



Ringneck Pheasants

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Ringneck pheasants bring to mind the hearty cackle of a flushed rooster in the fall, but pheasants may also be raised in a domestic environment. In fact, because the pheasant spends the greater part of its life on the ground, it readily adapts to life in confinement.

The ringneck pheasant is not native to this continent. It was first introduced from China to the Willamette Valley of Oregon in 1881. Since that time nearly all states have attempted to establish ringnecks.

Pheasants were stocked in North Dakota in 1910. Private citizens, with help from the Game and Fish Department, continued stocking efforts until pheasants were well established in southeastern North Dakota. Wild pheasant populations are subject to extreme fluctuation due primarily to the fluctuating availability of suitable cover and the fluctuating severity of winter weather. North Dakota's first pheasant hunting season was in 1931. Pheasant season closed because of the lack of birds only in 1953, 1966 and 1969.

Breeding

Pheasants are seasonal breeders. The roosters begin strutting and breeding displays when the days become longer, usually toward the end of March. Roosters will also fight one another to establish dominance. When raising them in confinement, it is a good idea to have no more than one rooster per eight hens, with ten hens per rooster optimum. Hens will begin laying eggs about the middle of April and continue into June. A single hen should provide about 15 fertile eggs if eggs are collected daily and the hens are not allowed to begin incubation of a nest.

Incubators

Pheasant hens are quite capable of incubating, brooding and raising young pheasants. However, for commercial production it is generally advisable to either buy day-old pheasant chicks or hatch them in an incubator. Allowing the hens to hatch the eggs in confinement generally results in excessive losses of eggs, chicks and hens. Another advantage of incubators is avoiding the risk of transmitting contagious diseases. It is highly recommended to get directions on incubator operation from the incubator's manufacturer. The simplest machines provide constant heat for eggs, while such things as turning, ventilating and maintaining humidity must be done manually. More expensive and complicated incubators regulate these processes automatically.

Pheasant eggs should be collected daily. Incubation should begin before eggs are 11 days old, since fertility begins to drop as eggs get older. Eggs that are stored should be turned twice a day to avoid hatching weak chicks. Eggs should not be stored in places over 50 degrees Fahrenheit. The eggs should have a soft sheen; if the eggs are spotted, dull and dirty, they

are probably not worth trying to hatch. If space in the incubator is limited, it is possible to test (candle) the eggs. A test lamp is easy to construct; simply make a hole in a tin can large enough to stand a pheasant egg in it. Place the can over a small light bulb. If the eggs are clear (without small blood clots), they are not fertile. Humidity in the incubator should be between 45 and 50 percent and the temperature should be 95 F. Ringneck pheasants will begin hatching after 24 and a half days.

Brooding

Once all the pheasant chicks have hatched, they should be kept in the incubator until they are completely dry. The more expensive incubators have a nursery section which enables the chicks to dry completely in a controlled environment for 12 to 24 hours after hatching. The chicks should not be fed during this period because they are absorbing the remainder of the yolk sac. Providing food to the chicks before the yolk sac is digested may cause intestinal upsets.

The maximum temperature at ground level under the brooder for day-old chicks should be no more than 105 F. The type of brooder to use depends on the number of chicks. For 50 chicks or less, a 250-watt infrared heat lamp is appropriate. If more than 50 chicks are in the brooder, more than one heat lamp will be needed. Large gas or electrically operated brooders with a thermostatic control are generally used for more than 300 chicks.

Pheasant diseases are most easily spread through dirty feeding and watering equipment. Cleaning the feeders and water fountains with scalding water once a day is recommended. The feeders should be thoroughly dry before filling again. Small stones should be placed in the fountains to prevent the chicks from falling in the water.

A chick guard should be placed around the brooding area for the first 3 to 4 days. A chick guard is rolled cardboard, 24 to 30 inches high, which is used to keep the birds near food, water and the brooder. After the first week, begin reducing the temperature of the brooder until supplemental heat is no longer needed by the end of the fourth week. After the first week chicks can be let outdoors on warm, sunny afternoons. If the facilities don't allow access to the outdoors on sunny days, putting green branches and weeds in their pen will curtail cannibalism. Provided the weather is not unusually cold, the birds can begin to be placed in outdoor pens called flyways at 5 to 6 weeks of age. The birds will do better if the flyways are well grown with grass, weeds or other cover.

Feeding adults and chicks

After one day of age, chicks should be allowed access to game bird chick starter. The feed must be a game bird starter, since domestic chicken starters are unsatisfactory for young pheasants. The starter pellets can be scattered on paper plates until the chicks are started on feed. Green paper plates may be helpful in getting the chicks to eat, for they are attracted to the green color.

After the chicks are one week old they can be started on game bird grower. Depending on the formulation of the feed, game bird grower may be satisfactory feed until the birds reach maturity at 16 weeks. The chicks will require ♦ to 1 pound of starter, which is a one-week supply, and about 10 pounds of grower, a 15-week supply, to reach mature size. Mature size for hens and roosters is 4.75 and 5.5 pounds, respectively. Grit should be sprinkled on the feed every four days, until the chicks are placed in the flyways.

An adult pheasant will require about 5.5 pounds of feed per month to maintain condition. Beginning about three weeks before egg laying begins, the hens should be fed a higher quality laying ration. Laying rations typically used for domestic pheasants may be substituted for hen pheasants at this stage. This ration should be fed throughout the laying season.

Buildings, facilities and equipment

Pheasant chicks need to be housed in some type of building until 5 to 6 weeks of age. The chicks can be kept in buildings which allow 4 to 5 square feet per chick. Chicken brooder houses or coops will work well for young pheasants.

Adult pheasants in confinement in North Dakota generally may be kept in flyways year around. Having access to a building to provide shelter during the worst of winter storms is recommended. Pheasants are relatively hardy game birds and can withstand cold temperatures if well fed and protected from the wind.

The flyways are where the birds will spend the majority of the year. They should be 6 to 7 feet high and 15 to 20 feet wide with nylon netting over the top. Chicken wire with 1-inch spacings is satisfactory for the sidewalls. The bottom of the chicken wire should be buried 6 inches to 1 foot underground to prevent it from being pushed out and to discourage predators from burrowing under the wire. If chicks younger than 10 days old are allowed in the flyways, a solid border should be placed along the bottom 10 inches of the fence, as these chicks can squeeze through the 1-inch chicken wire.

Flyways should provide some shade. Shade is provided by laying burlap or evergreen branches on the nylon roof netting. If burlap is used, it should be secured to the flyway roof so it does not flap, as this may frighten the chicks into corners where they may smother. The flyways should also provide an adequate amount of cover to allow the birds "hiding" places. There can not be too much cover in the flyways as long as feeding and watering of the birds is possible. The hiding places are useful for several reasons. If the birds have enough cover to hide or get away from other birds, there will be less cannibalism. Also, the birds will panic less and injuries will be reduced. Furthermore, if the pheasants are being kept for breeding purposes, the addition of straw bales will provide suitable nesting areas from which eggs can be collected.

An incubator is needed only if a breeding flock of pheasants is to be maintained. Other equipment needed for pheasants includes brooders, feeders, water fountains and fencing materials.

Predators

Rats may be a problem in pheasant brooding areas, in building walls and under floors. While rats will not prey on mature birds, they will kill young chicks and eat eggs. In addition to carrying diseases, rats may attract other predators such as mink, weasels and foxes. Rats are best controlled by keeping trash and rubbish cleaned up and not allowing the rats access to pheasant feed storage areas. There are several commercial poisons for controlling rat populations on the farm.

Larger predatory mammals are generally only a problem if they can get access to the flyways. If raccoons, mink or foxes are a problem in the area, leg-hold traps may aid in control. Owls can be a problem for domestic pheasant production. Producers report owls flying over the flyways and panicking pheasants into injuring themselves, or owls may snatch pheasants by the head if they stick their heads through the wire in an attempt to escape. With well-constructed flyways and adequate clean-up of waste feed and trash, most predatory losses can be prevented.

Diseases

Coccidiosis is the most common disease of domestic pheasants. It generally causes a bloody tinge to the birds' droppings, and death results if the disease is not treated promptly. Coccidiosis can be kept in control by any of the sulfa family of drugs. A veterinarian should be contacted to determine the best method of treatment and dosage. Other diseases which can infect pheasants include fowl typhoid, erysipelas, fowl cholera, avian tuberculosis, navel ill, botulism and Newcastle disease.

Regulations

Because pheasants are wild game birds, it is necessary to obtain a propagation permit from the North Dakota Game and Fish Department to raise them in North Dakota. The permit must be updated annually at a cost of \$5. All live pheasants to be imported into the state require certification as being disease-free. A local veterinarian should be able to help with this paperwork.

Marketing

Domestically raised pheasants are generally marketed in three forms: as day-old chicks, as processed meat and as live mature birds. The markets can be further segmented within each of these divisions. For instance, chicks and live mature birds can be sold on a straight-run basis or sexed. The meat could be breast only or the entire bird. There is potential for marketing pheasant feathers as ornamental decorations. As with any niche market item, marketing plays a major role in its success or failure, and the greatest marketing efforts must be made before production begins.

Economics

The most concerning element of pheasant production is not whether pheasants can be effectively managed in confinement, but whether a market can be found for them which will offer a sufficient return. To help in the marketing investigation phase, it is necessary to know what the likely costs of producing the pheasants will be. This section of the circular presents a pheasant enterprise budget and the production coefficients related to the budget (Tables 1 and 2).

The size of the hen flock is 1,200. A hen flock of this size, plus 120 cocks, could be satisfactorily maintained in four 150-by-50-foot flyways. Straw bales are placed in the flyway during the spring of the year to allow the hens a place to nest. Each hen will lay about 15 fertile eggs if the eggs are collected daily. The entire pheasant flock is assumed to be replaced each year. Using a mechanical incubator, 80 percent of the eggs should result in a live day-old chick. For the purposes of this analysis, it is assumed that the majority of the chicks will be sold as day-old chicks. The remainder of the chicks are used as replacements for the original flock, are processed and sold frozen, or are sold as live mature birds to sportsman's clubs and hunting preserves.

Table 1. Production coefficients for a 1,200-head flock of pheasant hens

Fertile eggs collected/hen	15
Ratio of hens per cock	10
Total flock size (cocks and hens)	1,320
Percent hatched (%)	80.00
Day-old chicks hatched	14,400
Eggs collected	18,000
Day-old chicks sold	12,002
Pheasant chicks fed to 16 weeks	2,398
Pheasants sold as processed	575
Mature pheasant death loss (%)	2.00
Chick death loss (hatching-maturity) (%)	5.00
Culling rate per year (%)	100.00
Slaughter weight (lbs)	5
Carcass weight-cock (lbs)	2.9
Total feed per chick (to 16 weeks) (lbs)	11.00
Total feed per mature hen (8 months) (lbs)	45.63
Feed needed for chicks to 16 weeks	
Starter (lbs/chick)	0.7
Grower (lbs/chick)	1.5
Developer (lbs/chick)	8.8
Selling price/day-old chick	\$1.00
Selling price-processed per lb	\$3.50
Selling price/live bird (straight run)	\$6.25
Selling price/live bird (sexed)	\$6.50
Buildings	\$10,000.00
Fencing	\$5,600.00
Incubators, feeders, waterers	\$2,499.13
Feed cost/ton of pellets*	
Starter	\$288.00
Grower	\$226.00
Developer	\$150.00
Layer diet	\$200.00
Annual operating expenses per flock:	
Worming, medicine and veterinarian	\$100.00
Building and facilities maintenance	\$50.00
Utilities and fuel per flock	\$700.00
Predator control per flock	\$200.00
Interest rate on equity capital (%)	4.00
Interest rate-on borrowed capital (%)	9.75

*Zip Feeds, Grandin, North Dakota

Table 2. Economic and cash flow budgets for a 1,200 hen pheasant flock

	Economic Budget	Cash flow Budget
Returns a	Per Flock	Per Flock
Live pheasant receipts--day-old	\$12,002.40	\$12,002.40
Processed receipts b	5,832.51	5,832.51
Live bird sales	6,997.69	6,997.69
Gross Revenue	\$24,832.60	\$24,832.60
Variable costs		
Feed	\$8,255.46	\$8,255.46
Worming, medicine and veterinarian.	100.00	100.00
Predator control	200.00	200.00
Utilities and fuel bird	700.00	700.00
Interest	636.31	451.20
Total Variable Costs	\$9,891.77	\$9,706.66
Fixed costs		
Buildings	\$687.50	\$487.50
Fencing	385.00	273.00
Incubators, feeders, waterers	171.81	121.83
Depreciation on fixed assets	2,619.83	-----
Breeding flock ownership	569.25	403.65
Insurance	82.80	82.80
Total Fixed Costs	\$4,516.19	\$1,368.78
TOTAL LISTED COSTS	\$14,407.96	\$11,075.44
Returns over variable costs	\$14,940.83	\$15,125.94
Returns to labor, management and equity	\$10,424.64	----
Cash flow (debt service, family living)	----	\$13,757.16

a Returns for pheasants are highly speculative and depend on individual producers' marketing and entrepreneurial abilities.
b Pheasants are assumed to be processed by the owner.

The economic budget is generated by charging market rates for all resources needed for production. It helps answer the question "Is this enterprise profitable?" The bottom line represents a return to labor and management.

The cash flow budget is an estimate of the out-of-pocket cash needed to run the enterprise, including not only direct costs but indirect cash costs such as principle and interest payments, insurance and taxes. It helps answer the question "Can I meet my cash obligations if I go into this enterprise?" Total cash expenses are subtracted from total cash receipts to calculate the net cash which is available for family living and other needs.

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