

# *Raising* Pheasants



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## Preface

Raising ring-necked pheasants (*Phasianus colchicus*) can be a rewarding experience when done correctly and things go as planned. However, rearing pen-raised birds can go a fowl quickly with poor planning or should unforeseen circumstances arise.

This guide to raising pheasants was developed by Irving Mork and C.R. Grondahl of the NDSU Extension Service (unknown date) and revised by Eric Bakke, also of the NDSU Extension Service (1984). We tried to keep the guide somewhat similar in content to its 1984 form, although readers familiar with the original guide will notice additions and deletions.

This guide is intended to provide those interested in raising ring-necked pheasant with some general guidelines that, when followed, should help improve the chances of being successful. While this guide provides detail and guidance on raising pheasants, those actively raising or considering raising pheasants should take full advantage of all available resources concerning the subject.

# Pheasant History

The ring-neck pheasant (*Phasianus colchicus*) is not a game bird native to this continent. Birds from eastern China made up the first successful introduction in the Willamette Valley of Oregon in 1881. These birds rapidly increased in numbers, and the first hunting season was held in 1892.

Since that time, practically all states have attempted to establish pheasants; however, not all attempts have been successful. Pheasants were stocked in North Dakota first in 1910 (Johnson and Knue, 1989). The Game and Fish Department, private organizations and individuals continued periodic stocking efforts for several years.

By the early 1930s, pheasants were established in the southeastern region of the state. This was partly due to birds dispersing from adjoining South Dakota counties. By 1932, populations were high enough for the Game and Fish Department to trap more than 15,000 birds in the southeast and release them in 44 other counties.

North Dakota's first pheasant hunting season was held in 1931. Pheasants met with nearly ideal habitat conditions during the mid-1930s. Good reproduction and survival resulted. Peak population levels were reached by the mid-1940s.

From the mid-1940s on, pheasant populations declined. Cover conditions deteriorated because of intensive land use during World War II. The decline was particularly noticeable during the period of 1948 to 1950, when severe winter mortality reduced pheasant numbers.

Several years of poor reproductive success hastened the pheasant decline. Population declines were most severe in the northern portions of the state, indicating that much of this area was marginally suitable as pheasant range.

During the 1950s, pheasant populations fluctuated from low to moderate levels, compared with numbers from the early 1940s. Population ups and downs closely followed annual reproductive success.

The best populations during the 1950s were in the southwestern portion of the state, with southeastern populations marginal. Although pheasants were in most of the northern two-thirds of the state, numbers remained low. A partial reproductive failure in 1959 caused further declines in pheasant populations.

In 1960, spring breeding populations were the lowest ever recorded, with the most severe decreases in the western portion of the pheasant range. Populations fluctuated during the early 1960s. Another decline in spring breeding populations in the west in 1962 was followed by a steady recovery in 1964.

Pheasants in the southeast also increased during this period. These increases were attributed to better cover in extensive Soil Bank acreages, generally improved moisture and milder winters. The winter of 1964-65 caused heavy storm mortality throughout the entire range, and that spring, breeding populations reached a new low.

Another heavy winter kill in March 1966 further reduced pheasant densities in North Dakota. Pheasants faced another tough winter in 1968-69, which had record snowfalls.

Populations continued to fluctuate throughout the 1970s and into the 1980s, with the annual population generally on a slight upward trend. In 1985, the Conservation Reserve Program (CRP) was established by the Food Security Act. As a result of CRP, an influx of grassland vegetation occurred across the state and peaked in the mid-2000s at approximately 3.3 million acres. Ring-necked pheasants responded positively to the new habitat CRP provided and numbers began to grow, with pheasants occurring throughout much of the state.

Beginning in the late 1990s, pheasant numbers greatly increased until the late 2000s, at which time the population began to decline. Pheasant numbers have continued to decline in recent years. Pheasant populations had another reduction in 2013 because early spring and fall blizzards negatively affected birds.

Many factors affect pheasant populations, the most important of which is the need for adequate habitat. Since CRP enrollment peaked at approximately 3.3 million acres in North Dakota, CRP acreage has declined to 1.5 million acres, resulting in a significant loss of habitat. Pheasant numbers no doubt will continue to fluctuate; however, we likely ever will see numbers as they were in the 1940s.

# Checklists for Raising Pheasants



## Things to do Before Chicks Arrive:

- Remove all old litter if brooding house previously was used.
- Scrub the walls and floor with a good disinfectant. Ensure all cracks are cleaned.
- When the house is dry, put down a good litter.
  - Expanded vermiculite or mold-free straw makes good litter.
  - Sand and shavings are not recommended.
  - Chick starter paper can be placed over the litter for the first five days to prevent the chicks from eating the litter. Be sure the paper is not slick.
- Clean and disinfect all feed and watering equipment.
- Check that your heat source works.
  - Be sure the heat source is well-secured to prevent potential fires.
- Adjust the heat lamp to fit the conditions when you put chicks in the brooder.
- Follow brooder directions closely.
- Have plenty of food on hand.
  - Store food in a safe place in a rodent-proof container.
  - Pheasants require grit. Check with your feed dealer for details.

## Care of Chicks Following Arrival:

- Dip each chick's beak in food and water and place it under the brooder light or heat source.
- Adjust the light as needed.
  - If chicks bunch under the light, it likely is too high.
  - If chicks move away from light, it likely is too low.
- Leave the chick guard up for at least the first week and longer if the weather is bad.
- Remove the litter paper or litter cloth at the end of the fifth day. If the litter paper or cloth becomes soiled before the fifth day, turn it over and use the clean side.
- Inspect the chicks often during the first week, especially at night, to be sure they are comfortable (neither too hot nor too cold). Be careful when you work around the chicks. Don't scare them!
- After the first week, reduce the temperature each week by raising the light 2 to 3 inches. Let the chicks be your guide.
- At the end of the third week, discontinue the heat during the day, weather permitting, and turn the heat on again at night. By the end of the fourth week, if the weather is nice, discontinuing the heat entirely should be possible.
- Allow some ventilation in the brooder house, but be sure no drafts are blowing directly on the young pheasants.
- Keep feed and water available to the chicks at all times.
- Chicks can be moved outside permanently when the use of the heat source is discontinued and nighttime lows stay well above freezing.
  - Chicks should have adequate shelter when moved outside to protect them from the elements.

# To Hatch or to Buy

Buying day-old chicks or incubating pheasant eggs on your own has pros and cons. The incubation process requires certain attention to details, including temperature and humidity. Also, eggs need to be turned several times per day, which can be tedious and time-consuming.

Fortunately, many manufacturers make incubators that possess the capabilities to maintain proper heat and humidity levels while automatically rotating eggs as needed. Whatever kind of incubator you choose, be sure to follow the instructions carefully to ensure success. Also, be sure to clean and disinfect equipment between uses.

Incubating eggs can be risky not only in nature for the wild hen, but also for you. Be sure to purchase eggs from a reputable dealer. Starting with bad eggs will ensure poor results.

Eggs need to be handled with care and stored at appropriate temperatures. Always keep eggs stored at a minimum of 50 F. Eggs kept in proper conditions should stay viable for at least 18 days, but some reduction in hatchability should be expected. Following these helpful guidelines when purchasing and handling pheasant eggs will increase your success of hatching eggs.

Once the incubation process is under way, methods exist that will allow you to monitor chick development within the eggs. Candling is one technique used to access the development of chicks within eggs with minimum disturbance to the egg (Weller, 1956).

However, ring-necked pheasant eggs have dark shells, which make candling difficult. The use of a strong candling light can improve one's ability to candle pheasant eggs properly.

Another method that can provide accurate measures of egg development is the egg floating method (Westerkov, 1950). As the chick develops within the egg, an air sack forms on the tip of the egg. This air sack makes the egg buoyant, which causes the egg to float with time.

Regardless of the egg-candling method employed, periodically monitoring incubating eggs may allow you to catch a problem, should one occur, and discard eggs that have become rotten and no longer contain a developing embryo. These methods allow you to monitor chick development, which can be rewarding in itself.

Experience is the best teacher, but sometimes your experience is full of fine details that can be difficult to remember. Therefore, you should keep a detailed journal regarding all aspects of the incubation process.



**Example of an egg candler showing the development stage of the embryo.**

(Photo courtesy of [poultrykeeper.com](http://poultrykeeper.com))

Journals should be used to keep records of such things as the length of time the eggs have been stored, storage temperature, date and time incubation procedures began, egg rotation times, and daily incubator temperature and humidity. Journals should be used daily for observations of eggs or for the incubation process in general. If it interests you, write it down.

Finally, the success rate of eggs should be recorded following the completion of each incubation run. These data will allow you to compare egg success rates through time, and the journal can be used to correlate the success of eggs with egg management, incubation procedures used, egg rotation schedule, and daily incubator temperatures and humidity used.

Incubating pheasant eggs can be extremely rewarding, but it requires some initial startup costs, and when not done correctly, it can set your operation back. Buying day-old chicks is a good alternative and often is recommended for beginners.

Numerous vendors sell ring-necked pheasant chicks. Be sure to purchase chicks from a reputable dealer who can confirm your chicks are coming from a disease-free environment.

While buying day-old chicks can be less work than incubating your own eggs, buying pheasant chicks that carry disease and introducing them into your flock may prove devastating.

Day-old chicks are extremely sensitive to temperature and require special feed, so prepare in advance for their arrival. The purchase price, vendor name, arrival date and any dead on arrivals should be recorded in your journal.



**Incubator with hatching pheasant eggs.**

(Photo courtesy of Jennifer Montero, Dorset, England)

## Brood Rearing

The brood-rearing period is a time of rapid growth for ring-necked pheasants, and keeping young birds in good condition can prevent many problems. Young pheasant chicks are somewhat dependent upon their mother to keep them warm in the wild. In captivity, pheasant chicks should be in a brooder house, which is relatively weather-tight, free from drafts and rodent-proof.

A special gamebird brooder house or a building that has been used for rearing chickens can be used. If the building was used for rearing chickens, the brooder house must be disinfected properly. If such facilities are not available, a part of some other building, such as a garage in which a portion can be penned off, will work.

Today, many options are available for brooding pheasants, including

self-contained brooders that possess all the requirements in a small unit. These units are very nice and can handle a fair number of birds, but the price may deter a beginning producer.

Your brooder house should provide no less than 1 square foot per two chicks up to 6 weeks of age. An area within the brood house or room should be sectioned off with a chick guard and the light should be placed in the center of the area.

Use a 24-inch-high chick guard to confine the chicks to the brooder area for the first week. The guard keeps the little birds from straying away from the heat and prevents floor drafts. Use roll roofing metal and make a circle around the light. Do not make square corners because the chicks will pile up in these corners.

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.

Perhaps the easiest and most economical way to brood 50 pheasant chicks is with a heat lamp. This is called cold-room brooding because the heat is directed at the chicks without regard for temperatures in the brooder house.

The heat lamp burns continuously and uses a 250-watt, red-end, infrared heat lamp. If possible, get the lamp with Pyrex glass. It won't break if you accidentally hit it with a few drops of water. However, a commercial heat lamp made especially for brooding chicks and pigs is best. This unit generally has a reflector and built-in safety features.

Heat from the lamp keeps the birds warm while the red color helps reduce cannibalism. The heat lamp needs no hover (stand to ensure the heat lamp stays in one place suspended in the air), but a reflector is desirable.

When using a heat lamp, you can see your chicks at all times. This makes caring for the birds easier to do than if using a conventional brooder. Hanging the heat lamp from the ceiling or some means that allows the distance between the floor and the face of the lamp to be adjustable will work best.

Once the brood area is safe and secure, the light should be placed approximately 15 to 18 inches from the floor. Once the brooder is ready, place day-old chicks into the brooder and observe their reaction to the light.

If, after acclimating to their new home, they avoid the area directly under the light, this may suggest your light is too close to the floor and the temperature



### A heat lamp keeps pheasant chicks warm in a brood-rearing area.

(Photo courtesy of Black Mesa Ranch, Snowflake, Ariz.)

beneath the light is too hot. Simply raise or lower the light to adjust the temperature.

Keep the rest of the brooder house dark to keep the chicks near the lighted heat source and help prevent cannibalism. Again, day-old chicks cannot thermal regulate well, so be sure to maintain a temperature beneath the light of approximately 95 F during the first week.

As chicks age, their ability to thermal regulate improves; therefore, the temperature at chick height beneath the light should be reduced by roughly 5 F on a weekly basis. When making adjustments to the light, be sure to monitor chick response and readjust accordingly.

If overcrowding of chicks occurs and they appear to be competing for space beneath the light, you may have to add 1 lights to meet the heat requirements of young pheasants. Also, remain mindful of outside conditions.

Dependent on the overall brood house, cold nighttime lows may greatly reduce the temperature beneath the brood lamp. A cold chick quickly dies, so be sure you are providing adequate heat.

Additionally, keep the brooding area clean and dry, and take out wet bedding as soon as it occurs and replace with dry bedding. Coccidiosis is a serious disease in young pheasants and wet bedding may contribute to a devastating outbreak.

Clean and disinfect the brooder house and all equipment after use and allow it to sit empty until the following season. Be sure to record all pertinent information in your journal, including causes and dates of all chick deaths.

While using a heat lamp is one option for keeping chicks warm, others exist. Other heat sources include propane, electric hovers, oil and even wood. Propane hovers have the advantage of keeping the birds calmer because of less intense light, and thus less feather picking (cannibalism).

Regardless of which heat source you use, be sure to follow all manufacturer recommendations and test the heat source prior to the onset of brooding. Recognizing your heat source does not work after chicks have arrived undoubtedly will result in chick mortality.

## Feeding and Watering

During the first six to eight weeks of life, insects provide young pheasant chicks with the protein they require to grow. During this life stage, young pheasant chicks are dependent on their mother to lead them to food. Likewise, your young pheasants will be dependent upon you to meet their dietary requirements. Fortunately, many reputable grain dealers have rations specifically developed for game birds that provide the required vitamins and nutrients.

Feed supplied to day-old chicks should be high in protein (27 percent for the first six weeks), with protein levels reduced as chicks mature. Turkey starter is usually a good substitute for game bird starter. Feeding whole grain to day-old chicks generally is not recommended. See local feed dealers for recommendations and availability of feed.

Once the proper food has been obtained, small chick feeders are available through poultry dealers, but old plates and shallow containers will suffice. Place feeders within the brooding area away from the heat light, but near enough to allow chicks to stay warm while feeding. Many pheasant chicks raised in captivity die from lack of food, so be sure to monitor your chicks when you first place them in the brooder to ensure they are eating.

Sprinkling food on the floor of the brooder in small amounts may help chicks locate food, but this can be messy. Overall, what is most important is that your chicks can locate food and you have observed them eating the food you have provided.

Water also is important for growing chicks. Wild pheasant chicks are able to meet their demands for water



**These pheasant chicks have access to water and feed.**

(Photo courtesy of MacFarlane Pheasants Inc., Janesville, Wis.)

through insect consumption and dew on the vegetation when living in natural landscapes; however, your chicks will be dependent upon you.

Numerous types of waterers are available. Regardless of which one you choose, fresh water always should be made available. Young chicks can become engulfed easily in many waterers, so take precautions to prevent drowning. Marbles, rocks or other objects can be placed in large waterers and have been found to greatly reduce the occurrence of drowning.

Waterers should be placed away from the brooding light, and chicks should be monitored when first placed into the brooder to ensure they are drinking. Dipping the beak of each pheasant chick into water and feed also helps the chick learn what it is and where it is.

Again, keep detailed notes of things you find that work and don't work concerning food and water. Be sure to keep the feeding and drinking area clean by washing water and food dispensers often.

## Flight Pen

Pheasants need sunlight and exercise to grow rapidly and develop into strong, healthy birds. A flight pen is essential to prevent overcrowding and foster flying abilities. If pheasants are being raised for sport, you will want the birds to be good fliers. A large flight pen allows room for captive pheasants to practice flying and strengthen flight muscles.

Overcrowding contributes to feather picking and cannibalism; therefore, each chick should have at least 20 square feet, but more space is better. For 50 chicks, this means 1,000 square feet.

If your area has natural grass and weedy vegetation, the birds will do better. If the area is bare, plant oats or some cereal grain for cover. The grain should be planted early enough so it will be 4 to 5 inches high when the chicks are ready to go outdoors.

**If possible, do not yard pheasants where chickens have been raised. Chickens have many diseases that remain dormant in the soil for long periods and can infect your pheasants.**

Pheasants like shade. A few natural bushes, a mixture of brassicas and corn, or kochia are preferred. If not available, cover a part of the pen with brush, snow fence, old roofing or sacking to provide shade.

Predators can be a real nuisance to you and your pheasants, and once one has obtained a meal, it will likely be back. Be sure to take precautions to help reduce loss to predators.

Maintain pens by fixing holes as they occur. If predators become a major problem, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service may provide technical support, and local trappers also may be of assistance.

Dispose of dead birds by burying them deeply or composting them away from bird-rearing facilities to prevent predator access to carcasses.



**A flight pen prevents overcrowding and allows pheasants to practice flying.**

(Photo courtesy of MacFarlane Pheasants Inc., Janesville, Wis.)

## Cannibalism

Cannibalism is a common occurrence among ring-necked pheasants, and if not prevented or stopped, it can result in death. The first indication of cannibalism will be bare-backed birds. The back feathers will be pulled out or broken off by other chicks. Overcrowding is a common cause of cannibalism by pheasants. Be sure to provide adequate space for chicks. The space requirement will increase through time. During the breeding season, adult males can become extremely aggressive and cannibalism events may increase.

In addition to proper space requirements, providing objects for retreating pheasants to hide in also is useful. If cannibalism continues, chicks can be debeaked, but debeaking is not recommended for birds that will be released into the wild. Plastic blinders (shown below) also can be used to prevent cannibalism. Remove all birds that show physical signs of cannibalism immediately.

**A plastic blinder can be used to stop cannibalism among pheasants.**

(Photo courtesy of Teresa Milner, Yoder, Wyo.)



## Disease

Taking all necessary precautions to prevent disease from entering your flock is in your best interest. Buying eggs or chicks from a reputable dealer will reduce the risk of disease spread from one facility to another. Also, new birds should be monitored for disease and not mixed immediately with the existing flock.

Disease can spread from bird to bird, but humans also can carry disease agents. Therefore, take steps to limit access to your bird-rearing facilities.

Many different diseases can sicken or kill game birds. If you expect a disease may exist in your facilities, contact a veterinarian. Dispose of dead birds appropriately to prevent the further spread of disease.

## Regulations

Regulations concerning the possession or propagation of game species will vary by state. Individuals interested in raising pheasants should contact their state game and fish agency, Department of Natural Resources or Department of Agriculture.

In North Dakota, people with ownership of pheasants must secure a permit to possess, propagate or domesticate the birds. These permits are available through the Department of Agriculture and required per Game and Fish Department regulations.

Permits must be renewed on an annual basis. If pheasants are going to be bought from a vendor outside of the state, a health certificate must accompany the birds upon arrival into the state. More information concerning regulations can be obtained by contacting the Animal Health Division of the Department of Agriculture.



**When releasing pheasants from a crate, open the crate and let the birds leave on their own.**

(Photo courtesy of Lee Wahlund, Carrington, N.D.)

## How to Release Birds

Successful pheasant release depends on the availability of high-quality habitat and bird conditions. Making sure the release takes place with minimal disturbance to the birds is important.

To release pheasants, open the gate of the flight pen and allow the birds to wander out. Do not drive them out. Place a feeder and waterer outside the flight pen so the birds slowly can become accustomed to their surroundings on the outside. In a few days, birds will adapt to their new life in the wild.

At this stage, pen-reared birds are easy prey for predators. A great variety of predatory birds and mammals find young pheasants to be a tasty meal. Some loss can be eliminated by making sure the birds have a dense stand of brush and tall, broadleaf plants in which to live. Confine the family dog and cats for a few days to eliminate losses from these animals.

If birds are released away from the place they were raised, be sure to

select a site where good food, cover and water are available. Look for dense stands of tall grass, sweet clover, marsh vegetation or annual weeds. Wooded draws that have not been overgrazed also are good release sites. Fields of corn or other grain should be nearby so birds have a convenient supply of food.

Releasing birds in areas where high pheasant populations already exist will provide little benefit, and, in fact, may do harm. These wild birds likely have reached the maximum population level that the habitat will allow. Stocking additional birds will do very little to increase the population unless habitat conditions are improved.

When releasing birds from crates away from the rearing pens, open the crates and quietly walk away. Let the birds wander out by themselves. Do not shake them out. Do not throw the birds into the air to make them fly. Place grain near the crates so the birds will have a food supply until they become accustomed to their new surroundings.

## To Stock or Not to Stock

Pheasant stocking is not a cure-all for pheasant problems. When pheasants were introduced, stocking played an important role in establishing populations. However, the most successful stocking efforts likely were the result of relocating wild birds captured elsewhere. Nonetheless, habitat was ideal and the birds responded.

Times have changed, and what worked then is no longer appropriate. Two situations that possibly would justify stocking are: (1) a severe winter storm killing all or most pheasants in an area that had been supporting good numbers and (2) a major improvement in the amount and quality of pheasant habitat in an area.

In most cases, pheasants are found where food and cover conditions are suited for them. Putting more pheasants in an area already supporting a population, with the idea of increasing numbers, is often a waste of time and money. Studies by the North Dakota Game and Fish Department and numerous others have shown that many pheasant chicks die the first few days after stocking.

Accustomed to constant care in rearing pens, young birds find the transition to wild conditions very difficult. For these reasons, the Game and Fish Department does not raise large numbers of pheasants in captivity for release.

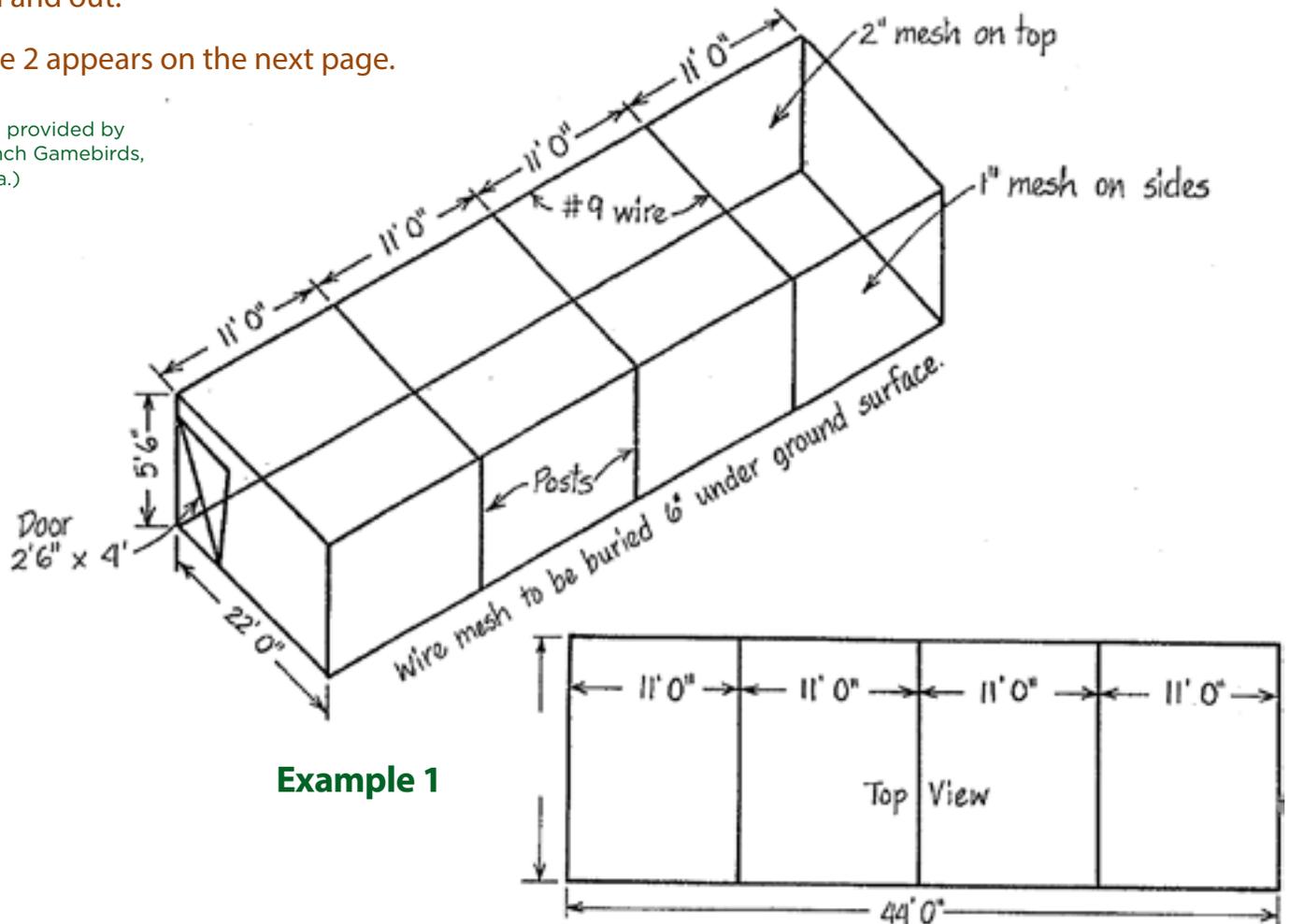
This discussion is not meant to discourage individuals from raising pheasants. This can be a fascinating and challenging hobby, whether the birds are raised for release or home consumption.

# Building Plans for a Flight Pen Suited for 50 Chicks

These are example plans for a pheasant-rearing outdoor pen for 50 chicks that can be built readily. Ideally, this should be attached to a brooder house with an opening in the house for the chicks to go in and out.

Example 2 appears on the next page.

(Drawings provided by  
Green Ranch Gamebirds,  
Everett, Pa.)



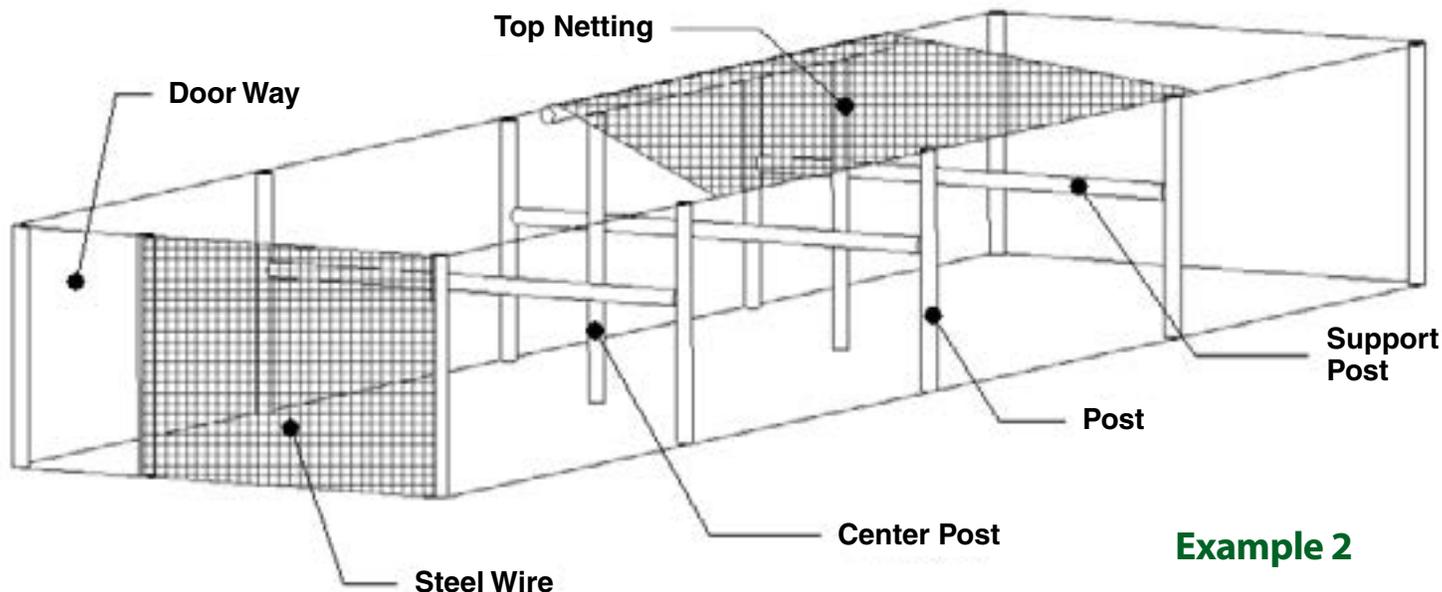
**Example 1**

## Design for Example 1

- Use posts from the woodlot and save yourself some money.
- Use 1-inch mesh, 6-foot wire. If not available, you can use 1-inch mesh, 3-foot wire, which is adequate when secured with hog rings.
- Be sure the wire is buried at least 6 inches below the soil surface all around the pen to keep predators out.
- A small door (2 feet 6 inches by 4 feet) should be made for access. Make sure to include a latch on the door so that can be secured.
- The No. 9 wire is used to help support the top of the mesh wire.
- Don't forget to provide shade for the birds.
- These plans can be modified if necessary. However, do not to alter the floor dimensions (22 by 44 feet). The height of the pen should remain in the 5 feet 6 inch range.

## Equipment needed for Example 1

- 150 feet of 1-inch mesh, 6-foot chicken wire or 300 feet of 1-inch mesh, 3-foot chicken wire for sides
- 200 feet of 2-inch mesh, 6-foot chicken wire for top (Netting can be used as well and is available through most poultry dealers.)
- 250 feet of No. 9 wire (May not be required if netting is used. Wood posts in the center may suffice to lay the netting over.)
- 10 wood support posts (should be available around farm)
- Lumber and hinges for door



**Example 2**

## Citations

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County commissions, North Dakota State University and U.S. Department of Agriculture cooperating.

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