
AGRICULTURAL ALTERNATIVES

agalternatives.aers.psu.edu

Pheasant Production

Pheasants, originally from Asia, are very popular game birds in the United States. They are *gallinaceous* birds, relatives of grouse, wild and domestic turkeys, quail, partridges, and chickens. There are many different varieties of pheasants, and their names seem to be related to their native homelands in Asia, such as the Chinese ringneck and Mongolian, Szechwan, and Japanese pheasants. The common English pheasant also originated in Asia. It was brought to Pennsylvania from England and released in Lehigh and Northampton Counties. These birds bred some of the forebears of today's pheasants, which are from mingled bloodlines and bred to survive in our environment. Professional game breeders in Pennsylvania produce one-half million commercial pheasants annually, and the Pennsylvania Game Commission also produces birds.

Marketing

As with any business, pheasant producers need to research markets before starting production. There are four major markets for pheasants: hunting preserves, gourmet food markets (mostly restaurants), private individuals who buy live birds for custom slaughter, and individuals who want to restock birds in the wild. At present, there are approximately 20 commercially regulated and 200 privately operated hunting preserves in Pennsylvania. Their names and addresses can be obtained from the Pennsylvania Game Commission. Since very little information is available about other markets, using them requires time, research, and development.

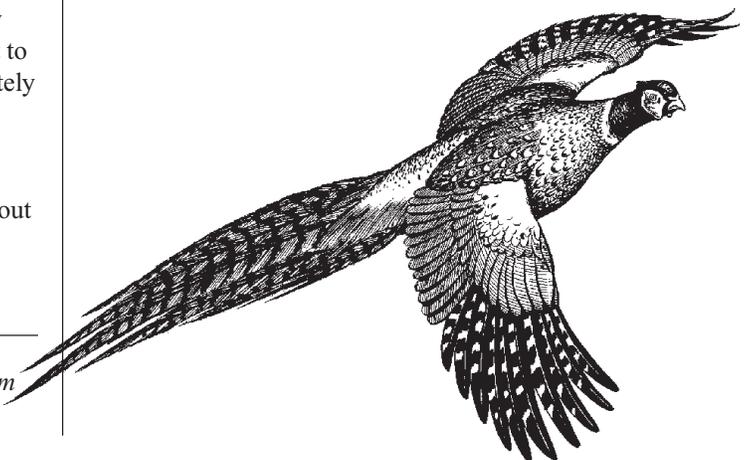
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Getting Started

One of the most practical ways to get started is to begin with a flock of 200 pheasants and use existing facilities when feasible. A production unit of this size allows you to learn the necessary production and marketing skills without making a large investment. Investment costs are limited to water troughs, feeders, a heat source, a flight pen, and a brooder house.

Hatching and Rearing Young Birds

Start with either eggs or healthy day-old chicks from reputable dealers. Before obtaining eggs or stock, make sure that the breeders are free of diseases such as *Salmonella pullorum*, *Salmonella typhoid*, and *Mycoplasma*. Dealers can obtain information about these diseases from the Penn State Department of Poultry Science.



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If you purchase eggs, they must be kept in a clean environment at an ambient temperature of 55° to 65°F prior to setting. You can hold eggs for a week to 10 days before hatchability is decreased, but setting the eggs within three to five days after they are laid is best. If you purchase or build an incubator, it should be well ventilated, able to turn the eggs easily, made of good insulated material, and easily cleaned and disinfected. It should also maintain a temperature within 0.25°F and supply 60 percent relative humidity. Set only clean eggs at a temperature of 99.5° to 100°F for 23 to 25 days. Turn the eggs at least two times each day. Many producers mark small groups of eggs on one side to note when they have turned the eggs. For a larger number of eggs, you will need an automatic or manual egg turner. After the hatch is completed, remove the chicks and hatch residue, then thoroughly clean and disinfect the incubator.

The first two weeks are critical in assuring chicks get a good start, so advance planning is very important. Make sure all water troughs, feeders, and heat sources are working before the chicks hatch. Place the young chicks in a warm environment that has feed and water readily available. Since chicks are unable to regulate their temperature for the first 10 days, a properly managed heat source, such as electrical lights, heat lamps, propane heaters, or kerosene heaters, is necessary. Select the most efficient heat source to obtain the best results for your housing situation. Set the room temperature at approximately 88°F with a temperature of about 95°F right under the heat source. Make careful observations about the birds' behavior. Increase the temperature if you observe huddling or decrease the temperature if the birds seem to be driven away from the heat source. Gradually decrease the room temperature each day (5°F per week) until reaching approximately 70°F at four weeks of age.

You can effectively brood pheasants in colony cages, but be careful not to leave them in the cages too long or the quality of their feathering might be affected. Maintain the density of the cages at about 2 square feet per bird for the first 6 weeks, and then expand it to 10 to 15 square feet per bird for 6- to 12-week-old birds. Round all corners of the initial brooding area with cardboard or wire to prevent loss of birds from smothering. Chicks are very active and tend to crowd when a loud noise or other disturbance scares them. This can be fatal in commercial confinement situations, and rounding corners eliminates a place for the chicks to crowd.

The way you rear the birds will depend on which of the three marketing options you choose: hunting preserves, meat markets, or shooting preserves that sell excess birds to restaurants, processors, or others. For hunting preserves, which want smaller, faster-flying pheasants, move young chicks to flight pens that provide 10 to 15 square feet per bird. To shelter the birds from humans and protect them from predators, plant vegetation inside the pens, cover the tops with mesh, and bury chicken wire along the base of the sides. Most hunting preserves prefer to purchase the birds at 12 to 13 weeks of age.

If the birds are used for meat, move them to a confined facility with less light and controlled temperature. This will reduce bird activity and cannibalistic tendencies as well as improve feed conversion. Manage the controlled environment to ensure adequate ventilation and feed and water availability. Because these birds will be used for meat, anything that will damage the carcass quality will lower meat yield and the price received.

Selected strains that have been developed strictly for meat production include the jumbo ringneck and buff ringneck pheasants. These birds should have their beaks trimmed or have specks/bits applied to their beaks. Meat-type birds do not need flight pens for exercise. Until you sell them, keep the birds in a space with a wire floor, allowing 5 square feet per bird.

Disease Management

Because of the industry's limited size, few medications have been approved for use in pheasant production. Biosecurity and sanitation are necessary to prevent the outbreak of disease. Biosecurity involves isolating separate age-groups of birds, restricting all human access to the buildings, keeping the buildings clean, and properly disposing of dead birds. Isolate all birds entering the flock for one month prior to contact with other birds to prevent the introduction of disease organisms.

Sample Budgets

Included in this publication are two sample budgets that summarize the costs and returns of purchasing 200 birds and needed equipment, using existing buildings and equipment, and investing in a flight pen or brooder house. These sample budgets should help ensure that you include all costs and receipts in your calculations. Costs are often difficult to estimate in budget preparation because they are numerous and variable. Therefore, think of these budgets as an approximation, then make appropriate adjustments using the "Your estimate" column to reflect your specific situation. More information on the use of crop budgets can be found in *Agricultural Alternatives: Enterprise Budget Analysis*.

Sample Pheasant Budget (Flight Birds)

Birds purchased at one day old and sold at 20 weeks

Item	Quantity	Unit	Price	Total per flock	Your estimate
Receipts^a					
Roosters	80	birds	\$7.20	\$576.00	_____
Hens	80	birds	\$6.80	\$544.00	_____
<i>Total receipts</i>				\$1,120.00	_____
Variable costs					
Labor	120	hours	_____	_____	_____
Chicks	1	birds	\$0.90	\$180.00	_____
Feed	3,020	pounds	\$0.14	\$422.80	_____
Utilities				\$68.19	_____
Supplies and miscellaneous				\$77.08	_____
Marketing costs				\$60.78	_____
<i>Total variable costs</i>				\$808.85	_____
Fixed costs					
Buildings and equipment (10-year life) ^b			\$2,000.00	\$200.00	_____
Insurance and taxes				\$20.00	_____
<i>Total fixed costs</i>				\$220.00	_____
Total costs				\$1,028.85	_____
Returns					
Net returns over variable costs				\$311.15	_____
Net returns				\$91.15	_____

^a Birds are hatched in May and sold in September. If they are sold later in the season, expect an additional \$0.30 per bird per month. Average bird mortality is approximately 20 percent.

^b Buildings include closed-environment brooding facilities with 1.0 square foot per bird at \$6.50 per square foot and flight facilities of 25 feet by 250 feet with 20 square feet per bird stocking density. Equipment includes brooders, lights, feeders, and water troughs.

Initial resource requirements (flight birds)

- Land: 1 acre
- Labor: 120 hours
- Capital
 - Birds: 200 X \$0.90 = \$180
 - Buildings and equipment: \$2,000
- Equipment
 - Poultry feeders*
 - Poultry water troughs*
 - Brooder stoves
 - Coops for transportation
 - 250-foot flight pen

* For both chicks and mature birds

Sample Pheasant Budget (Meat Birds)

Birds purchased at one day old and sold at 20 weeks.

Item	Quantity	Unit	Price	Total per flock	Your estimate
Receipts ^a					
Pheasants	160	birds	\$7.25	\$1,160.00	_____
Total receipts				\$1,160.00	_____
Variable costs					
Labor	100	hours	_____	_____	_____
Chicks	200	birds	\$0.90	\$180.00	_____
Feed	3,200	pounds	\$0.14	\$448.00	_____
Utilities				\$64.94	_____
Supplies and miscellaneous				\$73.41	_____
Marketing costs				\$57.88	_____
Total variable costs				\$824.23	_____
Fixed costs					
Buildings and equipment (10 years) ^b			\$2,200.00	\$220.00	_____
Insurance and taxes				\$22.00	_____
Total fixed costs				\$242.00	_____
Total costs				\$1,066.23	_____
Returns					
Net returns over variable costs				\$335.77	_____
Net returns				\$93.77	_____

^a Birds are hatched in May and sold in September. If they are sold later in the season, expect an additional \$0.30 per bird per month. Average bird mortality is approximately 20 percent.

^b Buildings include closed-environment brooding facilities with 1.0 square foot per bird at \$6.50 per square foot and flight facilities of 25 feet by 250 feet with 20 square feet per bird stocking density. Equipment includes brooders, lights, feeders, and water troughs.

Initial resource requirements (meat birds)

- Land: 1 acre
- Labor: 100 hours
- Capital
 - Eggs: 200 X \$0.90 = \$180
 - Buildings and equipment: \$2,200
- Equipment
 - Poultry feeders*
 - Poultry water troughs*
 - Brooder stoves
 - Coops for transportation

* For both chicks and mature birds

For More Information

Periodicals

The Game Bird Bulletin
510 Union Street
P.O. Box 250
Millersburg, PA 17061

The Game Bird Gazette
Allen Publishing, LLC
P.O. Box 171227
Salt Lake City, UT 84117
www.gamebird.com/index.html

The Wildlife Harvest
Wildlife Harvest Publications, Inc.
P.O. Box 96
Goose Lake, IA 52750
www.wildlifeharvest.com

Associations

Pennsylvania Game Breeders Assn.
94 Hidden Hollow Road
Trout Run, PA 17771

Pennsylvania Game Commission
Bureau of Wildlife Management
Propagation Division
2001 Elmerton Ave.
Harrisburg, PA 17110
www.pgc.state.pa.us

Department of Poultry Science
The Pennsylvania State University
214 Henning Building
University Park, PA 16802
poultryextension.psu.edu

American Pheasant and Waterfowl Society
W2270 U.S. Highway 10
Granton, WI 54436

PennAg Industries
Northwoods Office Center, Suite 39
2215 Forest Hills Drive
Harrisburg, PA 17112-1009

North American Gamebird Assn.
P.O. Box 2105
Cayce-West Columbia, SC 29171
naga.org/

Web Sites

Game Breeders Conference
conferences.cas.psu.edu

Managing Game Birds
www.msue.msu.edu/msue/imp/modpo/e3920004.html

Safe Handling of Wild Game Birds
hgic.clemson.edu/factsheets/HGIC3515.htm

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