

NEW JERSEY DIVISION OF FISH AND WILDLIFE

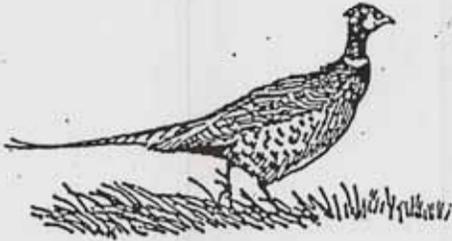
PHEASANT PROPAGATION GUIDE



**NJ DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF FISH AND WILDLIFE**



Ring-necked Pheasant Propagation



Description

To scientists the ring-necked pheasant is known as *Phasianus colchicus*. New Jersey's wild pheasants are actually a mixture of several subspecies of ringnecks which are native to Asia and were introduced to our state at various times. Pheasants are closely related to native game birds like the wild turkey, ruffed grouse, and bobwhite. All are in the scientific order Galliformes, which means chicken-like.

The coloration of male or cock pheasants found in New Jersey is quite variable due to the interbreeding of

the various subspecies. Usually the head and neck are a metallic green with an area of bare red skin around the eye. Ringnecks get their name from their characteristic white neck collar. The breast is usually an iridescent coppery red fading to yellow along the sides and brownish-red across the back. The rump and wing covert feathers are usually a bluish-gray. The wings and tail are a mottled yellow-brown.

Hens are less variable having a dull mixture of browns and buffs with darker markings. Both sexes have long tapering tails and short rounded wings.



Housing and Equipment

Brooder House: A brooder house that has been used for baby chickens can be used for pheasant chicks. If the house is used for pheasants, it must be thoroughly cleaned, scrubbed and disinfected.

- Space Needed:** Each chick requires at least 1/2 square feet of floor space. A brooder house 10' x 10' will hold 200 pheasant chicks.
- Construction:** The house should be so constructed that it is rodent-, draft-, and moisture-proof. It must be clean and dry. The windows should open and close easily so that the brooder house can be properly ventilated.

Outside Run: An outside run or pen is required to raise healthy, well-feathered birds. Outside pens harden the birds to conditions similar to their natural habitat.

- Size:** Provide an area of at least 20 square feet per bird. Fifteen square feet would be the minimum.
- Height:** Six to 8 feet high.
- Material:** Posts of steel or wood; Wire of 18 gauge or heavier
One-half inch mesh buried one foot below ground level to 3 feet above on all sides. Two inch mesh for top cover.

Brooder: The brooding unit must be a conventional hover type, thermostatically controlled, of either electric, oil or gas type, with 10 square inches of hover area per chick. The brooder unit must contain an attraction light (a small red light bulb under the hover that will light up the area and attract the chicks under it). Infra-red lights are not recommended as the source of heat. If used, be alert for feather picking and feather eating. If this occurs, consider debeaking, page 11.

- Chick Guard:** A ring guard made of corrugated cardboard, 10 - 12 inches high by 30 - 35 feet long can have wood strips tacked to the cardboard every three feet to keep it upright. This will be placed in a circle around the brooder during the first days to keep the chicks close to the source of heat . It should be moved outward as the chicks get older. This guard prevents the chicks from crowding into corners and keeps them close to the source of heat.
- Litter:** Litter for the brooder house should be clean and not very dusty. Look for light weight and low cost. Oat, rye or wheat straw cut 2 to 3 inches long works well. Shredded sugar cane, known as Stazdry, or dry wood shavings are often used for litter.
- Cover for litter:** Cover litter during the first 4 to 5 days with old blankets or cotton bags to avoid loss due to birds eating litter.
- Egg Flats:** Day old chicks – 7 days old: “Rough surface” paper plates can be used. Chicks would lose their footing on smooth plates, resulting in leg deformity. Spread

feed on egg flats or “rough surface” plates during the first week.

- Marbles and Colored Buttons:** These shiny objects placed in the feeders and waterers will attract the birds’ attention and encourage them to begin eating sooner.
- Thermometer:** An accurate thermometer should hang from the edge of the hover so that the bulb is at the level of the chicks’ back or at about 1 inch above the litter at the start of the brooding period. Thermometer reading should be taken at level of the chicks’ back, not from hole in top of hover, where a false reading could result in loss of chicks from chilling.
- Grit:** Chick-size granite grit placed in a hopper after 10 to 14 days and while chicks are still in the brooder house.
- Feed:** Use game bird or turkey starter mash which is approximately 26 - 28% protein. Do not use chicken feed because its 18 - 20% protein is too low to obtain normal growth in pheasants.
- Waterers:** Quart-size water fountains with 1/2 to 3/4 inch marbles (cleaned, disinfected, and rinsed with fresh water before use) placed in saucer to prevent chicks from drowning. Shiny marbles are preferred to gravel.

Feeders and Water Fountains for 100 Chicks

<u>Age of Chicks</u>	<u>Number</u>	<u>Length</u>	<u>Number</u>	<u>Capacity</u>
1 - 7 days*	4 - 6	egg flats	4	2 quarts
1 - 6 weeks*	4 1**	2 feet 2 feet	6	2 quarts
6 - 12 weeks	3 outside 1 inside 1**	4 feet 2 feet	3	1 gallon
12 - 17 weeks	4 outside 2 inside 1**	4 feet 2 feet	5	3 gallons

* Increase the size and number of each as the need arises. Make all changes gradually, especially in the early weeks.

** For grit, starting at 10 days to 2 weeks of age.

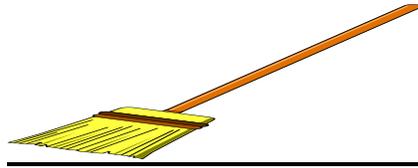
Facility Preparation:

I. Cover: The first important factor is to make certain that you have ample cover in the outside run when your birds are placed outdoors. This means that planting can be done in either late summer, early fall or early spring, depending upon the crop you wish to plant.

II. Pheasant runs: New runs should be completed well in advance before the delivery of chicks. Don't plan too closely as unexpected delays may prevent you from getting your pen completed in time. **Old runs** must be inspected thoroughly. Check every foot of fencing to find holes or weak wire. Replace wire where necessary.

III. Brooder House: Thoroughly clean and then spray all cleaned surfaces with a poultry disinfectant. It is important that all foreign matter be completely removed before the brooder house is disinfected.

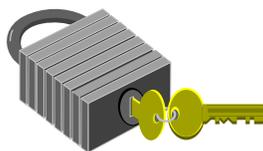
Cleaning



1. Settle dust by spraying all (6) surfaces lightly with water or a disinfectant if a history of disease is associated with the brooder house.
2. Remove all movable equipment out of the building before the cleaning operation begins. Be sure only clean equipment is later brought in to the cleaned brooder house.
3. Remove the coarse material and sweep down ceiling and walls. Remove all manure and litter spilled outside the doorway, and from *any* location in your pheasant growing operation.
4. After the floor is scraped and brushed clean, scrub and hose down ceiling, walls all 2 x 4 and other wood framing, window frames and glass and flooring. An orchard sprayer with a pressure of 300 - 500 psi will thoroughly clean all surfaces. However, a garden hose will carry considerable water to the area for cleaning. A hand-held garden sprayer could even be a useful cleaning tool. Use plenty of water and rinse or wash all debris out of the cleaned brooder house.
5. After the brooder house is clean, all holes, cracks and crevices should be covered with metal. Make sure the roof is in good condition, the windows are in good repair and work properly.
6. Spray the ceiling, walls, floor and equipment with a good disinfectant. Follow the manufacturer's directions concerning the dilution and application of the disinfectant.

Replace all the cleaned equipment in the brooder house. Open the windows (**with screens intact to prevent free flying birds from gaining entry**) and

padlock the doors. Allow the brooder house to ventilate for two weeks.



Note: All disinfectants are ineffective if any organic matter (litter, manure, grime) remains on the floor, walls or equipment. Organic matter not only keeps disinfectants from reaching the surface areas but also weakens the bactericidal power of the disinfectants.

IV. Place order for Feed: Check with the food dealer at least one month in advance and order a fresh supply of game bird or turkey starter mash (100 pounds for 100 - 150 birds). Also order litter, granite grit, chick guard, fuel and all other brooding needs.

V. Disinfect brooder equipment: Brooder hover, feeders and water fountains should be thoroughly scrubbed and disinfected and rinsed in fresh water before use. All necessary repairs should be made at this time.

VI. Source of Heat: Brooder stove should be clean, disinfected and operated for a short time to see if it is functioning properly. For gas and oil stoves, particular care should be taken in cleaning fuel lines, burning chamber and the chimney. Make certain that an ample supply of fuel is available. Where electric and infra-red bulbs are used, replacements should be kept in stock for immediate replacement. Frayed wires and other damaged parts should be replaced. Use only RED bulbs. **Note:** Infra-red bulbs are not the recommended heat source, although pheasants have been successfully brooded under them.

VII. Four days before chicks arrive: Arrange brooder house materials. If floor is concrete or the boards are not tight, lay building paper or a double layer of aluminum foil on top of floor for insulation and to prevent drafts, then spread litter.

VIII. Two days before chicks arrive: Encircle the hover with the ring guard being careful to mound up litter around the bottom of the ring guard. Start brooder and adjust the thermostat so that the temperature reads 98°F one inch above the litter at the edge of the hover. The brooder should run continuously so that the chill will be taken off the house.

IX. One day before chicks arrive: Fill waterers to allow ample time to take off the chill of the water. If the water is placed in the fountains the same day that the chicks arrive, the chill should be taken off by using some warm water.

X. The morning chick arrive: Check the brooder thermometer. It should read 98°F at the edge of the hover. Lightly sprinkle game bird starter mash on the egg flats. Place marbles or large, shiny buttons in the feed and water. The shiny objects will attract the chicks' attention to the feed and water. This practice will guard against starvation.

XI. Upon arrival of chicks: Chicks are placed within the chick guard after first dipping their beak into the water and feed. Check the ventilation in the brooder house (details follow). Allow fresh air but no drafts.

Feed and Water for Healthy Pheasants

All feed must be kept clean and fresh. Adjust amount of feed so that the birds finish most of it before new feed is added to the hopper. Let the feed hoppers be completely empty about 2 or 3 times per week to insure fresh feed. *Caution: Do not let the hoppers remain empty of feed.* When hoppers are empty, refill immediately. Feed hoppers should not stay empty for more than a few hours.

The **amount** of feed needed depends on the number of birds, feeding management practices and the manner in which feed is stored. If feed is carelessly stored where rats or mice have access, much feed can be wasted. For every 25 chicks, plan for about 15 pounds of starter mash, 25 pounds of growing mash, 25 pounds of scratch grain or pellets, about 2 pounds of chick size grit, and about 5 to 10 pounds of grower size grit. The feeding of grit is a controversial practice. Thousands of pheasants have been raised successfully on sandy soil without the feeding of grit.

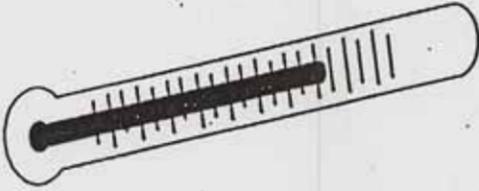
Feeding **green food** is considered by some pheasant breeders to be a desirable practice. Green food saves feed, keeps the pheasants busy and thereby may prevent picking. Swiss chard, lettuce, onion tops, soft field corn and garden greens can be grown for your pheasants. Keep only fresh green food in the outside run under shade. Green feed will wither and decay rapidly in a warm brooder house and if such is eaten, it can cause disease. Do not make sudden feeding changes. Introduce new foods gradually.

Keep **water fountains** clean by scrubbing them daily or more often if necessary. Pheasants need fresh water available at all times. Keep water fountains out of the path of the sun's rays shining through the brooder house window. If this precaution is not taken, chicks may follow the sun's rays, get into the water, become wet and die from being chilled.

Remove **wet**, dirty litter and replace it with fresh, clean litter. Cleanliness helps prevent disease, allowing the growth of healthy, well-feathered birds.

Water fountains should be placed on wire frames 12 inches square. These may be constructed of 1" x 2" clean boards and covered with half-inch mesh hardware cloth. Do not make a sudden change in the location of waterers. Be sure the chicks are getting clean water several times daily throughout their growing period. See previous chart for size and number of feeders.

Brooding



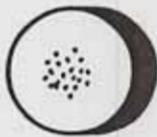
During the first week of brooding, brooder temperature is held at 98° to 102°F. Observe the chicks to see that they are comfortable. It is necessary to have more heat available with an electric heat source than with a gas brooder.

*Brooder Temperature Schedule

Week 1	98°F
Week 2	95
Week 3	90
Week 4	85
Weeks 5 & 6	Brooder not needed unless very cold weather

- * Take temperature reading at the edge of the hover about one inch above the litter.

Chicks must be comfortable which is observable by seeing the chicks spread out evenly throughout the hover area. They should not just remain bunched under the hover (too cold) nor stay out at the edge by the chick guard (too hot). Chilling or overheating causes stress which may be fatal to chicks during the first 10 days. At night with the proper temperature they should settle spaced apart under the hover as shown.



Too Cold



Cold but
not chilled



Proper Temp.



Too Hot

Check brooder temperature at least 5 times a day during the first two weeks.

Ample **ventilation** is also important. Windows should be sufficiently open to allow fresh air to circulate throughout the brooder house *without drafts*. As the birds grow, open the brooder house windows to let in more air. The amount of air will depend on the age of the chicks and the outside temperature.

Keep litter **dry** by stirring or raking daily. Any wet litter around drinking fountains should be removed immediately and replaced with dry litter. After two weeks, remove all dirty, wet or caked litter on the brooder house floor and replace with new, clean litter. Mix the old dry litter with the new litter by raking the litter together.



Carefully **search** for dead birds daily when conducting the temperature check. Dead birds should be removed and disposed of properly by burying, or sealed in a plastic bag and placed in with household trash. Be sure to check through

deep litter, as dead chicks may be covered. Keep a record of dead birds on a mortality chart. *Raise hover only once each day to check for dead chicks.* This is best done during the warm part of the day to reduce the chance of chilling the chicks.

Increase the distance between the hover and the chick guard six inches each day. After the fifth day, remove the guard. The guard teaches the chicks where to find the heat and eliminates crowding in corners. When the guards are removed, partition off the corners to prevent crowding into corners on cool evenings.

At 10 days of age, chicks can go outside *if* it is a warm, sunny day. Allow the birds to remain in the run for a few hours. Erect a small temporary run made of 1/2 inch mesh wire in front of the chick entrance to the brooder house and within the large run. After the birds are a few days older, this enclosure should be enlarged. Do this several times until the birds are 5 to 6 weeks old. At that age, the temporary run should be removed and chicks can be given the full run of the entire pen. Birds must be gently coaxed into the brooder house every night until they are six weeks old. **DO NOT EXPOSE BIRDS TO HEAVY RAIN UNTIL THEY ARE SIX WEEKS OLD, AND ONLY IF THEY ARE WELL-FEATHERED.**

Disease Prevention

Prevent bird mortality from disease by being meticulous with cleanliness. Fresh feed must be kept free of droppings, dirt and litter. Waterers should be emptied and cleaned daily or more frequently if necessary. If you believe the water is clean enough for humans to drink, it is then clean enough for chicks.

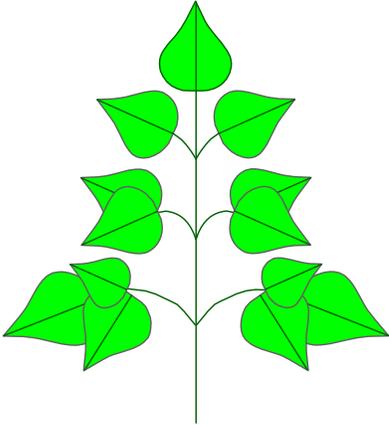


Dead or abnormal birds should be removed as soon as noticed. To determine the cause of death, diseased birds should immediately be collected in a paper bag, and kept chilled until they are examined. Dead birds will decompose rapidly (within a few hours in hot weather). Contact a county Agricultural Agent for recommendations on having the birds examined. A local veterinarian could advise you if there is a serious disease. Be prepared to provide a history on the flock's condition, and for an examination of both sick and healthy birds. Perform an inspection of the brooder house and outside run for dead birds at least twice daily.

All soiled vegetable matter should be removed from the chick growing area. Keep flies at a minimum by removing anything that attracts flies to the growing area. Flies may carry and spread disease.

Managing the Outside Run

An outside run is necessary for the successful rearing of pheasants. If birds were to be raised indoors only, they would not develop the beneficial oily sheen on their feathers. The birds would then have little chance of survival when released in the wild. If an old pen is used for a run, spread ground limestone, spade and plant with a good pasture mixture.



Dwarf rapeseed or sorghum sudan planted in spring will provide green food and some cover for the younger birds. Cover protects growing birds from hot sun and sudden showers. It also helps control picking.

It is important that plenty of **cover** be provided in the runs. Make cover of brush, cedar, pine boughs or cornstalks in all corners.

In the **outside run**, place four poultry feeders for every 100 birds, spaced evenly apart. The feeders should be four feet long and able to keep the feed dry. If feed gets wet, replace it immediately. Four, 3 gallon water fountains should be placed in a shaded area beside each feeder.

Roosts should be provided for the pheasants. Tree branches or poles work well. Shade is also a necessity. Evergreen boughs, boards, old doors or sheet metal could provide shade.

A **catching pen** is an essential part of the outside run. This pen should be located in a corner of the run and measure about 5' x 10'.

Picking: Causes and Prevention

Causes of Picking in Pheasant Chicks:

- High room temperature: Makes birds restless and initiates picking
- Crowding: Chicks need space to move away from others. Some birds are more aggressive.
- Lack of Feed or Water: Hungry or thirsty birds become restless and might pick.
- Lack of cover: Birds need a place to hide. Provide ample cover.
- Disabled birds: Chick that are disabled are easy prey if they cannot escape.
- Bright light: Too much light encourages picking.

Prevention of Picking:

1. Follow the proper temperature schedule; ventilate and provide shade
2. Provide the recommended space of 20 square feet per bird
3. Provide ample fresh feed and clean water as outlined.
4. Provide cover using evergreen boughs, cornstalks and cover crop plantings
5. Remove all diseased or injured birds at once.
6. Cover windows with burlap or red paint. Use *red* bulbs in place of white. Objects in the brooder house will look dark or nearly colorless, preventing the pheasants from recognizing blood from other objects in the house.
7. Debeaking should only be performed as an emergency measure. This minor operation should only be done after consulting a county Agricultural Agent or veterinarian. Do not debeak after 12 weeks as pheasants must have ample regrowth of the upper mandible at 17 weeks when they are liberated in the wild.

Debeaking

Do not use a very sharp instrument such as a dog toe nail clipper. A sharp cut will allow excessive bleeding which could result in the death of many birds. The capillaries should be crushed at the separation of edges rather than cut cleanly. Crushing the capillary tissue will speed up blood coagulation and subsequent tissue repair.

The location to cut is selected by starting at the tip of the upper mandible and moving one half the distance from the tip to the outer edge of the nostril. Be sure to cut the upper mandible on an angle. The point of the upper surface projects beyond the inner surface. This angle cut contributes to the normal regrowth of the upper mandible. Use 5 inch diagonal wire cutting pliers.

Adapted from USDA and Rutgers University's Cook College, Cooperative Extension Service, 4-H project.