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Guide to Raising Healthy Chickens

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There was a time in U.S. history when it was common to see poultry being raised on most farms as a source of eggs, meat, and a secondary income. After World War II, the poultry industry began to experience very drastic changes. As production systems became larger and more specialized, poultry products became cheaper and more available to the American consumer.

As operations became bigger and more specialized, the number of poultry-producing farms became fewer and fewer.

There has been a resurgence in home-raised flocks, as small farms look for ways to diversify and take advantage of new marketing opportunities, as well as to engage in a rural lifestyle.



Table 1. Minimum space requirements

Species (age)	Requirements (ft ²)
Layer type (pullets)	1.5
Layer type (adult)	2
Broiler type	2–3

The decision

Are you contemplating raising poultry on a small scale? Whether as a hobby or as a source of food or extra income, the raising of poultry must be carefully considered and planned. Questions to be considered include the following:

- What are your goals?
- Is it necessary that this venture generate income?
- If so, is there a market?
- How long do you intend to be in the business?
- What are the time requirements—hours/day, days/year, and busiest time(s) of the year?
- What are the required investments—initial, maintenance, monthly, and yearly?
- Do you have all necessary facts regarding zoning restrictions/requirements?
- What is unique about undertaking this operation in Wisconsin versus other states?

Housing

As with all animals, appropriate housing must be considered. While housing for poultry need not be new or elaborate, it should provide a clean, dry, adequately ventilated, and draft-free environment. Housing for chicks will require supplemental heat during the brooding period. Housing should also provide adequate space for each bird (table 1). It is essential that special consideration be given during the winter months, as supplemental heat may be needed for adult birds. Litter management is also very important at this time of year. There should be a litter layer at

least 2–3 inches deep to help provide insulation from the cold. Keeping the house and litter dry will reduce cold-related injury and disease. The housing must also offer protection from predators. In most cases, it will be necessary to keep the birds enclosed in some sort of pen. Regular or electric fences may be used, as may small portable pens if they are moved to a new range on a regular basis. You may be able to allow the birds to range freely, but predators are often a problem in the absence of some form of protection.

Equipment

Very little equipment is needed for raising poultry. The basics are a water system and a feeding system. Feeding and watering equipment should be easy to clean and provide adequate space for the number of birds (see table 2). There are many types of feeding systems ranging from a simple open dish to hanging feeders. Watering systems are just as varied with systems ranging from a pan to and an automatic system.

Table 2. Feed and water space requirements in linear inches/bird

Age	Water space (in)	Feeder space (in)
0–4 wks	0.25	1
4–8 wks	0.5	2
8–16 wks	1	3
16+ wks	1	4

Brooding chicks

The heat source is the first piece of equipment to consider when brooding. A heat lamp with a 250-watt bulb will accommodate as many as 50 chicks. There are other commercial brooding set-ups available that utilize a variety of energy sources. You will also need a brooder guard, which is simply a ring that is placed around the chicks to prevent drafts and corners. This is necessary to counteract the chicks' tendency to pile on one another in corners.

Laying hens

Extra equipment that should be taken into consideration for laying hens includes a roost and nest boxes. Typically, 8 inches of roost space per bird is recommended. One nest box or one square foot of nest space should be provided for every four or five birds. There are many types of nest boxes available. In general, nest boxes for standard chickens are 9–14 inches wide, 12–14 inches tall, and 12 inches deep.

Broilers

After the brooding period, equipment required for broilers is very minimal; basic needs are feeding and watering systems. Other equipment concerns will depend on the system in which the birds are being raised. For example, if raising pastured broilers, movable pens will be a consideration. In confinement, fans or a ventilation system will be necessary during the summer months.

Lighting

Lighting is an important aspect in poultry production, and egg production in particular. During the winter months, supplemental lighting will be required in order to keep hens laying eggs; 14–16 hours of light is optimal for egg production. Lighting is also important for young chicks, and 24 hours of light is needed for the first 48 hours. Natural light can be used successfully for growing meat-type birds, although there is some evidence that extended exposure to light leads to extended feeding times and, consequently, an increase in growth rate.

Breed selection

Getting started with any system must include deciding which breed of birds to raise, among the hundreds of breeds and varieties that exist. So, how do you decide? The best way is to first determine which primary purpose you'd like the breed to fulfill. Next, consider each breed of chicken within that category and select a breed that sparks your interest. You'll be more likely to spend time with the chickens and take pleasure in them if you choose a breed that you enjoy.

Chickens may be categorized into four broad types: egg, meat, dual purpose, and Bantam.

Egg-type breeds

Egg-type breeds are usually finer-boned, lighter-weight chickens that excel in egg production. These birds are moderate- to fast-growing and will begin to lay eggs at 20–25 weeks of age. A more refined type of bird, the egg-type lacks the muscle structure to make them a quality table bird. Breed examples include Leghorns, Minorca, and Buttercups. The Leghorns are generally the best producers, and many of the egg-type breeds are now used more for ornamental purposes. There are also several "sex-link" varieties, which are often very good producers of brown-shelled eggs. These varieties are hybrids, and are called sex-links because their coloration varies between males and females.



Meat-type breeds

Meat-type breeds have a heavy structure and grow to become a high-quality table bird. The commercial broiler birds (usually sold as Cornish-Rocks) are extremely efficient and fast growing, providing a hand-somely dressed bird in eight weeks or less. There are also a few pure breeds of chicken considered as meat-type chickens. These breeds are not as efficient at converting feed to gain and take longer to finish out. The Cornish breed is an example, and was used as the foundation stock for most of today's commercial meat-type chickens.

Dual-purpose breeds

As the name implies, these are birds bred to provide both eggs and meat. They are the most common breeds found in backyard flocks in Wisconsin. Slower-growing and somewhat-heavier birds, they tend to be a calmer, hardier bird for Wisconsin's climate. Breed examples include Australorp, Plymouth Rocks, Orpington, and Wyandotte.

Bantams

Bantams are "miniatures" of the larger or standard breeds. These birds have all of the characteristics of their standard counterparts, except that they are roughly one-third the size. Although some may be fairly good layers of small eggs, Bantams are generally kept as ornamental fowl.

Is egg color important? In chickens, egg color is determined by the breed. A general rule of thumb is that if the chicken has a red earlobe it will lay a brown egg, and if it has a white earlobe it will lay a white egg. Some hens also lay eggs with blue or green eggshells. There is no difference in the internal components of the eggs, but some people enjoy having eggs of different colors.



Sources of chickens

There are several possible sources of chickens, and each has positive and negative aspects.

Hatcheries

Many hatcheries sell day-old chicks, which are generally both fairly inexpensive and disease free. Show quality is difficult to judge in day-olds, and most hatcheries will not sell fewer than 25 chicks so that the group is sure to stay warm during shipping.

Breeders

Breeders usually offer high-quality stock, especially if you are planning to show the birds. You can often buy smaller quantities. Good health is less certain than in chicks from hatcheries, but day-old chicks are still usually a safe bet. Plan to pay more for the chicks, because the breeder may have more money invested in a smaller number of chickens.

Swap meets, auctions, and alternative sources

Chickens are typically very inexpensive from these sources. You can often purchase mature birds, so you can see what you are getting. As good health is always more questionable from sources such as these, there is a definite risk involved in purchase.

Feeding

Feeding your birds will be the largest expense you will incur as a poultry owner. Commercial feeds are readily available and usually come in three forms, namely a starter, a grower finisher, and a layer ration. Starter rations are usually about 22% protein and should be fed until the birds are approximately four weeks old. At this point, birds are switched to a grower finisher diet that contains roughly 17–20% protein. For breeding and laying hens, a layer ration is recommended. Layer rations are generally around 16% protein and contain higher levels of calcium. A consideration for layers is access to additional free-choice calcium sources such as oyster shell. Grit may be provided but is not essential with commercial mashes.

If you are planning on developing a home recipe, consult a nutritionist or your local Extension office for guidelines.



Biosecurity & health

Biosecurity involves the prevention of disease outbreaks. The following are a few simple strategies.

- Keep housing and equipment clean and sanitary.
- Keep wild birds, rodents, and so on away from the birds' area.
- Limit the amount of human foot traffic through the birds' area.
- Group birds in separate areas by age.

It is also wise to keep new birds separated from the main flock for one month prior to intermingling.

Regulations

There are many state and local regulations and ordinances governing poultry production in Wisconsin. A first step would be to determine the zoning regulations for your municipality or jurisdiction.

Sale of table eggs

No license is required to sell table eggs directly from the farm (the consumer comes to your farm to buy the eggs). These eggs can be sold only to the consumer of the eggs. To sell table eggs wholesale or at farmers' markets, contact the Department of Agriculture Trade and Consumer Protection (DATCP) Food Safety division at 608-224-4700.

Sale of broilers/roasters

No license is required to sell broilers/roasters from your farm, provided fewer than 1,000 birds are sold annually in this manner. To sell more than 1,000 birds, to sell wholesale, or to sell at farmers' markets, contact the DATCP Food Safety division at 608-224-4700.

Live birds and hatching eggs

To sell live chickens or hatching eggs, it must be determined that the birds or eggs come from a pullorum/typhoid-clean source. This can be done through blood testing of individual mature birds or by participation in State or Federal flock programs. For more information on testing requirements and flock programs, contact the DATCP Animal Health division at 608-224-4872.

Additional resources

University of Wisconsin—Extension Animal Science—poultry page
www.uwex.edu/ces/animalscience/poultry/index.cfm

University of Wisconsin Center for Integrated Agricultural Systems
www.cias.wisc.edu

The Feather Site—poultry page
www.feathersite.com/Poultry/BRKPoultryPage.html

American Poultry Association
www.amerpoultryassn.com

Texas A&M University Poultry Science Virtual Library
gallus.tamu.edu/library/dother.html

Penn State Agriculture Alternatives
agalternatives.aers.psu.edu



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