, especially sufficient salt, phosphorus, choline (B complex), protein and fat for inside the egg. Most of us already know about supplementing calcium with oyster shell or crushed
Eggshell. Herbs are a perfect choice for supplying all these vitamins and minerals, but calcium and protein as well.

Nettle (Urtica dioica) would be my first choice herb. This nutritive herb is particularly high in calcium, protein, manganese, phosphorus, and potassium, Vitamins A & C, among others. Another nutritive herb, alfalfa (Medicago sativa) contains proteins, amino acids, minerals, and high in chlorophyll, which makes it a valuable antioxidant. Lamb's quarters (Chenopodium album) has long been used as a pasture forage food. It is a great tonic for the whole digestive system. It is high in protein, calcium, and vitamin A & C, B complex vitamins and iron. Dandelion (Taraxacum officinale) is a complete food that should be easy for everyone to find to use! It is high in protein, vitamins A, C, K, D, and B complex, iron, manganese, phosphorus and other trace minerals. These greens can be applied fresh or dried, or as an herbal tea. When offering as tea, make sure the waterer is nearby brooding hens and offer another separate waterer nearby. This should be offered to the growing chicks as well to build healthy immune systems. Herbal tea offers the array of benefits of these herbs in a uniform, concentrated mixture that ensures the hen is dosed with as much as she chooses to drink. It can be considered a "green" food and offered daily.

Salt is generally available in feed rations, but make sure fresh water is available year round, as salt poisoning can occur if water intake is not available or drinkable. Organic apple cider vinegar in the water will discourage bacterial and fungal growth, keep the water viable, and also aid the digestive system.

Hens will lose weight and valuable fat from their bodies because of the redirection of nutrients from their own bodies to egg production. Hens should be a healthy weight before egg production begins. Once egg production has begun, it is hard to adjust body weight. Garlic oil made with olive oil (or another monosaturated fat), raw crushed garlic, and then mixed with sunflower seed or wild birdseed will give hens healthy fats, and also provide medicinal value from the garlic. Applying this oil periodically during the winter months will not only help to keep the birds internally warm, but help prep them for spring as well.

**Internal Spring Cleaning**

A piece of charcoal attached to the wall inside a coop can give your poultry access to a natural substance that will help absorb toxins and help to keep the digestive system in balance.
Creating wood charcoal and ash from native wood can be a very beneficial and important supplement for your poultry. Charcoal can absorb toxins and is capable of absorbing up to two hundred times its own weight. Animals in the wild would come across charcoal after forest fires or lightning strikes and they would be drawn to these places to consume charcoal. Charcoal has minimal nutritional value, but research suggests that animals consume it for its medicinal, toxin-binding properties. The charcoal is also a laxative and so then can work twofold and move the impurities it absorbs out of the body. If worms or worm ova are present, it can to some degree help move them out of the body as well.

Your poultry will also eat wood ash as well as charcoal. Wood ash has a very nice texture to aid in dust bathing and adding it to their dust bathing pits to eat and dust in will give your poultry a double-benefit! Wood ash is highly soluble in vitamin K, followed by calcium and magnesium. Vitamin K is useful for blood clotting in poultry.

Charcoal can be made from dry, clean branches or tree stumps burned slowly in a deep pit. Or throw an un-split log on a bonfire or fireplace as the fire is winding down in heat and intensity. Slow burning is essential to charcoal making. You can damp down a fire that is burning too quickly with some water. You can build an outdoor bonfire with brush, and leave the remains of a fire pit where chickens range, allowing them to eat it free choice.

Having a woodstove makes it quite easy. By morning the fire dies down quite a bit and there will be embers or coals at the bottom of the woodstove. Local wood is preferred, like walnut, oak and locust. Before stoking the fire back up again for the day, smooth the coals out. At this time, the ash settles to the very bottom and chunks present themselves. If the fire has gone completely cold, you can pick out chunks of charcoal barehanded and they are ready for use immediately. If, in the morning, you have hot coals, then of course take care removing good chunks to use. Most of us who have woodstoves also have an accessory kit of sorts—the poker, brush and small shovel. Use that small shovel to remove what you wish to use and place those chunks in a safe place to cool completely. In a few hours or less the charcoal chunks can be handled safely. If you have young or inexperienced pets or children, consider the careful placement of the hot coals. Charcoal is a good spring "internal" cleaning, but in reality, charcoal and ash can be beneficial year-round.

Starting with healthy hens, keeping them healthy during the mating, egg laying, and brooding process will keep those little chicks hatching all season long. And, in turn, will insure the chicks have a good start to a long and productive life themselves.

_Susan Burek is owner of Moonlight Mile Herb Farm in Willis, Michigan. Find Susan’s website at www.moonlightmileherbs.com. _
Preparing the Flock for Winter

By Harvey Ussery
www.themodernhomestead.us

Here in the mid-Atlantic, Zone 6b, winter means that water routinely freezes, plants are dormant, and days are considerably shorter—and nights commensurately longer—than in summer. Winter storms bring driving snow or high winds combined with brutally cold temperatures. Such conditions pose challenges to keeping the flock happy, healthy, and naturally fed. Fortunately, domestic fowl are pretty tough critters and can sail through winter with a little help from us. Let me share with you what I do to prepare the flock for a season that can be lean, mean, and cold.

Housing

I like to allow my birds outside as much as I can, even in winter. However, they inevitably spend more time inside during winter, if only because the nights are so much longer, though drifted snow as well may keep them inside full-time for a week or two. Housing choices must ensure that, despite the greatest confinement they experience all year, they remain healthy, comfortable, and free from stress.

Deep Litter

Since chickens do much of their pooping at night, long nights mean a heavier deposition of droppings. The best way to deal with manure in the coop is deep high-carbon litter over an earth floor. Not only is a deep litter house more wholesome for the birds, it is more pleasant for me—and best of all, the busily scratching chickens do most of the work of manure management.

The Chicken Hilton, Harvey’s 13 x 24 foot main poultry house. In winter he blocks all windows with plywood (as shown at the extreme right), but the solid front doors remain open except in the nastiest weather. Inner wire-on-frame doors can be latched closed (as in the far left doorway) to confine the birds while allowing maximum airflow and sunlight, or latched open to give the flock access to winter yards protected by electronet fencing. Photos by Harvey Ussery

When preparing for winter, I stockpile great mounds of oak leaves, my favorite litter material because I get them free from a neighbor; they are tough and high in carbon, so they break down slowly while absorbing the nitrogen from large quantities of droppings; and they produce a compost for the garden and elsewhere on the landscape that creates a lot of residual humus.

Note that, contra advice to thoroughly clean out old litter in the coop, I never clean out all the litter. A major value of an established deep litter is that it is a biological circus—trillions of microorganisms breaking down carbon, using nitrogen in the poops as fuel. Why inhibit all that action? When I remove well broken down litter, I leave at least half of it in place to inoculate new litter.

I monitor the litter closely and frequently add fresh leaves from my stockpile to prevent the nitrogen from getting out of balance with the carbon in the mix. Should that happen, generation of ammonia would not only waste nitrogen in the final compost (ammonia is a gas of nitrogen,
NH3), but would harm the birds' delicate respiratory tissues. Working with deep litter has taught me to "read" its condition and to add fresh leaves before getting that first whiff of ammonia.

For more on using deep litter, see "When Life Gives You Lemons...".

**Ventilation**

I am often asked "How do you heat the henhouse in winter?" or "Do you insulate the coop?" Emphatically, I do neither. In earlier winters I shut up the henhouse as tightly as I could at night, but changed that practice after reading Fresh-Air Poultry Houses: The Classic Guide to Open-Front Chicken Coops for Healthier Poultry (a republication by Norton Creek Press of Prince T. Woods's Modern Fresh-Air Poultry Houses, originally published in 1924, available from www.nortoncreekpress.com). Remember that our poultry's marvelous plumage makes them supremely resistant to low temperatures, so long as they stay dry, especially when harsh winds kick up. Consider as well that both the increased manure dropped in the winter house, and the exhalations of the birds, generate a lot of humidity. Trapping that moisture inside a tight coop creates damp conditions that increase the likelihood of molds and such respiratory diseases as coryza, Newcastle disease, and infectious bronchitis. Abundant, constant air exchange keeps the flock much healthier than heating the henhouse or trying to seal out cold temperatures.

![Ducks bathing](image)

*Harvey’s ducks and geese bathe year-round in stock watering tubs and tanks of various sizes, fitted with hoses approved for drinking water and float-operated shutoff valves. In winter he uses this one—at 125 gallons or so—the largest he owns—to minimize ice accumulation. He removes the valve to prevent damage from freezing.*

My solution for balancing maximum airflow and minimum wind and wet has a lot to do with the design of the "Chicken Hilton," our 13 x 24 foot henhouse. It is divided by wire partitions into three main sections, each with a doorway in front fitted with a solid door that can be latched open and an inner door, wire mesh on light wooden framing, that can either be latched open, giving the birds access to the outside, or latched shut, confining them inside while protecting from predators and allowing air and sunlight into the interior. Each section has a small window in the rear, and the ends have an additional two large windows. All windows have wire mesh permanently installed to deter predators. A ridge vent runs along the entire peak of the roof. That's my version of lots of ventilation.

When cold winds start to bite—around the end of November—I block all five windows with tightly fitted plywood. The solid front doors, however, I leave latched open all winter, except when there is driving snow or temperatures in the teens that coincide with heavy winds. (During the entire last winter, I shut the outer doors only half a dozen nights.) The result is a pocket of still air in the roosting area which protects the sleeping birds from the direct blast of cold winds and from getting wet—combined with maximum ventilation that keeps the air fresh and the litter dry.

See Don Schrider's "Want Healthy Birds? Give Them Fresh Air!" on page 32 for a real-world example of an even more radical approach to fresh-air winter housing.

**Keeping Them Happy**

The key to health and productivity is keeping the birds happy. First and foremost that requires giving them plenty of space. Even before my fall culling, the five dozen birds in my current flock
enjoy an average of five square feet each when confined to the henhouse. After culling, that will increase to nine square feet.

A frost-free hydrant is convenient for watering in winter. When the handle is in the off position, linkage through the supply pipe opens a bleed valve at its bottom, well below frost level. Water drains through the valve into the subsoil, leaving the pipe empty and in no danger of bursting in freezing temperatures.

Busy birds are happy birds. A deep litter to scratch in provides "occupational therapy" to prevent the stress of boredom. In winter I also hang up special treats—mangels (fodder beets), nets of alfalfa hay, cabbages, and ripened seed heads of small grains, sunflowers, or sorghum—to offer rewards for staying busy.

Flexibility in the Winter Housing

Note how the division of the Hilton using interior partitions, each with its own access to the outside, allows maximum flexibility for management. It's a simple matter to hang wire-on-frame doors between the sections to separate subflocks, or to take the doors off their hinges and hang them on a wall. For example, management of the waterfowl is different enough from management of the chickens that it makes sense to keep them in separate sections, with access to separate electronetted enclosures outside. In late winter, it is easy to set up a separate section as a brooder for chicks that arrive in the mail.

Watering

The flock must never be without fresh, clean water. But if the waterer freezes, my birds will be as deprived of their needed drink as if I had forgotten to set it out. As overnight temperatures dip below freezing, I move the waterer to the basement at night. In my climate, it is rare that the waterer freezes during the day, but when daytime temperatures do get low enough to freeze it, I keep one waterer in the basement and switch it with another in the henhouse as needed.

Since anaerobic wet litter is more likely to support the growth of pathogens, the waterer I use inside the poultry house is a five-gallon vacuum-seal waterer over a base with a narrow lip to minimize splashing. I monitor daily for wet spots and scatter wet litter with a pitchfork when necessary.

My waterfowl present special challenges for winter watering. When sharing water with the chickens from the narrow-lipped waterers, they do not wet the litter excessively. However, I like my geese and ducks to be able to bathe, even in winter. But waterfowl are so exuberantly messy with their water, it is almost impossible to provide even a small container for bathing without soaking the litter for yards around. Thus, just as in the warm months, I restrict watering and
bathing of waterfowl to the outdoors. Though I set up waterfowl baths of various sizes in summer, when preparing for winter I use the biggest stock watering tank I have—about 125 gallons. Because of its size, on even the coldest nights it takes a long time for ice to form, and it accumulates to only an inch or so by morning. The molded black rubber absorbs radiant heat as soon as it catches the morning sun, and it is easy to break the ice loose and throw it out of the tank in sheets. Unlike in summer, there is little algal growth in the cold temperatures and it is necessary to clean the tank only infrequently. Though in summer I keep the duck bath filled automatically, using a float-operated shutoff valve, I take the valve off in winter to prevent damage from freezing. Occasionally I replace the water lost in the discarded ice, drawing from a frost-free hydrant outside the poultry house.

**Managing Winter Laying**

There are a couple of things I do not do in preparation for winter. I know there will be a natural decline in egg production, brought on in part by the annual molt in fall or early winter, and in part by decreasing day length. In the poultry industry, cruel and inhumane measures (complete withholding of food or feeding of nutritionally deficient feeds for periods ranging from 5 - 21 days, briefer periods of withholding water, light manipulation, feeding of drugs, hormones, and metals such as dietary aluminum and zinc) are used to force laying chickens to molt in a hurry and get back to the business of egg laying. Though somewhat less extreme methods of force-molting are sometimes proposed for home flocks, there will never be any such "shock and awe" in my winter layer house.

All poultry, including Harvey’s chickens and Appleyard ducks, enjoy the benefits of fresh sprouts in cold weather, when other greens aren’t as abundant.

Since the decline in production is tied to reduced day length, a common practice is to fool the hens into thinking that longer days have returned by using supplemental lighting. Though I do not manipulate apparent day length in this way, I think it’s okay to do so in a well managed, well fed, and healthy flock. Supplemental lighting—a 25-watt bulb is sufficient—should be on a timer, set for a minimum of 14 hours of total apparent daylight, and set to come on in the wee hours of the morning rather than to turn off after dark (which would catch the hens unaware and prevent their finding their way to the roosts).

My preferred means for dealing with the decline in production is first of all to plan ahead on breed choice—breeds such as Rhode Island Red, Delaware, Faverolle, Plymouth Rock, and Sussex have a reputation for maintaining their egg production better in winter. A major reason I chose New Hampshires early this year to become my foundation layer flock is that New Hampshires
were bred to be good winter layers. I also do all I can to ensure adequate protein in the winter
diet. Feathers are almost pure protein, so replacing them all requires a lot of dietary protein.
Planning ahead to ensure sources of extra live animal foods (as discussed below) is my way of
helping the birds reduce molting time.

Fat hens do not lay well. Though they need plenty of dietary energy to meet the challenges of
winter, too much energy, especially in the form of excessive feeding of corn, will result in putting
on too much fat. Lots of exercise and access to natural foods will help keep fat deposition at
healthy levels.

**Dollars and Cents**

As much as possible, I feed my flocks natural foods which I either grow for them or they forage
for themselves. But in winter green plants are dormant and there's not an insect in sight.
Consequently my strategies for keeping costs down revolve around the questions: What natural
foods are available to feed in winter? How many birds am I going to feed?

**Culling for Winter**

My final fall culling is the most critical of the year—it doesn't make sense to carry birds
through winter who are not essential for immediate production needs and plans for next year. As
always, flock composition is a balancing act—it can be especially tricky minimizing flock size for
the lean season while ensuring sufficient egg supply—so let me review the coming fall culling to
illustrate how I think through its complexities.

In the late summer and fall, Harvey plants cover crops on every garden bed, usually the same day he takes off the harvest crop. Cold hardy covers such as these mixed crucifers, small grains, and peas provide fresh cut greens for his flock daily, some of them through the entire winter.

I slaughter all my waterfowl except for the few I’ve selected as breeders, usually in the week
before Thanksgiving. I currently have 15 Silver Appleyard ducks, and will slaughter all of them
except five breeders for next spring, two drakes and three ducks.

Fall is the time to cull both cocks not needed for the next breeding season and less productive
hens, as this year's pullets start taking over the job of providing our egg supply. I presently have
17 old hens and one Old English Game cock, most of whom I will dedicate to Ellen’s stockpot. (See
"Ellen's Fabulous Chicken Broth.") Note, however, that four of those 17 hens have distinguished
themselves as broodies, and I will retain them for mothering duties next spring. (For more on
using natural mothers, see "Working with Broody Hens.")

In early spring I started a group of 75 New Hampshires. Selection of "keepers" so far has
brought that number down to 18 pullets and 10 cockerels. I will retain all 18 of the pullets, both as
the foundation of the laying flock and to ensure sufficient genetic diversity for spring breeding. I
will cull four more of the cockerels, to end with six for use in an improvement breeding project.

I'll retain as well a couple of guineas, for squash bug control next summer. In all, I'll reduce my
current mixed flock of 63 to a mission-capable minimum of 34 to carry through the winter.

**Winter Feeding**
I avoid free-choice feeding in the winter coop—that's an open invitation to my rodent friends to "be fruitful and multiply" while gobbling up expensive feed. If I feed inside, I feed only in amounts the birds will thoroughly clean up before nightfall. I prefer to feed outside, in the winter yard described below.

Giving the flock maximum access to green plants of all sorts, wild seeds, insects, slugs, and earthworms is just good sense, both for the savings on feed costs and because live natural foods are nutritionally superior to anything we can offer from a bag. Though such foods are more abundant and more readily available in the growing season than in the iron grip of winter, by planning ahead I ensure that my flock continues to enjoy live foods.

Dandelion and yellow dock make especially useful green forage, since in my climate they stay green deeper into winter than any other wild plant. I dig them by the roots and throw them to the flock by the bucketful.

I reserve space in my two gardens for crops for the flock: amaranth, sunflowers, field corn, and sorghum. As they ripen, I feed them as a partial substitute for the feed grains I buy, and tie some of the seed heads from the rafters of the henhouse for feeding deeper into the winter. I grow more cover crops every year, and those that mature seeds at the end of the growing season—cowpeas, buckwheat, various millets—I also cut and feed.

I don't bother sprouting for the flock during the green season, but with the coming of cold weather I set up my sprouting buckets (see "Sprouting to Enhance Poultry Feeds") and sprouting trays to generate fresh fare that is high in enzymes and vitamins.

A well managed vermicomposting project is great fun—and generates some of the highest quality fare we can offer our birds. Cultivated earthworms are especially valuable in winter, when fewer natural foods are available.

As soon as I harvest crops in the late summer and early fall, I immediately plant cover crops to feed and protect my soil over winter. The result is an abundance of standing green forage in almost all my garden beds which I can cut to feed the flock—winter peas, small grains such as rye, wheat, and oats, and crucifers such as mustards, rape, kale, and forage radish. All of these are cold hardy enough to last deep into late fall and winter. When the ground freezes into the root zone, the oats and most of the crucifers die. Rye and wheat go dormant, but my fall cover cropping ends with so much of them "in the bank," I can continue making daily cuttings from them through the winter.

In late summer I sow the same sort of mix in an area beside the henhouse to become winter grazing for my waterfowl. Though this cover will be dormant in the heart of winter, it will be alive and green. Given the plot's size, close to 3,000 square feet, and the low numbers of waterfowl I graze on it, I can give them continuous access without destroying the planting. I even release the chickens on it once a week or so, but only in the late afternoon, to limit the time in which they could wear the sod.

Flocksters interested in experimenting with cover cropping strategies should see "The Joys of Cover Cropping."

During the growing season I cultivate earthworms and soldier grubs for live feed. When the fly
season ends, soldier grubs are no longer available, but I feed earthworms from my greenhouse vermicomposting bins through the winter. The worms, together with the fresh green foods referred to above, reduce our feed costs to half what they used to be in winter. And both egg production and quality remain higher than in earlier winters. (For more on cultivating soldier grubs and earthworms as poultry feed, see "Black Soldier Fly, White Magic" and "The Boxwood Vermicomposting System.")

A Winter Yard

Furnishing the flock access to the outdoors is my most important preparation for winter. I’m always trying to pull poultry husbandry and the whole homesteading effort into a single integrated whole, and there could be no better example than the exercise yard I provide my flock in winter.

With the end of the pasture season, I set up an electric net fence around an area to which the flock has access through the winter. (I am especially careful to protect the flock during the lean months, remembering that predators are looking more avidly for something to eat.) If I’m keeping the winter flock in the main poultry house, the yard is between its rear and our bit of woodlot. If they’re in the far end of my 20 x 48 foot greenhouse, the yard is actually one of my two garden plots. (See "Chooks in the Winter Greenhouse.")

In either case, preparation of the winter yard essentially means bringing the deep litter concept outside, and involves assembling as thick a layer as I can manage of organic residues—corn stalks, sweet potato vines, and other spent crop plants; autumn leaves; a final cutting of grass off the pasture; and any other compostable plant debris I get my hands on. I give the flock full-time access to this giant compost heap. Even if daytime temperatures are quite low, as long as the sun is shining and the wind is not sharp, the birds prefer being outside. If it turns nasty, they retreat inside.

Harvey Ussery is a frequent contributor to Backyard Poultry. Click on the cover to check out his new book, "The Small-Scale Poultry Flock."

These are some of the many ways a mulched yard provides for the special needs of the winter flock, boosts garden fertility, and protects water systems:

The birds are not tightly confined and stressed by boredom, but instead spend the day exercising, exploring, and engaging in natural social behaviors—there is no better antidote to going stir-crazy in the winter. The fresh air and sunshine support their naturally robust good health.

As the birds work the debris field and incorporate their droppings, it becomes more and more biologically active. As in the deep litter inside, microbial activity produces metabolites such as vitamins B12 and K, which the birds ingest as they pick through it. If the mulch is deep enough to prevent freezing at the soil line, they scratch through and find such high-potency live feeds as
earthworms and slugs, which help make up the winter deficit of other natural foods.

In contrast to the too-typical bare winter yard with its frozen slick of chicken poops ready to run for the sea in the next rain, the deep organic duff absorbs the droppings, preventing runoff pollution. In the process, the manure's fertility remains in the duff, which by spring is something like a cross between mulch and finished compost—great stuff for kicking off a champion gardening season.

Harvey Ussery is the author of *The Small-Scale Poultry Flock* (Chelsea Green, 2011), which contains a chapter on "Managing the Winter Flock" and lots more information on other topics touched on in this article—watering, breeding for breed improvement, and providing more natural home feeds for the flock.
Controlling Mites in Your Poultry Flock

By Laura E. John
Poultryman’s Supply Company www.poultrymansupply.com

The goal of most poultry flock owners is to reap all of the benefits from their investments of time, money and labor. An essential step in reaching this goal is to maintain a healthy and parasite-free flock of birds. The health of your flock is important regardless of whether you are maintaining a backyard flock for pleasure, raising a flock for meat and/or egg production, or breeding top quality birds for exhibition purposes.

General sanitation and cleanliness will help prevent infestations of parasites. Poultry houses should be clean and parasite-free before moving new birds in. All new birds should be checked to make sure they are parasite-free before they are brought on to your farm. It is also important to remember that wild birds and rodents can harbor and spread external parasites in your flock.

Undetected infestations by external parasites in small poultry flocks can lead to serious loss in the form of decreased egg production, decreased growth, inefficient feed conversion and mortality in severe cases. Constant monitoring of your flock, through physical examination of the external surfaces of each bird’s body, is the first step in detecting and preventing external parasites. Learning to identify and treat one of the most common pests found in small poultry flocks - mites, can prevent a minor condition from turning your flock into an unsatisfactory hobby or a less than profitable enterprise.

All poultry are susceptible to the damage caused by mites. Mites feed on blood and can cause a great amount of damage to your flock, in a short period of time, if they remain undetected. The life cycle of mites can be as short as four days and as long as two weeks from egg to maturity. Short life cycles allow for quick turnover and heavy infestations. Unlike lice, some mites can live in the environment as well as on the host. Therefore, treatments should be applied to your birds as well as their housing.

Detecting and monitoring the mite population level is an important factor for effective control. A minimum of 10 randomly selected birds should be examined for mites weekly. Infestation levels can be estimated by blowing on the bird’s feathers and counting the mites that are immediately seen. The following index can be used to estimate mite infestation levels:

- 5 mites counted = Bird may be carrying from 100 to 300 mites
- 6 mites counted = Bird may be carrying from 300 to 1,000 mites (light infestation)
- 7 mites counted = Bird may be carrying from 1,000 to 3,000 mites - small clumps of mites seen on skin and feathers (moderate infestation)
- 8 mites counted = Bird may be carrying from 3,000 to 10,000 mites - accumulation of mites on skin and feathers (moderate to heavy infestation)

Chicken mites, also referred to as red mites, gray mites and roost mites, are a particular problem in warmer climates and are most prevalent in poultry houses that contain wooden roosts. Photo courtesy of Terry Beebe.
• 9 mites counted = Bird may be carrying 10,000 to 32,000 or more mites - numerous large clumps of mites seen on skin and feathers; skin pocketed with scabs (heavy infestation)

Two poultry mites of concern in the United States and addressed in this article include the Northern Fowl Mite and the Chicken Mite.

**Northern Fowl Mites**

Northern fowl mites are the most common and are the most economically important among poultry mites. Northern fowl mites infect chickens, turkey and game birds. They also cause considerable infestations in pheasants. The northern fowl mite is a serious pest concern in all areas of the United States and throughout temperate zones of other countries. It can be mistaken for the red chicken mite, but unlike the red mite, it can be found on birds during the daytime as well as night. The northern fowl mite has been reported as being seen on many species of birds and may be carried by the English sparrow. This parasite is most commonly seen in caged layer facilities and on range turkeys.

![Northern fowl mites feeding on poultry. From: "Common Lice and Mites of Poultry: Identification and Treatment." ©U.C. Regent.](image)

Northern fowl mites are blood feeders causing anemia in birds that are highly infested. Anemia reduces a bird's efficiency, production and ability to withstand and overcome other diseases. Meat birds infected with northern fowl mites will have reduced value due to blemishing by scabby areas on the skin. Infected laying flocks will experience a fall off in egg production. Infestations exceeding 200,000 mites will produce fatal conditions due to anemia and its interference with the bird's immune response. Birds stressed by mites will lose weight, have pink combs, and their feathers are generally soiled with mite excrement. Feathers around the vent area also become soiled. Due to the tendency of mites to congregate around the vent, they can also reduce a rooster's ability to mate successfully.

The life cycle of the northern fowl mite requires less than one week. Eggs are laid along the shafts of feathers and hatch within 24 hours. The entire life cycle is spent on the host with growth from egg to maturity completing in about four days. Infestations of northern fowl mites may dwindle during the summer months, but are more severe during winter weather.

Total control of the northern fowl mite requires the use of chemical pesticides. Mites are more resistant to pesticides than lice, so treatment may require a rotation of pesticides used. Pesticides for treating infestations of the northern fowl mite must be applied directly to the bird as a wettable powder, emulsion concentrated spray or as a dust. Effective treatment for small, floor-reared flocks can include the application of a dust - treating the bird, litter and providing dust boxes for the birds to dust bathe.

**Chicken Mites**

![Feather blackening and scabbing, a result of feeding by northern fowl mites. ©U.C. Regents.](image)

The chicken mite is a common external parasite that is most often seen in small, non-commercial poultry flocks. Chicken mites prefer chickens as their host, but can also infest turkeys, pigeons, canaries and wild birds. Human dwellings have become infected with chicken mites due
to sparrows making nests beneath the eaves of a house or building. Chicken mites are also referred to as red mites, gray mites and roost mites. They are seen worldwide and are a particular problem in warmer climates. Chicken mites are most prevalent in poultry houses that contain wooden roosts.

Chicken mites feed on blood and cause birds that are heavily infested to become anemic, lethargic, and exhibit a pale comb and wattles. Feed efficiency and egg production decrease. Young chickens and brooding hens may die due to blood loss. Birds in production may refuse to lay in nests that are infested with chicken mites. All of these symptoms are good indicators that your poultry housing should be examined for mite infestation.

Chicken mites are true mites and therefore are arachnids - a member of the spider family. Chicken mites can run rapidly on the skin and feathers of a bird. They live in secluded areas of poultry housing including cracks and crevices on the roosts, walls, ceiling, and floors. Chicken mites are nocturnal feeders (night feeders) and are not usually found on birds during the day. However, hens setting on eggs may be attacked during the daytime. Infestation by chicken mites can go undetected unless birds are examined at night.

The life cycle of a chicken mite requires only 10 days from egg to maturity under favorable conditions, making many generations per year possible. Infestation of chicken mites builds during the spring, summer and fall. With the exception of heated poultry houses, chicken mites are generally inactive during the winter. In empty chicken houses, the chicken mite can remain dormant for periods of four to five months during the summer and even longer during the winter.

Properly identifying the species of mite your flock is infested with is the first step in effective control. It is very important to differentiate the chicken mite from the northern fowl mite when diagnosing the problem. Once properly identified, effective control of the chicken mite requires a thorough cleaning and disinfection of the poultry building followed by one or more applications of an approved miticide. In extreme cases, the poultry housing may have to go unused for a long period of time. In some instances, heavily infested buildings may no longer be used for housing poultry.

**Treatment Of Mites In Poultry**

Prevention is the best method of treatment. Many insecticides are available to help control external poultry parasites. One of the most effective broad-spectrum insecticides is permethrin. Permethrin has a significant residual activity, thus making it ideal for treating poultry housing and equipment. At reduced concentrations, permethrin can also be applied directly to the bird. Additional remedies used to treat poultry lice and mites include wood ashes and diatomaceous earth (these remedies are believed to smother lice and mites without a chemical effect). There are also new natural enzyme-containing lice and mite sprays that are non-toxic such as Poultry Protector.

When treating mite infestations, it is important to properly identify the parasite, then read and follow all directions for proper mixing instructions, application rates, and precautions for the product you choose to treat the infestation. It is illegal to use any pesticide/insecticide in any way
that is inconsistent with the label. No product endorsement is intended, nor criticism of unnamed products implied.

Laura John lives with her husband, Matt, and their four children at Shady Lane Poultry Farm in Winchester, Kentucky. Laura has a BS degree in Poultry Science from Louisiana State University in Baton Rouge, Louisiana. If you have questions about the information or products described in this article, please visit their website at www.poultrymansupply.com

Editor’s note: We know download an informative chart here:
What an Avian Vet Wants You to Know About Backyard Chickens

By Sue Campbell
Oregon

Dr. Marli Lintner's first chicken was a little Barred Plymouth Rock hen who greeted each visitor in the lobby of her veterinary clinic. "She was a handful, she was hysterical," chuckles Dr. Lintner, who owns the Avian Medical Center in Lake Oswego, a suburb of Portland, Oregon.

Portland is backyard chicken paradise. Walk through almost any neighborhood with a sharp eye and it doesn't take long to spot a coop tucked next to a garage or behind a swing set.

In addition to being an avian vet since 1986, Dr. Lintner has been keeping chickens of her own for about 15 years. In the decade since urban chickens have become so popular, Dr. Lintner has noticed big changes in the health of small flocks. Here's what she wants you to know.

Dangers of Obesity

"People love to feed their chickens. It's fun to watch your chickens eat," says Lintner. "These girls will put on a lot of weight very quickly. They're designed genetically to be very, very good at converting food to fat or eggs." There are two big problems obese chickens face, both of them deadly. The first is fatty liver syndrome.

"Chickens are surprisingly difficult to gauge when they're overweight. One of the first places they put their fat down is in their liver," Lintner explains. The liver can become enlarged and spill out below the protective keel bone, making it susceptible to hemorrhage from an external bump. "It will tear, it will start to bleed. They'll get big blood clots in their abdomen around their liver. One or two small ones they can absorb, they may look tired for a day or two and then the next day they look back to normal," she explains. But a big enough bump can cause a hemorrhage bad enough to kill your chicken within a matter of minutes. "We open them up and sometimes find blood clots bigger than my fist," says Linter.

The second danger for an overweight chicken is heat stroke. "They overheat very, very quickly when they're overweight," cautions Dr. Lintner. "Let's say something scares them, the dog runs them across the field and say it's a hot day and they're in the sun. They don't have sweat glands, they have to pant to cool themselves. If their whole abdomen is filled with fat they have very little reserves to take air in and out to cool themselves and they will actually heat stroke within five to 10 minutes and just collapse and be gone."

While many people believe you can tell if a chicken is overweight by feeling the breast bone along either side of the keel, Dr. Lintner says that's actually one of the last places a chicken will put on fat. The best place to look is near the pelvic bones along the keel bone down around the vent. Part the feathers, if you see what looks like cellulite under the skin, your chicken is too heavy.

There's no magic formula to calculate the correct amount to feed your chickens, they have different caloric needs based on the time of year and their age. "If my hens are fat, then I figure out how much food they're eating everyday and I cut that down by about 10%," says Lintner. It's also a good idea to choose whatever food they like the least, whether its layer or scratch, and offer that as their main source of food, so they aren't as tempted to over-eat.
Consider the Source

Commercial egg producers use a concept called "all in, all out." A batch of hens will be brought into a sterilized laying house, used for a period of two years, then processed. Then the facility is sterilized again and a new batch of hens is brought in. This is a great method of controlling contagious diseases, but difficult to replicate for the backyard chicken enthusiast looking to replace part of a small flock.

Now that chicken keeping is so popular there are many places to get a hen, some of which can be questionable. "We're seeing a lot more contagious disease than we ever did," says Linter. "Really, be careful what you bring in. Start with day old chicks if you can. Or, if you have to get them from somewhere else at least have a veterinarian do a fecal exam on them." A fecal exam will check for coccidia and various types of worms. You should also check for external parasites, both lice and mites.

Urban (Chicken) Myths

"There's a lot of interesting myths about chickens," says Linter. The first one she'd like to dispel is that an egg-bound chicken will benefit from either a warm bath or a slathering of olive oil on her bottom. Lintner says a hen will rarely get egg-bound, if she does "it's what we call a high egg binding and she actually has an infection in that uterus and you've got rotting egg yolks and egg white backed up for inches and inches and nothing you do externally is going to have any effect on that." A hen in that situation needs medical care, including antibiotics. If you can actually see an egg that is stuck in the vent, turn to a water soluble lubricant, such as KY jelly. Oil based products will get stuck in the feathers and turn rancid.
Another misconception is that chickens are stupid. "Chickens are so smart, but they have very few ways they can show that," says Lintner, "They peck at things, so if you use that behavior they can do all sorts of things." The Avian Medical Center offers clicker training classes for pet chickens. "They learn very quickly that if I go up and peck at this thing I get a reward." This behavior can be channeled into tricks such as walking up ramps, knocking objects over or even turning the lights on and off.

Dr. Lintner often hears people say that hens stop laying after two years. "My girls are all at least six years of age. I've got seven girls and I get just about five eggs every morning." Chickens can produce eggs and be delightful pets for many years, provided we do our best to keep them healthy.
Backyard Chicken Eggs are Safe

By Gail Damerow

A few years ago, a half a billion industrially produced eggs were recalled due to being tainted with salmonella. Salmonella bacteria commonly live in the intestines of humans and animals, including chickens. Several strains of salmonella survive in soil, water, and any place else animal or human feces are found. Strains that cause no symptoms in chickens may make people sick, and vice versa.

When a creature eats something that’s been contaminated with salmonella, the bacteria may proliferate in the digestive tract and cause a diarrheal disease called salmonellosis. The number of bacteria that must be swallowed to cause illness depends on the bacteria’s strain, as well as the age and health of the individual (human or chicken) doing the swallowing.

Chickens that carry salmonella can appear perfectly healthy, but may not remain so if they come under heavy stress due to such things as being overcrowded, deprived of feed, treated with drugs, force molted, or inhumanely transported. The bacteria spread by contact with infected chickens; by means of contaminated droppings in litter, drinking water, and damp soil around waterers; mechanically by flies, rodents, wild birds, used equipment, shoes, truck tires, and the like. Salmonella may also be present in poultry rations containing contaminated meat by-products. Hold that thought.

Back in the old days, salmonella typically contaminated an egg when chicken poop got on the shell. Either the bacteria penetrated the shell and multiplied within the egg, or it fell off the shell into the cooking bowl when the egg was cracked open. Prevention was simple: keep nests clean and throw away eggs laid on the floor or otherwise covered with chicken poop.

Somewhere along the line, industrialized layer strains got their ovaries contaminated by salmonella bacteria. So these days the likely cause of contamination from an industrially produced egg is that the yolk got infected as the egg was being formed inside the body of an infected hen. Why or how this came about, no one knows (or isn’t saying). But let’s look at some facts.

Industrialized hens are typically overcrowded and overstressed, leading to reduced resistance to disease. Most backyard hens are maintained in a cleaner environment, are handled gently, and in general live relatively stress-free lives, helping them more readily resist disease.

Industrially produced eggs are packaged and repackaged by different distributors so they may be sold under different brand names. All this handling, travel, and the possibility of inconsistent refrigeration gives any salmonella that might be present in an egg plenty of time to proliferate. Backyard eggs typically go directly from a clean nest into the frying pan or the fridge. When you produce your own food, you have an incentive to make sure it’s handled safely.

A few moments ago I mentioned that salmonella may be spread in rations containing contaminated meat by-products. Well, as this issue of Backyard Poultry goes to press, the United States Food and Drug Administration is investigating the likelihood that the massive egg recall was caused by contaminated rations fed to the layers in question.

A Backyard Poultry reader recently asked me why I use layer ration containing no animal by-products, when I have stated many times that chickens are not vegetarians and therefore require animal protein in their diet. The reason is simply that I don't trust animal protein sources used in any commercial ration. I feed an all-vegetable based ration because my chickens roam pasture and orchard and get plenty of animal protein by eating lots of bugs, worms, and other small protein-laden critters. Chicken keepers whose flocks lack foraging opportunities must either
provide animal protein in some form (such as purposely raising worms or grubs) or feed a ration containing animal protein.

So, can backyard hens carry salmonella? Certainly. Are eggs from backyard hens likely to make you sick? Probably not, for all the above reasons and one more: Unless you acquired your chickens yesterday, your daily exposure to the microbes they carry has allowed you to develop an immunity of sorts. Compared to someone who never sees a chicken, you are therefore less likely to be affected by inadvertently swallowing the occasional bacteria.


Gail and her husband operate a family farm in Tennessee where they raise chickens, guinea fowl, turkeys, rabbits, and dairy goats.
Safe Egg Handling

By Lisa Jansen Mathews

At the center of safe egg handling is the natural protective coating on an egg, called the cuticle or bloom. It's a water soluble, proteinous barrier that fills the thousands of microscopic pores in an egg's shell. Without the cuticle, bacteria would get into the egg through the pores and moisture would evaporate from within the egg. So the answer to safe and fresh egg handling seems simple: Protect the cuticle and it will protect you.

Start by keeping nests scrupulously clean. Remove manure from the nest boxes when the henhouse is opened in the early morning to reduce the need for cleaning eggs. Use a nesting material that lends to easy manure removal. I find pine shavings easier than straw. All I need is a gloved hand and small bucket for daily manure removal. I also recommend raking the top of floor litter since clean chicken feet preserve a clean nest.

Furthermore, do not overpopulate your henhouse or nest boxes. Provide at least one nest box for every four hens.

No matter how clean you keep the coop and nests, some eggs will get soiled. A small amount of moist manure may be removed with a paper towel. If the manure is dry, use a fine grit sandpaper or a brush; the cleaned egg will stay safe and fresh for weeks. Water is not always necessary, and will certainly remove the bloom. If you have to clean a shell with water, use the egg immediately. A severely soiled egg should be discarded (and measures taken to avoid more of the same in the future). When in doubt, heating an egg or egg dish to 160 degrees Fahrenheit will eliminate all possibility of danger.

Adapted from "A Clean Egg is a Safe Egg," April/May, 2008 Backyard Poultry
The Original White Meat

Farm, Table & Energy Friendly

By Kelly Klober
Missouri

In the summer, 4-H and FFA youngsters are busy readying their project birds and animals for competition.

It is a great teaching exercise, and there is no better combination for learning than kids, birds and animals. The one exception to this, I have to believe, is the almost exclusive use of Cornish-X broiler chicks in the meat bird projects.

Simply put, the goal of these projects is to have a single bird or trio of birds ready at a handy market weight on the day of a particular show. They may have been washed, had some handling to prep them for judging, and been penned to protect feather quality, but this is largely a six to eight week project of filling feeders and waterers. As one old hand put it, "raising Cornish-X birds teaches a youngster how to do two things—write checks and bury dead birds."

At its root the Cornish-X bird is a combination of White Cornish and White Rock genetics. Over time, however, their genetic formulation has become ever more complex and rests on the combining of a number of very hybridized breeding lines. Such complex breeding formulation makes them all but impossible to produce anywhere but from within a large, corporate structure.

Heritage breeds like the New Hampshire, Delaware (shown here), Plymouth Rock and some of their early crosses were the bedrock of modern meat bird production in the Twentieth Century. Photo courtesy of Melissa Kirby, Alabama.

Thus the quandary of the range broiler is the quandary of the 4- Her. You rent someone else's genetics for a few weeks and then dump them onto a market before they can succumb from their own ponderous size and mis-shapen body. I sometimes feel like a bit of an ogre, quashing the dreams of newcomers who hold back some Cornish-X pullets and a cockerel to "raise their own broilers" next year.

A few may actually survive to great size or even lay a few eggs, but most pitch face forward or over backward with bluish comb and wattles from heart failure. These birds were truly born to die, and most do depart the scene well before 12 weeks of age.

There is no breeding science to learn here, no real selection skills to acquire, limited fitting skills are needed, and the tasks are basically to pay the feed bill and cope with the dead. It is the role of custodian and not farmer. Poultry meat production wasn't always so and now there is a very real debate as to what a good meat bird really is or isn't.

The Great Debate

The Cornish-X bird was "made" to do many things including grow quickly, produce large amounts of only certain body parts and to consume fairly substantial amounts of grain in the process. It is a feedlot steer with feathers. The controversy around the bird has also grown to
encompass all of the many ways in which it is grown out including range production. The lines between colony house and range production are even beginning to blur in some instances. Poultry meat production has been a big business in the United States for a very long time. It began with breeds like the Java and those bred from it, such as the Jersey Giant. All chickens will fry, but heritage breeds like the New Hampshire, Delaware, Plymouth Rock and some of their early crosses were the bedrock of modern meat bird production as it began to unfold in the Twentieth Century.

The American consumer has long expressed a deeply-held preference for meat birds with a yellow skin and feet. The Europeans, on the other hand, have had an equally long-held preference for white skinned birds such as the Orpington and the Sussex.

*Raising birds like the New Hampshire instead of the Cornish X broiler offers growers a chance to capitalize on the growing interest in regional, historic and artisanal food choices. And they are simply more fun on the homestead. Photo courtesy of Orren Fox, Newburyport, Massachusetts.*

Now skin and foot color really has nothing to do with taste, but how these breeds were put together and are raised does. Your grandma’s chicken did taste different from the chicken widely available now and did so for a number of reasons. For example, testing evidence is just now being developed that shows that there are very real taste differences in the meat from different chicken breeds. They are possibly years away, but it is conceivable that avian versions of certifiable Angus beef could be in the offing.

These earlier birds were truly free ranging, were older at harvest, and ate a richer and more varied diet. Simple ranging about a bit can do much that puts a positive image not only on how poultry meat is perceived but how it actually does taste. With simpler, outdoor systems, muscle tone is improved; the birds receive more sunlight and they can even do a bit to balance their own diets.

It is safe to say that there are still unknown growth and nutrient factors to be determined. A bird exposed to a variety of plant life, lots of sunshine, soil and insects, along with a well-formulated ration receives a finished edge in performance and quality. An older bird at harvest will likewise have improved muscle tone and the time to develop a fuller and truer flavor.

The Cornish-X broiler is, as they say in vernacular, "all about the Benjamins." It can reach a handy market weight in as little as five weeks for some strains and is now being niche marketed
to high end foodies in forms such as "baby" chicken and even a "milk fed" bird. Still, this is basically the same bird that comes spewing out of colony broiler houses literally by the millions.

And there are very real questions now about how some of these birds are even being reared in certain range situations. Birds are now being packed as tightly into some range units now as they are in colony housing. Even if the unit is moved twice a day most consumers would feel better buying broilers from a 10' x 10' chicken tractor holding 25 birds than 100. Remember, the range broiler is a "feel-good" purchase, not a cost effective purchase for the consumer.

By their conformation and very nature modern Cornish-X birds are simply not very good candidates for range life. They are very much a hands-on bird that can often need some rather subtle tweaking. One grower of my acquaintance now beds his night housing for broilers with two to three inches of peat moss in an effort to keep the birds from forming breast blisters as they sprawl about near the feeders. For many it has become common practice to lift the feeders from 7:00 p.m. to 7:00 a.m. to prevent problems with over-consumption of feedstuffs.

It is time, I believe, for the range producer and perhaps the whole poultry sector to come up with an alternative to this bird. The range production sector especially needs something to set itself apart from the confinement sector and give itself an even more distinct identity.

The Cornish-X broiler, as it exists now, is truly the antithesis of all that is sustainable agriculture. It fails the most basic test of nature: It cannot even reproduce itself in kind. Additive free rations, range production nor even organic feedstuffs are enough to overcome the shortcomings inherent in this bird.

Its use in youth project work may just simply condition future producers to cope with their shortcomings and accept them as a cost of doing business. And it is just that, a manufactured bird for the chicken business, something that should not in any way be confused with actual farming.

Europeans have a long-held preference for white skinned birds, like this Buff Orpington, while Americans tend to prefer the yellow skin and feet. Skin and foot color has nothing to do with meat taste, but how they are raised sure does. Photo courtesy of Angela Szidik, Michigan.

The range broiler producer now needs to realize that his or her product has to be much more than mere chicken flavored calories. The range broiler is seen by many as (and certainly should be comparable to) prime sirloin steak. That is the only kind of poultry meat that can continue to justify the kind of prices originally associated with range broilers.

The Original White Meat
There are purebred poultry lines now that will produce dressed birds with yellow skin and legs that will reach a handy market weight at 12 to 14 weeks of age. Their slower growth curve and thus slightly older age at harvest will contribute to a more distinctly flavorful and better textured poultry meat. The purebreds, and they alone, can make range broiler production a truly sustainable venture.

The range broiler now needs to be made into the really, really good stuff: Good to both producer and to consumer. The purebreds are self-propagating, they can be made even better through the years with selective breeding for improved growth and yield, and their producers will be America's agricultural producers of choice...the independent family farmers. There is now virtually no producer or consumer input into what the Cornish-X bird is or will become; it is little more than life form reduced to retail product.

The range or natural producer now should be moving to capitalize on the growing interest in such things as regional, historic and artisinal food fare. Shouldn't New England based producers, for example, be striving to do more with the Plymouth Rock and New Hampshire breeds? Wouldn't pasture producers in the Upper Midwest find a more natural and better marketable fit with the Wyandotte breed? The name alone would cry out in the aware market place for range birds. When you think of all of the money that was made promoting "the other white meat," what could come from family farm poultry producers realigning again behind "the original white meat"? If grown locally it is farm, table, and even energy friendly!
A chicken in every pot...

By Gail Reynolds
Missouri
This past year we've been hit with quite the double whammy of consequences locally and globally. Continually rising fuel prices and climatic changes around the globe have turned normal growing seasons and patterns upside down and sideways. Between the diminished supply of certain agricultural products (because of the erratic weather) and the elevation in production and shipping costs for practically all goods, the skyrocketing inflation in prices we are facing is sometimes daunting. And many of us are wondering just how long we're going to able to eek out enough income from what not too long ago was a reasonable/livable income to continue to be able to eat. Because these two consequences seem to be feeding into each other simultaneously, there doesn't seem to be the quick-and-ready fall-back solutions which were options in former similar economic-crunch times. For example, planting a large family garden plot and producing your own food is an obvious solution to combating the inflated food prices at the grocery store—provided the weather cooperates long enough to pull it off.

While even up until last year, taking on an extra temporary job was always a viable way to increase the income to meet the household needs, the gasoline costs required for an additional commute become a serious consideration.

The situation as it stands should be sending up red flags for all of us (no matter the economic strata) that we must focus on working around (or adapting to) the current situations and economic combustion without adding fuel to the fire.

Getting back to the basics
I think for most everyone, it's going to require a pledge to go back to the basics—more wholeheartedly than ever before. And since Jimmie and I have both been around this bend before—continually adapting and bending around certain situations—in future issues I'll share with you some things that we are trying (such as high raised garden beds so flooding won't affect the growth) and some other new things we are going to try.

Starting from scratch
For this issue though, let's talk about something you can get started at right now to get some healthy protein on that family table.

Start from scratch—with chickens
Not only can you enjoy the prosperity of a chicken in every pot (with new flavor and ethnic twists everyday if you want), if you get started pronto on securing a supply, you'll have plenty of this great white meat stocked up in the freezer to winter you over (plus an ongoing egg supply if you wish). I'll chat a little bit about the chicken obtaining and rearing thing, then I'll turn you over to my daughter Shannon, who's quite the creative cook and family-food budgeter, and she can turn you on to some very economic but delicious chicken recipes.

Start now
There are a variety of ways to secure some chickens for your family dinner pot, depending upon where you live, how your place is set up and where (if ever) you go grocery-shopping.
1. Order/buy some day-old Jumbo Cornish-Cross broiler chicks from a local hatchery or one that can ship your chicks in overnight mail and they’ll be ready to dress out at 4-5 pounds each in six
weeks or less. (You'll want to do this soon! Murray McMurray [1-800-456-3280; www.mcmurrayhatchery.com], for instance, stops shipments on December 17th. Check with your hatchery for their delivery-end dates.)

2. Order/purchase a heavy-weight assortment special of day-old chicks (very affordable) from a hatchery and while some will be ready to dress out in six weeks or less, some will take longer.

3. Buy some fully-grown mature chickens to take home and dress out immediately. At least in our area, the older layers are generally sold off each autumn at a very reasonable price. Check with your local hatchery as they generally have tabs on who is selling, the price per chicken, the location and the date when they will be ready.

4. If you're not into raising your own poultry, get in on some of the sales at your local grocery store. While the rest of the meat products have gone sky high, you can still hit some spot sales where whole chickens run at 69 cents per pound and leg quarters go for 40-50 cents a pound. Watch for the sales, stock up, bring the chicken meat home, skin it and then cut it up (if desired) and package it in one-meal portions for the freezer.

Cost and yield

For the sake of simplicity, let's base our figures on the fact that your goal is to feed your family of four, chicken meals four times a week year 'round. Then, let's assume that you will use two pounds of chicken meat for each meal. So, the ultimate goal here, is roughly 400 pounds of finished chicken meat.

To produce this meat from day-old chicks, you'll need to purchase 100 of the heavy breed meat chicks. For the Jumbo Cornish Cross your initial outlay would be just around $100, depending upon the hatchery from which you purchase.

At places like Cackle Hatchery (PO Box 529, Lebanon, MO 65536; 1-417-532-4581, www.cacklehatchery.com), you can also get a Special Heavy Assorted for $38—which of course, will not yield you the super giant chickens, but still do you quite well.

For feed you're looking at another $75-$80—the cost of which can go down if you've got some garden leftovers to add in as the chickens mature. So, on the cheap end you can produce that 400 pounds of chicken meat for as little as $120—which puts your price at around 30 cents per pound. And that's 1/3 of what you will pay for a one-pound package of hot dogs!

It's not too late

While according to most farming family traditions, day-old chicks are started in early spring (the February 14 Valentine's Day holiday usually marks the annual date), we have found that starting our chicks right at the end of August or the beginning of September is by far the best bet for a variety of reasons.

• First, in early spring and up until just before Mother's Day we can have some chilly spells here, meaning that the chicks must be kept quite warm, which requires energy usage. In late August or early September, this is not an issue whatsoever.

• Secondly, chicks grow rapidly and require loads of food. While you will always need some starter mix to start them off and then some corn grain no matter spring or fall, you'll generally have to feed corn to those spring chicks all the way through. In the fall, however, once your chicks have had a decent start, you can switch to feeding them the leftover garden produce. They love those overgrown squash, ugly bruised tomatoes and whatever else you were going to throw onto the compost pile.

• Spring chicks will be ready to dress out just about the time it gets hot and sticky outdoors...and
also when flies, flies and more flies arrive on the scene. This makes the dressing process hot and miserable. These late August/early September chicks will be ready to dress out in mid-October, when the weather is pleasant and brisk and most of the flies have said "adieu" for the year, or at least they're not around in the early morning when I usually dress my chickens out.

**Bare bones necessities**

Chickens require very little to get along and there's absolutely no reason to put yourself in the poorhouse in an effort to save money by raising your own food.

Water: Chicks—from the moment you bring them home—need water. There are waterers on the market which consist of simply a round piece of plastic onto which you can screw an ordinary mason jar. You fill the mason jar with water, screw the round plastic on top, turn it over and you're done. For feed, you can use practically anything, but the best vessel if you can afford one or two (or borrow them) is a circular feeder which holds loads of grain and then allows it to drop into the bottom feeding tray as the chicks eat.

Shelter: In the late summer or early fall, chicks need very little to stay warm—perhaps a low wattage heat bulb above them at night, if anything. When you first bring them home, the small chicks can be housed in a large cardboard box or in a barn with a boundary of wood or fencing circled around them. Once they get a few days old and begin to feather out—if you have no dogs, cats or wild predators on your place—you can pretty much let the chicks run free and they can pasture on the wild stuff as they roam the area. Chicks will always find their way back to the major feed and water source, so you don't have to worry about that. Once your chickens are ready to dress, you'll need to set some time aside to get that job done. I generally skin the whole chicken and after cleaning it thoroughly, freeze it whole or in pieces. Then all you have to do is cook it up!

**Creative cooking with Shannon**

Chicken can be prepared many different ways and carries a different flavor with each dish, so your family can eat chicken with a Mexican twist one night, an oriental-style chicken dish the next night, and an American meat and potatoes dish on another evening. The beauty of chicken is that it will pick up the flavors in a variety of recipes and transform it into an appealing dish different from the chicken dish you cooked the night before. The next best part is that you can use last night's leftover chicken meat, and since it's already cooked (save some when you cook it up before you add any special spices or flavoring) you can keep your family's appetite rolling in a quick-fix meal that is entirely different from the night before!

Mom always used the chickens we raised and dressed in two simple meals: chicken soup (oh my, delicious) and fried chicken (even better than the soup). These were two staple meals in our home during my childhood and of course, we loved them if for no other reason than they were considered comfort foods by my sister Shelby and me.

I am the mom of two kids, seven-year-old Brady and three-year-old Bryce, and wife to Kenny. It's different now from those days back in the 1970s when Shelby and I were at home and all we really ate was country-style American. My family has been exposed to all different kinds of ethnic foods and tastes and they crave the variety—which means, I better cook it up for them.

Following are some recipes that I have tried and continue to use. (To give you a hint on how well they work, my husband—who really dislikes chicken—commented that the baked chicken was "the best meal I had ever made.") I about fell on the floor—he said that after eight years of marriage! So you know that recipe has to be a winner and it's the one I'll start off with.

**Roast Chicken and Veggies**

This actually came from the cookbook Dining on a Dime (available from the Countryside Bookstore, 1-800-551-5691) but I had to change it for our liking. For me, it really didn't matter
whether I prepared our vegetables first or chicken. I usually started the chicken, to see how much room I had for the vegetables, but again, I don't think it really matters.

1 chicken (about 4-5 lbs. for my family of 4)
A covered roaster or pan deep enough to put aluminum foil over the chicken
Vegetables of choice (I usually use potatoes, carrots and celery or any combination thereof)
3-4 chicken bouillon cubes
Water
Salt and pepper
Poultry seasoning

Clean the chicken; place it in the pan. When in the pan or roaster, rub the poultry seasoning inside and around the outside of the chicken. Add enough water to cover the bottom of the pan about an inch or so. Add bouillon cubes and vegetables. If you have new potatoes and tender baby carrots from the garden on hand, by all means use them to save time in cutting and also, the flavor is better. Sprinkle salt and pepper over everything. Cover and cook 1/2 hour at 450°F, then reduce heat to 350°F and bake for another half hour. Reduce heat again to 250°F and let cook for an additional 2-1/2 hours. Baste occasionally but not real often. When chicken is done (check to make sure the juices run clear), your meal is ready to eat. The best part is you already have the start of your next meal made! As a do-ahead tip: take the remaining chicken and dice or cube it for the next meal.

**Chicken and Cheese Enchiladas**

This also came from Dining on a Dime but again, I gave it my own twist. It was originally Cheese Enchiladas with regular red sauce. I'm not a fan of red sauce so I took a cheese sauce recipe and used it instead. Again, my husband really enjoyed this meal. It does take a little more work, but it is well worth it. This time, you probably won't have any leftovers. I would recommend starting the cheese sauce first because it takes a little longer.

**Ingredients:**
Cooked chicken from the night before, cut into chunks or diced
1 green pepper
1 onion
Butter
Tortilla of choice, corn or flour
Pan for sautéing
Greased baking pan
1-quart saucepan

**Cheese sauce:**
1/2 cup dry milk
2 tablespoons flour
Dash salt
1 cup cold water
1 tablespoon margarine
American cheese, any processed cheese cubes or shredded cheddar

In a covered jar, combine dry milk, flour, and salt and mix well. Add water. Shake until all the ingredients are dissolved. Melt margarine in a 1-quart saucepan. Stir in flour/milk mixture and cook over low heat until mixture thickens. Add cheese (at least 1/2 cup but more doesn't hurt. Although it makes the sauce thicker and a little more difficult to spread over the enchiladas, the
super taste makes up for it). When the mixture starts to bubble, keep stirring until thickened completely. Note: This recipe can be doubled but add only 1-3/4 cups water.

**Enchilada filling:**

Cut onion and green pepper—diced, strips, whatever you prefer. Sauté in margarine in pan until desired tenderness. Add chicken and sauté just long enough to heat chicken and blend the flavors.

Load tortillas with 1/4 cup pepper, onion and chicken mixture. Roll and place seam side down in a baking pan. When all tortillas are filled, cover with cheese sauce and bake covered in a 350°F oven for about 20-30 minutes.

**Kung Pao Chicken**

To spice up your meal try this from a recipe that originally came from Quick From Scratch: Chicken and Other Birds and which I once again twisted to suit my family's taste.

1-1/2 lbs. boneless, skinless chicken breasts (about 4) cut into 1/2 inch pieces
5 tablespoons soy sauce, divided
2 tablespoons sherry, divided
1 tablespoon plus 2 teaspoons cornstarch, divided
2 teaspoons sugar
2 tablespoons white-wine vinegar or rice vinegar
2 teaspoons Asian sesame oil
1/3 cup water
2 tablespoons cooking oil, divided
1/2 cup peanuts
4 scallions, white bulbs and green tops cut separately into 1/2 inch pieces
1/4 teaspoon dried red-pepper flakes

To prepare: start with a medium bowl, toss the chicken with 1 tablespoon soy sauce, 1 tablespoon sherry, and cornstarch. Let set for at least 15 minutes at room temperature or longer (refrigerated and covered) even if you want to prepare the night before.

Next, in a small bowl, combine the sugar, vinegar, sesame oil, water and the remaining 4 tablespoons of soy sauce, 1 tablespoon of sherry and 2 teaspoons cornstarch.

In a wok or large frying pan, heat 1 tablespoon of the oil over moderately high heat. Add the peanuts and stir-fry until light brown, about 30 seconds. Remove from the pan.

Heat the remaining 1-tablespoon of oil. Add the white part of the scallions and the red-pepper flakes to the pan and cook, stirring, for 30 seconds.

Add the chicken with its marinade and cook, stirring, until almost done, 1 to 2 minutes. Add the soy sauce mixture and the scallion tops and simmer until the chicken is just done, about 1 minute longer. Stir in the peanuts.

Note: For a variation you can substitute the same amount of cashews for the peanuts to make Cashew Chicken.

The next two recipes come from a new menu program my husband and I have adopted called "The Six Week Body Makeover," by Michael Therman. I like these because they are very healthy for us and they are easy to prepare. I am sure this will be easy for all and the best part about these two chicken meals is that they do not call for goofy ingredients that your local grocery store won't carry. I find it difficult to try new recipes that call for unheard of ingredients. (I used to skip the fresh ground black pepper because I didn't want to spend a fortune for those huge grinder things. Well, just last week I found it at the local grocery store and the Dollar General priced it at less than
$2 a bottle and located in the spices section.) I was surprised to taste the difference of fresh ground pepper. But—don’t use the same amount of fresh pepper as you would normally use, as the taste is much stronger, so try a little at first. You can always add more.

**Shish Kebab**

1 lb. skinless chicken breast, cubed  
1 large red onion, sliced  
2 small zucchini sliced  
2 large green peppers, seeded and cut in 1" pieces  
8 large mushrooms  
1/2 cup lemon juice  
2 tablespoon fresh ginger minced  
1 clove garlic, minced  
1/4 teaspoon black pepper, freshly ground

There are four easy steps to prepare this.

1. Mix lemon juice, ginger, garlic and black pepper to make marinade. Add chicken pieces and mix well. Cover and refrigerate for 2-3 hours.
2. Remove chicken from marinade and add vegetables to marinade to coat.
3. Thread chicken and vegetables onto 4 skewers, alternating chicken and veggies.
4. Place skewers on grill and cook for approximately 10 minutes, turning carefully to cook on all sides.

Note: For variation, you can use fresh pineapple cubes, onions, chicken and green peppers to create Chicken Luau Kebabs. Or just go with whatever vegetable you like the best. But remember to cut all your food about the same size to avoid over-cooking of the smaller pieces.

**Jambalaya**

This has quite a few ingredients, but don’t let that stop you. Consider this your splurge meal once a week. And according to the directions you will see no salt/sodium added, but you can choose to use that or your leftover chicken broth from the previous recipe or some leftover broth that you’ve saved back (and frozen) from some homemade chicken soup.

3 pounds skinless chicken breast, cubed  
1 cup chicken broth (no sodium added)  
1/2 cup onion, chopped  
1/2 cup celery, chopped  
1 green pepper, seeded and chopped  
1 cup white wine  
1/2 teaspoon basil  
1/2 teaspoon thyme  
1 bay leaf  
1/2 teaspoon black pepper, freshly ground  
1/4 cup fresh parsley, chopped  
1 cup uncooked rice  
1/2 cup cooked shrimp  
2 tomatoes, diced

In saucepan, combine broth, onion, celery, pepper, wine and spices. Bring to boil, stirring often.
Remove from heat.
Place rice, chicken, shrimp and tomato in large casserole dish. Pour herb mixture into casserole, making sure that all rice gets covered.
Cover and bake 30 minutes at 350°F. Turn off oven, but leave casserole dish in for an additional 15 minutes. Then enjoy!

**Barbecue Chicken Pizza**

And of course you can't go without having pizza. This works even better if you still have leftover chicken from another recipe. I have kind of created/copied this from one of our local pizza shops. If you like pizza, you will like this. And after a lengthy recipe it is nice to have a super easy, super quick idea for dinner.

1 can refrigerated pizza dough
1/2 to 1 cup chicken, cooked and cubed
1-1/2 cups of your favorite BBQ sauce
1 to 2 cups mozzarella cheese
1 cup Colby-jack or pizza cheese
1/2 purple onion (sliced into rings, diced, or strips)

Prepare one pizza dough.
Then cover the dough with barbecue sauce to your desired consistency. I don't go to the edge of the pizza to leave room for crust. And I would recommend not over-piling on the sauce. I have done that and all I tasted was the sauce.

Then add your chicken, onion and cheeses. And remember, this is your pizza. So add as much or as little of the toppings you like. If there are other ingredients you like with BBQ chicken, add it. If you don't like onion, you can omit it.

Bake according to the directions on the dough package. Yummy!

**Lemony Chicken Breast**

This last recipe comes from Dining on a Dime again. I saw this book at my sister's house and found that it has a lot of simple recipes with not a lot of cost outlay—so, I had to get my own. Glad I did because this recipe has a lot of common ingredients and like most of the recipes I am sharing, does not take a long time to cook.

2 bell peppers, chopped
1 whole chicken breast, boneless and skinless
1 tablespoon flour
1/2 teaspoon salt
1/2 teaspoon pepper
2 teaspoon olive oil
1/3 cup chicken broth
2 tablespoon lemon juice
1 tablespoon parsley, chopped
2 cups pasta, cooked

In a skillet, sauté bell peppers over medium heat in a small amount of oil. Cut chicken into strips. Mix flour, salt and pepper in a bowl. Coat chicken with flour mixture. Remove peppers.

Heat oil in the skillet, still on medium heat. Add chicken and cook 6-8 minutes until brown. Add peppers and warm. Put pasta on a serving dish. Place chicken and peppers on pasta. Add chicken broth and lemon juice to skillet. Stir over medium heat 2-3 minutes. Scrape brown bits on the bottom of the pan and cook until reduced. Stir in parsley. Pour over chicken.
Traditional Breeding Programs for the Home Flock

By Craig Russell
With Dick Demansky And Christine Heinrichs
Society For The Preservation Of Poultry Antiquities

Thanks to Dick for sharing his experience with clan systems and to Christine for helping translate our thoughts for those without a lot of poultry experience.

In the modern era, an age of large commercial hatcheries and mass production of poultry, traditional poultry breeding has become somewhat of a lost art. Yet for preservationists or anyone serious about maintaining a quality self-perpetuating flock, the traditional methods of breeding are still the best.

By establishing a small flock of a rare and historic breed, small flock owners can help restore rare breeds. Many find it rewarding to rescue these valuable breeds, with their individual contributions in egg and meat production and unique appearance. Increasing the number of small flocks of each rare breed also protects the breed from being devastated by a single disaster.

"Success" may mean different things to different operations. Success can include excellence in utilitarian qualities such as meat and egg production as well as the aesthetics of the fancy and preservation of rare breeds. Poultry is often divided along a line that separates utility from fancy. Ideally, these qualities should be combined. By referring to the Standard of Perfection and selecting for production qualities, both goals can bless your barnyard.

Beginners may want to concentrate on utilitarian qualities. They are a good base on which to build. Quality can be measured by the dozen and the pound, but is subject to the same genetic laws as style and type.

Traditional breeding methods are generally the most effective for long-term small flock keeping. These include rolling matings, grading, clan matings, and breeding out-and-out.

Rolling Matings

Rolling matings are a good general-purpose system. With this system, the breeder can maintain a viable population while honing breeding skills and refining artistic judgments.

Don't be afraid of starting with imperfect stock. Get the best you can, but selective breeding is what any type of livestock preservation is about.

Small flock owners will be most successful with breeds they enjoy. The pleasure of surveying a handsome, uniform flock that has grown from a successful breeding program is hard to beat.

Rolling matings require at least two pens for each breed or variety but a minimum of record keeping.
Rolling matings select the best cockerels and pullets from each season and breed them back to the best breeders of the previous season. Cockerels are bred to hens, cocks are bred to pullets. Rolling matings can improve the stock and maintain genetic diversity with a small flock, but larger flocks provide more opportunities to select the desired characteristics.

Long-time breeding expert Bruce Lentz, a well-known stringman and breeder from the 1930s through the 1970s, felt that a breeding program should be founded on at least two trios, preferably two cocks and eight to 10 hens. This gives you a deeper genetic base. With that caution in mind, a single trio can be the foundation of a small flock.

After each season, the old birds are combined and culled to the best cocks and hens. The best cockerels and best pullets are selected from the young birds. Putting the cocks with the pullets and the cockerels with the hens keeps the system rolling.

Manage the ratio of the sexes in the pens. For best levels of fertility, one male to 10 females is about right. For light breeds, 12 females may not be too many, while very heavy and feather footed breeds often do better with only eight females per male. Vigorous males may be hard on their mates if too few females are kept. This usually isn’t a problem on free range and can be controlled in confinement by moving males from pen to pen or by only allowing them with the females every other day.

Bruce often maintained side matings with the intention of establishing highly desirable characteristics. Such birds or unrelated stock can be worked into the breedings on either the pullet or cockerel side. The operational word is best. That may mean the utility characteristics of egg and/or meat production, type, color, feather quality or comb, or some combination.

Rolling matings, like all breeding systems, depend on the ability to select breeders. This is a traditional small farm method that has also been employed by fanciers and show folks.

**Grading**

Grading is the process by which a population can be modified by breeding repeatedly to another strain, variety or breed. With patience, an existing flock may be improved or changed completely. This is an old system long used by professionals in cattle, horses, swine, sheep, goats, dogs and other farm stock.

This table shows the progression to breed purity in fractions, decimals and percentages over breeding cycles.

For all practical purposes, eight cycles yield pure stock. Most large stock breeders with open registries grant Pure status after six generations. In cases where one variety is being graded to another or one strain of a variety or breed is being upgraded by addition of another strain, far fewer cycles are usually required before all of the offspring can be returned to the regular mating system.

Grading is sometimes criticized as changing the character of a breed. If done properly and carried to at least the sixth generation, the breed’s purity is preserved.

A combination of rolling matings and grading can also be used to develop new breeds or varieties by mating half- or three-quarter-blood brother to sister and selecting once birds start to show the desired traits. A combination of these techniques can fix the desirable traits and build up the population.

**Clan Matings**

Clan matings are another traditional breeding method for small flocks. Dick Demansky, a prominent SPPA breeder of Old English Games since 1966, has maintained a vigorous flock with virtually no unrelated stock.

The clan system separates a flock into distinct families. The clans are then maintained as
separate stock and bred along either the hens' or the cocks' lines.

Mr. Demansky clan mates using a matriarchal system. When they hatch, all birds are toe-marked and wing-banded with their mother's clan mark. He records their numbers when they are cooped.

Matriarchal clans are traced through their mothers, the hens. Patriarchal clans are identified by their lineage through the cock. Cocks and hens of the same clan are never bred to each other. Matriarchal systems are usually pair-mated. Patriarchal systems may breed a male to large groups of, usually, related hens.

Birds should always be matched to others that can compensate for their weaknesses. "They are all weak somewhere," Mr. Demansky writes. "In all the shows that I have judged through the years, I never scored any bird perfect."

With the matriarchal system, eggs must be marked to identify each individual hen. Incubating them together, by hen, is most convenient.

If a pair produces good results, they can be kept together indefinitely. Or pairs can be changed to check different combinations. "This keeps any one bird from exerting too much influence on the complete flock," said Mr. Demansky.

A rooster with outstanding characteristics can be bred to all hens not in his clan. Clans are defined by relationships, not by characteristics. If a bird develops plumage or other characteristics that resemble another clan, he or she still belongs to the clan identified by lineage.

Clan matings work best with a minimum of three clans. Typically, breeders keep an odd number of clans, although any number above two will work.

Clan systems have traditionally been used by cockers and show folks.

**Breeding Out-and-Out**

In its most extreme form, new males are bought into the flock each year.

Even when new males are brought in only every second or third year, this method maintains a high degree of genetic diversity in the flock. Although uniformity may suffer, this method tends to produce vigorous population, and was primarily used in utilitarian operations. As with any system, starting with quality stock yields the best results.

**Keeping Records**

Different breeding methods require varying amounts of record keeping. Clan matings keep track of every chick. Rolling matings and out-and-out matings require little or no record keeping. Although for best results at least the year an individual was hatched should be recorded.

Matriarchal clan systems require extensive record keeping but document the exact ancestry of every individual.

**Each Flock Unique**

Choose the method that suits your needs best. "There is a time to inbreed, a time to line breed and a time to out-cross," Mr. Demansky writes. "Knowledgeable breeders do it all, when the need arises."

Small flock poultry keepers can find methods that will suit them and their goals for their flocks. The ambitious or eager can arrange two breeding cycles a year. Others may find one adequate.

Selection of fowl with long, productive lives will develop strains with low mortality and vigorous constitutions, always the goals of old-time breeders.

Modern methods of intensive production with extremely high rates of feed conversion, rapid weight gain, early maturity and high egg production have not favored longevity. Inherent health problems are often associated with today's high production strains. In most cases, modern methods have actually shortened the profitable life as well as the actual life of domestic fowl.
For non-factory production and for establishing a flock near the breed ideal, a long-lived population with prolonged utility is desirable. The goal of the poultry conservationist and the serious backyard farmer should be to breed a strain that lays plenty of eggs without loss of vigor and retains fertility year after year.

Older birds should be subjected to normal culling and selecting. Thus a tried and true breeder might be replaced by a younger bird with far superior type.

Some feather patterns tend to deteriorate with age. A bird with proper color during the first year of life is not a cull due to later color deterioration, but would not be selected over birds of equal age, type and vitality that still retained superior color. Actually this is pretty good advice for use with any backyard breed, but certainly should be followed by anyone working with historic types, Demansky concludes.

**Trap Nesting**

Selection of non-broody strains and trap nesting are the tools modern breeds have used to increase egg production in modern production fowl. The selection against natural broodiness has been going on for thousands of years in areas like China, Egypt, and the Middle East where artificial incubation was available. Even in other areas where natural incubation prevailed until fairly recently, certain breeds were selected for high egg production and simply hatched by fowl that had been selected for enhanced broodiness or at least retained natural levels of the trait.

High production egg breeds and strains have existed for a long time. But it was trap nesting along with day length manipulation and better feed formulation that took egg production to the highest levels.

Small flock owners can, and have, used such technology. For those with the time and money trap nests are still available commercially and plans for home construction are also available.

In the 1960s I was aware of a number of small breeders including some that were working with broody breeds and trying to enhance or maintain the characteristic that used trap nest results as part of their selection criteria. In some cases the pullet year was spent in trap nested laying and only the best producers moved on to the breeding program in later years. For other breeders trap nesting and egg production were just one of many factors in evaluating which hens would continue with the program.

![Black Breasted Red Old English Game](image)

Black Breasted Red Old English Game.  
Art by Diane Jacky  
([www.dianejacky.com](http://www.dianejacky.com);  
[www.cafepress.com/jackynet](http://www.cafepress.com/jackynet)).

For those unable to accommodate the time and record keeping a trap nesting program requires, there are other proven, if often slower, methods that will allow the development of strains with good egg production. Start hatching early in the season. The best producers usually go into production first. Select breeders that lay well in short-day, natural-light situations. If you know your hens and their eggs well enough to know who is laying when, select hens with long periods of uninterrupted lay over hens with frequent pauses. Hens producing eggs have large, soft vents. Non-laying hens have small, often puckered, vents. Just as good producers will lay during
short days and cold weather, they will also lay during hot weather. Good producers tend to molt late and rapidly. Hens that lay while molting also are usually good producers.

Whether we are talking about laying or any other trait, pick your breeders by hand, as well as eye and historical data. A breeder should be firm and well muscled without being fat. Legs should be properly placed. All breeders should be a good representation of their breed’s type. Eyes should be bright, clear and properly placed. Wings should be carried properly. Use your breed standard.

Most of all, follow your breeding program. I sometimes hear from breeders who think they are using rolling matings when they breed cocks to pullets and cockerels to hens but simply drop the oldest generation each year. This reduces the system’s long-term selection for longevity and deprives them of the long-term use of truly superior individuals.

A breeding program should stress the preservation of breed characteristics such as meat quality and good mothering skills in Dorkings and Games, or high egg production in Minorcas and Leghorns. In the first group a pullet that did not go broody would not be a breeder a second year. One with three cycles would be preferred to the one with only one or two. In the second group, consider egg shape and size as well as overall production.

If at all possible, do not use birds that have ever shown any signs of illness as breeders. Selection for nothing but productivity tends to reduce quality of type. Selection based solely on fancy points often reduces productivity. Combining such strains allows a good breeder to quickly produce a productive, near perfect flock.

Small closed flocks have levels of bio-security that crowded commercial operations can only dream about so once your flock is established, be very careful about adding outside birds.

In a future article I will cover breeding and crossing compatible varieties. In the meantime, get that program going!

**SPPA Support**

SPPA members have many years of experience with these and other breeding systems to maintain and invigorate common, rare and historic breeds. The quarterly Bulletin often includes articles from members about their experiences with systems that worked, or didn't work, toward accomplishing their goal.

A year's membership is $12.50 and includes the Breeders Directory, a listing of all SPPA members, what they raise and how to contact them. To join, send payment to Dr. Charles Everett, 122 Magnolia Lane, Lugoff, SC 29078.
Breeding the Home Flock

By Don Schrider
Virginia

I recently hatched out two Black Australorps; one stag and one pullet. They were sired by a pure Black Australorp over two Black Australorp hens. (He is no relation to the hens, but will be the father of the pullet; whereas the stag will be a son and possibly a brother to the pullet). My query is which rooster do I put over the old hens and the young hen to get pure Black Australorps without sacrificing size or character? My chickens are very docile and tolerate this Mississippi Valley heat very well. Any help will be appreciated.—Dan Albarado

Anyone can start breeding simply by collecting and incubating eggs from their flock or letting a broody hen do the work. But the real challenge we face is where to go after that first season so as to avoid inbreeding bottlenecks—that is, the genetic degradation and loss of productivity that follows from breeding close relatives. The e-mail from Dan Albarado clearly indicates the challenge we face—the first season leaves us with pullets related to their father, and cockerels related to at least one hen and to the pullets as either full brothers or half-brothers. Dan's e-mail also indicates that he has found his flock to be excellent for his regional challenges and he wishes to maintain the genetic package that is giving him those excellent results.

I find this topic very exciting as the more people produce their own replacement chickens, the more sustainable backyard poultry keeping becomes. It also validates the efforts of many breeders keeping alive and viable Standard breeds over the past 70 years; what could have been lost has been retained and these breeds are ready to do what they were designed to do—fulfill their productive role in small backyard flocks across the country.

As you have no doubt guessed, we need to adopt methods that leave us room to breed over many years instead of simply hatching without consideration for the future. What I am suggesting is for us to adopt a philosophy that guides our breeding decisions, and which let's us make decisions on how to proceed without, if I can use a metaphor for painting floors, "painting ourselves into a corner."

All it takes is a pair of healthy birds to be able to hatch your own chicks.
Understanding "Breeding"

Breeding's first role is to produce the next generation, but doing so without any planning leads us into a situation where all the birds are closely related and results in loss of productivity and vigor over generations. We can divide breeding into two main functions—maintenance and improvement of productive attributes, and maintenance of genetic diversity within our flock. I will refer to these two aspects of breeding as "breeding for improvement" and "conservation breeding" respectively.

Most available information on breeding focuses on improvement breeding. Essentially improvement breeding is often described as breeding "your-best-to-your-best." In actuality, culling inferior birds and selecting superior birds results in improvements to a flock over time. Good improvement breeding need only focus on mating together birds that share good traits to cause them to occur more frequently in the flock, as well as making sure that mated birds do not share the same faults so that faults occur less frequently. We call these two aspects of improvement breeding "emphasizing good traits" and "offsetting faults."

Conservation breeding has to do with making decisions that ensure there is enough diversity in the flock such that it can be bred for many generations without fear of the individuals becoming too closely related. So conservation breeding focuses on managing how related each individual is to other individuals in the flock; based on relations, who is mated to who; and ensuring that some individuals within the flock are as unrelated as possible. As we design a breeding program for our flock, conservation breeding decisions are going to play a key role in allowing us to breed for many generations without losing diversity.

It should be clear that as long as we can only maintain one flock of chickens, we can only breed for one season without mating related individuals, and, as seasons progress, more and more birds in the flock will become closely related. Nowhere is this more clear than in a small flock with only one rooster—genetically he is half the flock, as every offspring gets half his genes. This simple example illustrates that to maintain genetic diversity we need to use as many males as possible, and limit how often they are used.

As we breed our flock, there are relationships we try to avoid and others that can be used. For instance, brother to sister matings tend to be the most intense form of inbreeding. However, sire to offspring and dam to offspring are less intense. How can this be? A parent only gives its offspring half of its DNA, the other half coming from the other parent. Whereas, brothers and sisters can be nearly identical in DNA and this type of mating sometimes results in loss of size and increase in faults—like crooked beaks. More distant relationships would include cousins, aunts or uncles, and even 2nd cousins. Ideally, we would like our matings to be largely more distant relationships, however, the occasional more closely related mating is acceptable.
Choosing a mate with the same strong points will result in many more birds having those good points. Photos by Don Schrider.

**Methods of Breeding**

The basic methods of mating poultry are: Out and Out Breeding; Flock Sourcing; Flock Mating; Rolling Matings; and Spiral Matings. While this article will focus on a solution for the small home flock, we need to understand these different breeding systems to understand the bigger picture in breeding.

Out and Out Breeding is simply a system of bringing in new roosters from different sources each year. Traditionally this system was most popularly used in crossbreeding mongrel flocks—that is, roosters of a different breed were used each season over the flock of crossbred hens. This system has also been used in purebred flocks—same breed roosters are sourced each year, but source is changed each year as well. In this system you can save all your females and maintain them as one flock. But productive traits are hard to manage as the source flocks for the roosters will each be strong in some traits and weak in others.

Flock Sourcing is also a method in which you bring in new roosters each year. This system differs from Out and Out Breeding in that you stick with one source for the roosters—presumably a master breeder of your breed. The advantage of this system is improvement of traits over time, relying on the efforts of the master breeder, and the retention of known good qualities—such as the heat tolerance Dan Albarado observed in his Australorps. The disadvantage is that you must cull all your males each year and you are relying on someone else for quality new roosters.

Flock Mating is the breeding of a flock of chickens as one unit. For this system to be self-sustaining, 20 males and 180-200 females should be used. The chickens work out who mates with whom. This is the type of system most commonly practiced by commercial hatcheries, which frequently add the twist of culling the parent flock each year and using only young birds as breeders. Smaller versions of this system can be utilized in the home flock with good results. The
key would be to keep as large a flock as possible, with one male per every 5-12 females.

Choosing a mate that does not share the same faults is important when ridding the flock of a fault. Here this male has deep red eye color, while his mate has poor eye color.

Rolling Matings is also known as Old Farmer's Method. In this system you need to be able to separate the flock into two flocks each year during breeding season. Each year pullets are mated to the mature cock birds and cockerels are mated to the mature hens. At the end of the mating season the breeding pullets and hens are combined and culled to the number of hens needed for the next season, the cockerels and cocks are likewise combined and culled to the number of cocks needed for the next season, and the young chicks are grown out to be used as breeding pullets and cockerels in the next breeding season. Some inbreeding does occur, but many birds have little relation to each other. This is a simple system and has the advantage of requiring only two flocks.

Spiral Mating is a system in which three or more matings are setup every year. In the first year you divide the hens up into three or more "families" and give each family an identifying name: such as "1," "2," and "3," or "Blue," "Red," and "Pink," or "Albarado," "Belanger," and "Schrider." Males are chosen to mate with the females—as long as any given male is used, he will always be mated to females from only that one family. Offspring are marked and named for their mother's family. So pullets and cockerels from the "Blue" family are marked and called Blue family. In the second and following seasons, the pullets join their mothers and are used with that family; so Blue family pullets are added to the Blue family hen flock for breeding. Blue family sons, however, are only ever used on the next family hens—in this case Blue family roosters are used on Red family hens and pullets; Red family roosters on Pink family hens and pullets; and Pink family roosters on Blue family hens and pullets. The rotation, or spiral, comes from males of one family being used only with females of the next family. So in your records, you will know each season that Blue family roosters are always used with Red family pullets and hens.

The advantage of Spiral Mating is that close relatives are never mated and you can go many decades without adding new chickens. If you choose to add new chickens, new roosters can be substituted in for one family of males, and new hens can either start a new family, replace an old family of low quality, or be added to the family which they most resemble.

So back to our small flock and Dan Albarado’s question. The simplest thing for Dan to do is to divide his flock into two for mating—the old rooster with the pullet(s) and the hens with the cockerel. Next year he will have both the old male and the 2010 male to choose from to use with
the 2011 pullets. (Please note that half the 2011 pullets will be from the old male and half from the 2010 male.) He will combine the 2010 pullets with the old hens and add a 2011 cockerel. Note that this male could come from either the 2010 male or the old male. This would be using Rolling Matings.

Lots of good chicks can be hatched from just a few good birds. Trading roosters with a neighbor is a good way to prevent inbreeding in the small backyard flock.

Another method that could be used is to find two other breeders of Australorps in his area and each season trade roosters. In this case the Dan Albarado roosters might be sent to Elaine Belanger to be used on her flock; the Elaine Belanger roosters sent to Don Schrider to be used on his flock; and the Don Schrider roosters sent to Dan Albarado to be used on his flock. Each would only have one mating. This is Spiral Mating in which the different families are the flocks kept by different breeders. This can work well if several breeders are willing to work together.

But let’s say Dan Albarado can only manage one flock and can find no one else to swap males with. In this case I would suggest using the old male for 2 or 3 seasons over the old hens and his daughters. At the end of this a new male must be brought in; and that male could be used for 2 or 3 seasons; etc… In his choice for a new male, Dan could go back to his original source—in doing so he would be Flock Sourcing—or he could seek a new source—which would be a form of Out and Out Breeding.

No matter what method Dan chooses to use with his flock, his long-term success is dependent upon having his flock comprise of a variety of individual birds with differences in their ancestry. This will mean saving birds from different generations and using as many different males as his situation allows.

Don Schrider is a nationally recognized poultry breeder and expert. He has written for publications such as Backyard Poultry, Countryside and Small Stock Journal, Mother Earth News, Poultry Press, and the newsletter and poultry resources of the American Livestock Breeds Conservancy. To visit the online poultry resources of the American Livestock Breeds Conservancy, visit: www.albc-usa.org/EducationalResources/chickens.html
Appendix 2: Links

Find a list of non-story related links we referenced in this book below.

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http://www.backyardchickens.com/atype/3/Laws
www.albc-usa.org
http://www.ansi.okstate.edu/breeds/poultry/chickens/index.htm
http://www.ansi.okstate.edu/breeds/poultry/chickens/index.htm
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