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Beginners Guide to Raising Chickens

Lindy Berg, NDSU Extension Agent, Towner County
Penny L. Nester, NDSU Extension Agent, Kidder County
Mary A. Keena, NDSU Extension Specialist, Carrington Research Extension Center
Brooks Warner, Ohio State University Extension Educator, Scioto County
Julie Garden-Robinson, P.h.D., R.D., L.R.D., NDSU Extension Specialist Food and Nutrition

Introduction

There has been a recent movement for homeowners to get involved in raising backyard poultry. Backyard poultry can offer families the opportunity to raise their own meat and eggs, as well as involvement in 4-H. This publication outlines the basics for purchasing and raising new chicks that will make up your backyard flock. Some basics include breed selection, brooder and housing set up, nutrition, and health.

Purchasing Chicks

Purchase chicks from a National Poultry Improvement Plan (NPIP) certified independent flock, hatchery, or breeder. NPIP is a State-Federal testing and certification program that tests and monitors avian influenza (fowl plague), *S. pullorum* (pullorum disease), *S. gallinarum* (fowl typhoid), *S. enterica* var. *enteritidis*, *Mycoplasma gallisepticum* (MG, chronic respiratory disease), *M. synoviae* (MS, infectious synovitis), and *M. meleagridis* (MM, day-old airsacculitis). The U.S. Poultry & Egg Association provides a directory that lists the *NPIP certified* hatcheries, independent flocks, and dealers. Check with the state ag department animal health for requirements for purchasing out of state birds (even NPIP pullets) as they may require health certificates or additional testing.

Most large hatcheries provide the option to vaccinate chicks for coccidiosis and Marek's Disease at an additional cost before shipment. These diseases are very common in young chicks due to their still developing immune system. Vaccination against these diseases is highly recommended.

Raising day old chicks requires frequent monitoring and adjustment, a less labor intensive option is to purchase pullets near egg production age. Pullets are typically 15-22 week old female chickens, who will start to lay around 24 weeks old and will continue for 5-10 years. Typically, the egg laying production will decrease after the first two years. Most dual-purpose hens can take six to nine months to begin laying. If your primary goal is to raise egg production pullets, it might be beneficial to order sexed chicks when purchasing, meaning they separate the males from the females. Cockerels (male chicks that are less than a year old) and roosters (males over a year of age) are only needed if you want fertile eggs for hatching or meat production.

Breeds

Choosing the best type and breed of chicken for where you live, your lifestyle, and your production goals is an important first step. Most egg producers will lay around four to six eggs per week. As fall approaches and daylight is lost, egg production decreases. North Dakotans who raise chickens are looking for a well-rounded dual-purpose bird. Birds in this category are larger in body than high production pullet, but will also develop enough muscle mass to be used for meat production. A well-rounded chicken will be able to handle cold weather climate, have a good disposition to be handled by children, and will be good egg producers.

Broiler breeds for meat include but are not limited to, Cornish x Rock, Red Ranger, Delaware, and Ginger. Most hatcheries have their own varieties of broilers. Broilers are extremely fast-growing chickens developed for meat production only. Typically, these birds are slaughtered at four pounds for smaller breeds (seven to nine weeks old), and five to 10 pounds for larger breeds (12-20 weeks old). The end result is an animal meant for consumption in 7 to 20 weeks' time depending on variety. Cockerels from multi-purpose breeds may also be butchered for meat production, but they will develop more slowly.

Here are some of the common breeds that are recommended for North Dakota.

Meat Breeds	Dual Purpose Breeds	Egg Breeds	Hobby/Pet Breeds
Cornish Delaware Broiler Ginger Broiler Rangers	Australorp Brahmas Cochin Delaware Jersey Giant Plymouth Rock Rhode Island Red Rocks Orpington Sussex Wyandotte	Ameraucana Leghorn Spanish Stars	Bantams (all breeds) Polish Silkies Turken/Naked Neck

Housing

A special brooder house or a building can be used for rearing chickens. If chicks are purchased in winter or early spring, make sure the building has enough insulation and minimal drafts to maintain the chicks heat requirements. If such facilities are not available, use an area of another building, such as a garage or basement which can be penned off.

An area within the brooder house or room should be sectioned off with a chick guard and a light placed in the center of the area. Use roll roofing metal or something similar to make a circle around the light. Do not make square corners because the chicks will pile up in these corners. Stock water tanks also work well for brooding chicks.

For the first month, confine chicks to the brooder area by using a 24-inch-high chick guard. The guard keeps the little birds from straying away from the heat and prevents floor drafts. Keeping the brooding area large enough to allow chicks to escape one another and allow them to choose their comfort zone around the light is important; however, the brood area should not be so large that a proper temperature cannot be maintained. Chicks in general will require ½ square foot of housing or brooder space per bird up to six weeks of age. Depending on the breed, growing pullets require 1 ½ to 2 ½ square feet of confined floor space per bird.

For used housing, be sure to clean and sanitize thoroughly, including all surrounding walls, troughs, perches, and nests before receiving chicks. Scrub the walls and floor with a good disinfectant. Ensure all cracks are cleaned and all old litter removed. Mix one tablespoon of bleach to one-gallon of boiling water to make a disinfectant solution. Also, be sure to clean and disinfect all feed and watering equipment.

Once the housing is dry, put down a quality bedding litter. Pine wood shavings are good litter and absorb well. Expanded vermiculite or mold-free straw can also make good litter. Remove wet spots and apply fresh litter as needed. Chick starter paper or newspaper may be placed over the litter during the first five days to prevent the chicks from eating the litter. Ensure the paper is not slick.

Proper spacing is important as cannibalism may occur from overcrowding, too little space, poor nutrition, poor ventilation, too much light or injured birds. Keep new chicks isolated from older birds until they are fully feathered out to prevent injury and disease spreading to younger chicks. Make sure chicks are confined to areas that will not allow access for predators such as dogs, cats, coyotes, racoons, skunks, and weasels.

Heating

Newly hatched chicks are sensitive to temperature because they cannot regulate their body heat without feathers. For the first week, the heating source temperature should be 95 degrees F for chicks seven days old or younger. Reduce the temperature by five degrees each week until they are one month old. Keep a thermometer in the brooder area to monitor temperature regularly, especially during the first 48 hours of placement.

Chicks are fully feathered around six weeks of age. If the temperature outside is at least 65 degrees F, they are ready to be moved to the coop, however, if the temperature is below 65 degrees F, supplemental heating may be required for a while longer, either in the coop or the brooder.

A traditional 250-watt red heat lamp may be used as a sufficient heat source for up to 80 chicks in a brooder that is 50 degrees F. A traditional heat lamp must to be tied up securely so it does not fall; this is a fire hazard. The lamp's height should be changed as the temperature changes. Warning: this type of heat source can become extremely hot to the touch. A brooder heat plate is an alternative heat source that has become popular. This is a plate that has an underside heating element; it remains on the ground and can be adjusted for height. Feed stores may also supply temp controlled panel heaters, which tend to be a safer option. It's good for chicks to be able to come and go as they get too warm or cold to mitigate overheating. Regardless of what heat source is used, paying attention to the chick's behavior and how they are huddling or spreading apart is the best indicator whether they are too hot, too cool, or just right.

Nutrition

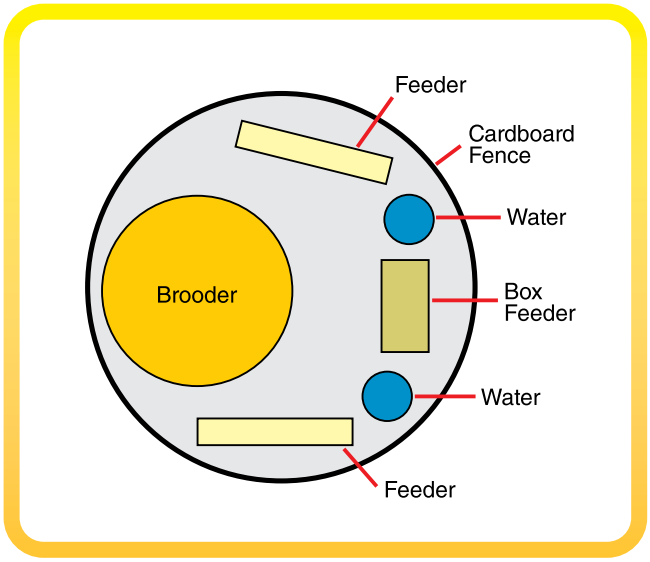
There are many feed companies that provide chicken feed for every stage of life; from chicks to productive hens or a market ready meat bird. Chick starter can be medicated or non-medicated. Medicated chick starter should be fed immediately after hatching to reduce the risk for coccidiosis in chicks which have not been vaccinated for the disease at the hatchery prior to shipment. Coccidiosis, one of the most common diseases of chickens, may be caused by ingesting soil or other bird droppings. Non-medicated feed may be used for vaccinated chicks; however, medicated may be preferred for extra protection against the disease.

Feeds are designed specifically for each type of production bird. The demand for protein will be higher in the starter ration and depending on whether you are raising egg producing birds or broilers your chick starter will be different. Starter feed is specifically formulated to meet chicks' protein, energy, vitamin, and mineral requirements. Growth and developmental issues may be noticed in birds that are not receiving a proper diet, examples are crooked wings or toes. It is not recommended to use screenings, grain, oatmeal, hard boiled eggs, or other alternative feeds as chick starter.

It is important to follow the instructions on the feed bag for how long your birds should be fed which feeds. If it is a custom ground feed from your local feed mill, ask the mill nutritionist or call your county Extension agent for guidance. Pullets near ovulation (15-18 weeks) should be fed developer feed to prepare their bodies to lay eggs. Once egg production starts, begin the layer ration. Birds not laying eggs do not require excessive amounts of calcium and may get calcium poisoning if fed those rations.

Minimum requirements	Protein %	Calcium %	Phosphorus %
Broilers			
Starter (0-6 weeks)	23	0.9	0.5
Finisher (6 weeks to market)	10	0.8	0.5
Pullets			
Starter (0-8 weeks)	20	0.9	0.5
Developer (8 to 20 weeks)	14	0.8	0.5
Laying Hens			
Layer	16	3.0	0.5

Source: Mississippi State University Extension



Source: University of Minnesota Extension

It is important to acclimate new chicks to their new water and feed source. Assist the chicks in drinking water by dipping their beaks in the water dish. A poultry drinker purchased from a local supply store provides a large amount of water and has a base that keeps it from tipping over and spilling, and also keeps the chicks from stepping in it and spreading disease. Purchasing a base that is bright in color will help attract the birds to the water. Waterers that are too deep pose a risk of drowning. Shallow waterers, which provide an inch or less water depth work best for new chicks. Look for a water source that is easy to clean and sanitize.

Provide one-gallon of water per 50 chicks for up to two weeks; increasing to one-gallon waterers per 10 birds at 2-10 weeks of age. Always provide fresh, clean water, and fresh feed. In general, provide spacing of one-linear inch between the feeder and the chick up to two weeks old, then increase to two-inches of spacing up to eight-weeks of age, and then three to four inches of spacing per bird. A 15-inch diameter tube feeder will feed approximately 30 birds.

Manure Management

Wet litter, fecal matter, feathers and spilled feed are collectively called manure. You must have a plan for managing manure in the living area. A clean brooder area and coop will help prevent the spread of disease and keep the chicken clean. Remove soiled litter daily and replace it with fresh, dry material to keep the environment clean and safe for both animals and humans.

Buildup of ammonia in a brooding area or coop will occur if the area is not kept clean. Ammonia is a colorless gas with a very distinct, irritating odor. While ammonia is a useful fertilizer for growing plants, it is not safe for humans or animals in high concentrations with low ventilation. Keeping the animal living space, especially the high traffic areas (waterers, feeders, and roosts), free of fecal matter and moisture will help alleviate ammonia concentration.

Manure is a nutrient dense, effective fertilizer for plants when used correctly; however, it can also be a pollutant to ground and surface water if improperly managed. When manure is removed from the living area it should be placed on a non-porous surface such as a clay-based soil or garbage container. The manure can be composted, which will help stabilize nutrients and reduce total volume. You can learn more about composting poultry litter in the *Poultry Litter Composting for Backyard Flocks* publication from University of Georgia Extension. If you plan to dispose of your poultry manure at the local landfill, it is important to contact them first to see if they will accept the product and how it needs to be contained. This also applies to deceased poultry. Learn more about composting dead birds in NDSU Extension publication NM1422, *Animal Carcass Disposal Options*.

Poultry Safety Tips

Some small and large cities allow raising chickens in backyards. Be sure to check the local city/housing ordinances for regulations on the number of birds, enclosures and space requirements per chicken.

Chickens carry germs, which may cause minor to serious health issues, ranging from skin infections to serious illnesses, such as salmonellosis. Anyone handling chicks or other poultry should wash their hands thoroughly immediately after touching the birds, collecting eggs, or touching food or other equipment used for the poultry.

As a general practice, wash your hands after being in the area even if you did not touch the birds or equipment. If soap and water are not readily available, use hand sanitizer with at least 60% alcohol.

It is important to supervise children as they wash their hands after being around poultry. Young children have immune systems that are still developing and are more likely to become ill from germs carried by poultry, such as Salmonella, Campylobacter and E. coli.

Poultry may peck you with their beaks, and germs can enter the scratches or wounds causing infections. Be sure to wash any scratches thoroughly with soap and water. Seek medical attention for serious wounds or signs of infection.

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For more information on this and other topics, see www.ndsu.edu/extension