

A Small-Scale Agriculture Alternative: Poultry

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The low investment and small area required to raise a flock of domestic poultry makes this an ideal venture for the beginning small or part-time farmer. Domestic poultry can supplement family food supplies, and small specialized poultry producers can sell to several niche markets. For example, producers can consider selling organic meat and eggs, brown eggs, range-reared meat and eggs, live birds for ethnic markets, and birds for hobby, leisure, and purebred exhibition purposes. Most small specialty poultry enterprises raise chickens or waterfowl.

To ensure profitability, the small specialty poultry producer must do careful research on market opportunities. Successful producers for niche markets usually have unique products, good customer loyalty, limited competition, and the ability to maintain a profit margin when in competition with larger businesses.

Egg Production

Breed Selection

The best chicken breeds include commercial White Leghorn-type hybrids, which produce white-shelled eggs and are the most economical feed-to-eggs converters. Commercial production Reds (e.g., Rhode Island Reds, New Hampshire) or sex linked hybrids produce large, brown shelled eggs and are usually preferred for small range flocks. These birds have meaty carcasses and produce a good supply of eggs. The hybrids that lay brown eggs tend to be more docile than those that lay white eggs. All poultry breeds lay eggs, but they are not equally efficient.

Production Tips

To raise chicks, start the flock in late spring to reduce the cost of heating; however, buying started, ready-to-lay pullets is easier and more economical. Chicks should be brooded at 92-95° for the first week, followed by a reduction of 5 degrees per week until a steady 70° is reached.

Birds raised in a floor pen should have at least 2 square feet of space per adult bird. Windows or a fan will provide adequate ventilation to keep the pen dry. Keep 3 to 6 inches of litter on the floor and remove it as it becomes wet. Pine shavings provide the best litter for adult birds. To avoid leg problems, do not start chicks on slippery newspapers or pine shavings.

Feed a completely balanced ration. Void table scraps and whole grain, which dilute nutrient intake and decrease production. Use an 18- to 20-percent protein feed starter for the first 6 to 8 weeks, followed by a 14- to 15-percent protein grower or developer until 20 weeks of age. After 20 weeks, feed a 15- to 18-

percent protein layer ration, and feed grit and oyster shells in separate feeders.

Provide 3 inches of feeder space per adult bird. To minimize wasted feed, the lip of the feeder should be level with the birds' back height, and trough feeders should be kept less than half full. Waterers must provide at least 5 to 6 gallons daily for every 100 birds. Provide 1 inch of water space per bird. Clean waterers three or four times each week, and provide fresh water daily.

Laying birds require at least 14 to 16 hours of light each day for maximum year round production. Decreasing the light will stop egg production. Light must be added before sunrise and after sunset during the fall and winter, but be sure to provide several hours of darkness so the birds can roost. Use an inexpensive automatic timer to turn lights on and off. For each 40 square feet of pen space, install one 25-watt bulb at ceiling height above the food and water area.

For floor-reared layers, provide at least 6 inches of roost space per bird, using 2- by 2-inch wooden strips spaced 12 inches apart. Place roosts 24 inches above the floor and provide one 10- by 10-inch nest for every 4 or 5 hens. Nests should be 24 inches above the floor, away from the roosts. Keep nesting materials clean and dry. Collect eggs at least twice daily. Outside runs are not necessary; if used, they should provide 5 to 10 square feet of space per bird.

Meat Chicken Production

Breed Selection

The most efficient meat-producing chickens are the meat-type crosses (Rock-Cornish). Purebred poultry types most commonly raised for white meat are Cornish, Plymouth Rocks, and White Jersey Giants, but these breeds are less efficient than the crosses and take up to 14 weeks to develop a desirable carcass. There are niche markets for red-plumage birds and for the Silkie chicken, which has dark purple skin and is very popular in various ethnic live-bird markets.

Production Tips

Meat chickens can be raised much like laying chickens, except that wet and compacted liner is of even more concern with meat-type birds than with egg producers. These conditions cause breast blisters and leg weaknesses and give the carcasses an undesirable appearance. Never brood chicks on slippery surfaces. Pine shavings or straw are the best materials for giving meat birds the traction and leg support they need.

Feed a totally balanced ration. For fryers and broilers, use a starter mash or crumble pellets containing 20-23 percent protein. Roasters require a 20-percent protein starter for the first 6 weeks and can then be fed a 16-percent protein grower feed. At least 23 hours of light per day is recommended for meat birds. Use one 25-watt bulb per 100 square feet.

Do not use nests and roosts for meat type chickens. Roosting causes breast blisters, crooked keels,

bruises, and lameness in heavy meat birds. Meat-type birds make poor layers, so slaughter them before they reach egg production age. If you raise dual purpose birds, put nests in place after slaughtering the culls and males. Outside runs are not recommended for meat chickens unless you sell range-reared birds.

Slaughter 2- to 3-pound fryers at 3 to 4 weeks of age; 4- to 5-pound broilers at 7 to 9 weeks; and roasters at 12 to 14 weeks. Remember, as birds get older and larger, they become less efficient and eat more feed for each pound of weight gained. Because older birds produce more meat, allow them to come as close to the desired weight as possible before slaughter.

Waterfowl

Breed Selection

The best breed of waterfowl to raise depends on several factors, including the reason for raising them and the amount of space available.

Ducks are small and require less space than geese. However, they need a year round grain supplement and are more prone to predators. Geese require twice as much space as ducks, but do well on limited grain when they have plenty of grazing space. They are seldom bothered by predators.

Some waterfowl are raised for meat. They can be purchased from a commercial hatchery or local feed store. Duck breeds favored for meat production include Muscovy, Peking, and Commercial (Barnyard) Rouens. The most common geese raised for meat are Emden, African, and Pilgrim.

Chinese geese are commonly raised as weeder geese. Because of their loud, harsh call when startled, they are also used as "watch" or guard geese.

Waterfowl raised for pets or as a hobby can be selected from among 14 breeds of domestic ducks and 11 breeds of domestic geese, covering a variety of shapes, sizes, and colors. A variety of wild, exotic waterfowl are also raised in captivity; however, wild waterfowl usually require special facilities and attention and special permits.

Production Tips

Young waterfowl usually are available only from April through July, while adult birds can be purchased from breeders throughout the year.

Young waterfowl- Waterfowl can be started much like chickens, but some special precautions are necessary.

Do not brood waterfowl on slippery surfaces (like newspapers) -- this can cause spraddled legs. Paper towels, cloth, or burlap give the best traction.

Do not raise small breeds of waterfowl on mesh wire; their hocks (leg joints) may get stuck in the wire when they sit down. Mesh wire (approximately 3/8 inch) is acceptable for larger breeds.

Do not let young waterfowl swim or become excessively wet for the first 4 weeks. When wet, they chill easily, tend to crowd, and flip onto their backs, causing death.

Do not use litters that mold or compact when wet.

Do not use fine litter until the birds learn to distinguish it from feed. Excessive litter consumption causes death. Instead, use absorbent material like chopped peanut hulls, pine shavings, or straw. **Do not** feed medicated poultry feeds to young waterfowl; they may have adverse reactions to some poultry medications. Use starter mash formulated for waterfowl.

Feeding and watering

Crumble and pelleted feeds are usually best, because waterfowl waste feed, especially when it is ground into mash. During the first 3 weeks, feed a 22-percent protein starter ration; then change to a 16-percent protein grower feed. Avoid digestive problems by feeding some grit 1 week before allowing access to green fibrous plants. After 8 to 12 weeks of age, geese and ducks will eat very limited supplemental grain. Most breeders feed a mixture of about 40 percent corn and 60 percent oats until breeding season. Breeding waterfowl require only a 15-percent protein diet. Allow 6 linear inches of feeder space per bird and place feeders away from waterers.

Provide plenty of fresh water at all times. Water is essential for healthy growth. To keep the pen dry, place the lip of the waterer at the birds' back height. Adult birds require a waterer deep enough to get their head under water beyond their eyes. To ensure successful mating, especially in larger breeds, make water available for swimming. An old water heater tank cut in half works well.

Specialty Poultry

Many unique markets exist. Quail, pheasants, turkeys, and guinea fowl are raised for meat markets. Some birds are raised for exhibition. Mallard ducks, quail, and pheasant are raised for hunting preserves and for dog training. Markets are also available for racing pigeons, feathers for fly fishing, guinea hens for tick control, and pickled eggs.

Disease Prevention

Disease prevention--biosecurity--is an important aspect of any domestic poultry operation. Never allow poultry and other fowl to run loose. House them or keep them in a fenced area. Wild or tame waterfowl, cage or pet birds, ratites, and any other exotic birds should be on separate premises from chickens, turkeys, and game birds. If this is not possible, maintain them in separated, nonconnecting pens. It is important to raise all species separately to minimize disease. Wild waterfowl are reservoirs of avian influenza and other diseases; mixed-species poultry operations can serve as a catalyst for virus mutation

and increase the risk for disease outbreaks.

A feather or one speck of fecal matter can carry billions of infectious germs. Avoid unnecessary human traffic, and prevent contact with unsanitary crates, equipment, or vehicles. **Always** wear clean clothes and footwear each time you return to your poultry production area. Allow visitors only after they have put on properly sanitized footwear, clothing, and hats. Insist that all poultry buyers bring only clean, disinfected crates, equipment, and vehicles into your farm with no visible fecal material or feathers. Better yet, transfer your birds to buyers at another location and clean your hauling equipment before returning home.

Practice "all-in, all-out" when raising poultry. Get rid of the entire flock before replacements arrive. Wash and disinfect the poultry house and leave it empty for 2 weeks. Replace the flock with healthy chicks from a single source, and do not add any new stock until the next clean-out. Limit the number of age groups on your farm. When all-in, all-out is not possible, bring new stock onto your farm only by hatching fertile eggs you have purchased or by buying Pullorum-Typhoid Clean chicks. Even though they appear healthy, adult birds are often disease carriers.

Buy only adult birds that have been vaccinated against Marek's disease. All chickens, turkeys, game fowl, or waterfowl you buy should be officially classified as U.S. Pullorum-Typhoid Clean. Participate in avian influenza testing programs where available.

Other Information Sources

Contact your local Cooperative Extension Office or State University through local telephone directory listings. If possible, obtain a management guide from a breeder or hatchery.

Growing expertise, innovative technologies, and production supplies can be found through publications such as:

Chicken Tractor: The Entrepreneurs Guide to Happy Hens and Healthy Soil by Andy Lee (250 pages), from Good Earth Publications, P.O. Box 160, Columbus, NC 28722. Telephone 1-800-499-3201.

Chicken Health Handbook by Gail Damerow (344 pages), from Storey Communications, P.O. Box 445, Pownal, VT 05261. Telephone 1-800-441-5700.

Pastured Poultry Profits by Joel Salatin (340 pages), Polyface, Inc., Rural Route 1, P.O. Box 281, Swoope, VA 24479. Telephone 540- 885-3590.

Raising Poultry Successfully by Will Graves (186 pages), from Williamson Publishing, P.O. Box 185, Charlotte, VT 05455. Telephone 1-800-234-8791.

Good Neighbors. This free leaflet provides information on a health program for small and specialty poultry flocks. Contact T. Milton Nelson, Cooperative Extension Service, 0126 Symons Hall, College

Park. MD 20742. Telephone 301-405- 4596.

For general information on all aspects of poultry, contact: Lance Gegner, Appropriate Technology Transfer for Rural Areas (ATTRA), P. O. Box 3657, Fayetteville, AR 72702. Telephone 1-800-346-9140.

National Poultry Improvement Plan (NPIP) Directory of Hatcheries and Testing. To locate individual State contact sources, write to Andy Rhorer, USDA/APHIS. VS, Room 850 Federal Building, Hyattsville, MD 20782. Telephone 301-436-7768.

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