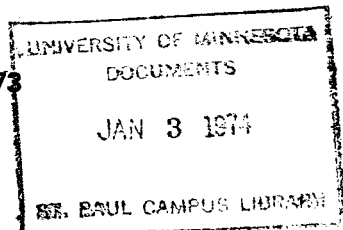


MN 2000 FSP 45



POULTRY NO. 45-1973

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Good layers develop from healthy well-bred chicks raised under good feeding and management programs. The chick needs a clean warm place to start its growth, together with fresh feed and water, clean air, and protection from predators. Some of the steps necessary for raising egg-type chicks for the small layer flock will be outlined. Buying the right type of chicks is important for the most economical production.

Flockowners should order sexed pullet chicks when purchasing egg production strains (see poultry fact sheet 46). Males are not needed in an egg production flock unless fertile eggs are wanted for hatching. They eat feed and take up space that could be used by the hens. There are commercial hatcheries and jobbers in most areas of the state able to provide good healthy chicks or pullets of the egg-laying strains.

It is best to delay sexual maturity of pullets to permit better body growth before they begin egg production. An increase in daylength encourages early sexual maturity of the pullet. Chicks hatched in April through August can be exposed to the natural daylength because the daylength is decreasing during the latter part of the growth period. These birds will respond favorably to increased light stimulation when they are physically ready to come into production. A small flockowner should consider starting chicks after April since less heat will be required to brood them.

Economic Considerations

You may be better off buying started pullets. Compare your costs to dealer prices. Figure the costs of raising a started pullet under your conditions. Multiply your chick cost by 1.1 to allow for some mortality and culling. Leghorn pullets will eat from 16 to 18 pounds per bird and heavy breeds 20 to 22 pounds from hatch to 20 weeks of age. Figure any equipment costs depreciated over a 10-year period and housing costs over a 20-year period if expenses are incurred. Estimate your expenses for litter, heat for brooding, lights, medication, and other miscellaneous production costs. Allow for any payments made for labor for caring for birds, cleaning out house, etc. Convert your figures to a per pullet basis for comparison.

Housing and Equipment

Housing requirements for brooding and rearing chicks and pullets can be quite minimal if done in the late spring and summer season. Almost any small building that meets the floor space requirements for the desired size flock can be used. A small number of chicks can even be brooded in a corner of a garage. After the brooding period, pullets can be reared in a fenced range or yard with only a covered shelter for protection from weather.

Brooding, feeding, and watering equipment can be purchased from local feed and farm supply outfits or mail-order houses. Much of the equipment can be home-built. Usually about three sizes of feed hoppers are recommended so that birds, as they are growing, can easily eat without wasting feed.

Rearing Chicks and Pullets for the Small Laying Flock

Hanging tube-type feeders that can be adjusted in height as the bird grows are becoming very popular. It is desirable to place a platform under waterers to avoid wet litter. Automatic waterers save labor even with small flocks.

The house and equipment should be thoroughly cleaned and disinfected before starting chicks. If chickens have been in the house previously, remove all the litter and wash the house and equipment with water under pressure. Scrub and scrape all organic matter from building and equipment surfaces. After cleaning, disinfect building and equipment, using an approved compound and following the product manufacturer's directions. Dry and air the building and then place 2 to 4 inches of wood shavings, straw or other litter material on the floor. Place a cardboard fence around the brooding area to confine the chicks to the heat source for the first week. Figure 1 shows one suggested arrangement of the brooding area.

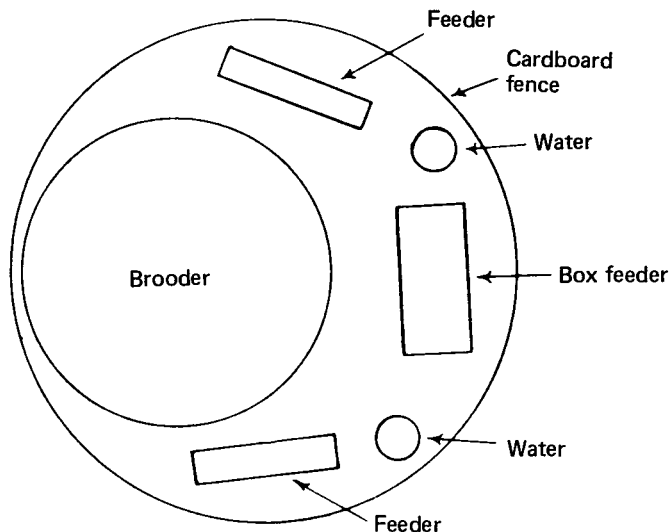


Figure 1. Diagram of brooding area

Brooding Methods

The chicks may be brooded by a number of methods. Broody hens of some of the heavier breeds or bantams may be used to hatch a setting of eggs; they usually make good mothers. A dozen to 15 chicks will be well cared for by the hen (8 to 10 for bantams) if hen and chicks are protected from predators. A small well-ventilated coop (2 X 3 feet) and a movable covered wire yard (6 X 12 feet) make a handy arrangement for rearing chicks in the backyard.

Electric brooders can be purchased for brooding small numbers of chicks. Most of the larger brooder units are fired with either oil or gas. Variations of a simple light bulb brooder can be made from figure 2. Change bulb size in this unit to adjust temperature.

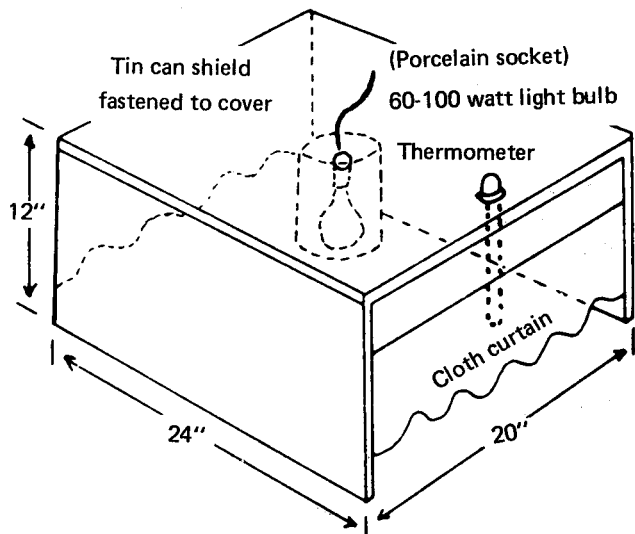


Figure 2. Brooder for 25-50 chicks

When using a brooder start the chicks at 90° to 95° F. measured 2 inches off the floor under the edge of the hover. Reduce the temperature 5° per week until supplemental heat is no longer needed. Watch the chicks as a guide to their comfort. If the chicks crowd together under the brooder, increase the heat. Lower the temperature if they tend to move away from the heat source. Allow 7 to 10 square inches of space under the brooder for each chick. Start the brooder the day before the chicks arrive and adjust to proper operating temperature.

Infrared lamps provide a convenient heat source for rearing chicks. Use porcelain sockets approved for these lamps and suspend the lamps with a chain or wire (not the electric cord) so they are no closer than 15 inches to the litter. If the average brooder house temperature is 50° F., one 250-watt infrared lamp is generally sufficient for heating 80 chicks. One chick can be added to this estimate for every degree over 50° F.; one chick should be subtracted for every degree below 50° F. The use of more than one lamp is recommended so chicks will not be without heat if a lamp burns out. Supply more heat by lowering the lamps to 15 inches above the litter or use more or higher wattage lamps. To reduce heat, turn off some lamps, use smaller lamps or raise the lamps to 24 inches above the litter. You are heating the chicks only and not the air so air temperature measurements cannot be used as a guide to chick comfort when using infrared lamps.

Space and Equipment Recommendations

Provide ½ square foot of brooder house space per chick from 1 day to 6 weeks of age. Allow 1½ to 2 square feet of floor space for Leghorn pullets and 2 to 2½ square feet for heavy breed pullets confined during the growing period.

Place feed on chick box lids or trays from cut down cardboard boxes for the first few days. Feed and water should be available to the chicks as soon as they arrive. Provide 1 lineal inch of feeding space per chick at the hoppers at the start and increase to about 2 inches after the chicks are 2 weeks old. After 8 weeks provide 3 to 4 inches of feeding space for growing pullets. A hanging tube-type feeder 15 inches in diameter can be used for feeding about 30 birds. Less feed is wasted by having hoppers only about half full and adjusting feeder height or size to bird size.

Provide a one-gallon water fountain per 50 chicks the first 2 weeks. Increase the number or size of waterers from 2 to 10 weeks to provide 40 inches of watering space per 100 birds or 1 gallon capacity per 15 chicks. After 10 weeks provide 1 inch of trough space or 1 gallon capacity per 10 birds if using fountains.

Roosts are advisable for pullets after 6 weeks of age. Use poles or 2-inch lumber with top edges rounded, placed 12 to 15 inches apart. The roosting rack can be on a slant, from floor level to about 24 inches high at the rear, or can be on a screened platform over a droppings pit. Allow 6 lineal inches of roosting space for pullets.

Feeding

For the small flockowner a complete feed obtained from your local feed dealer is most convenient. Farms that have adequate mixing facilities for the other livestock operations can use local grains mixed with the appropriate commercial concentrate. Follow the directions provided by your feed supplier. A starter mash is generally fed for the first 6 to 8 weeks. Pullets should then be placed on a growing mash to about 20 weeks. The feeding program can then be gradually changed to a laying mash for the egg production period.

Pullets having access to yard or range will supplement their diet with some green feed. If whole grain or grass is fed, chicks and pullets should have some grit available. Access to grit one day a week is sufficient; continuous feeding is not necessary.

Health and Sanitation Practices

Isolation from other birds is a first rule in preventing disease. Restrict unnecessary traffic of people and pets into the poultry house. If different ages of chickens are present on the farm, physically separate the flocks as much as possible and care for the younger birds first. Disease and parasite control will be easier if birds are kept confined. Rotate yard and range areas so that birds are not on the same ground year after year. Keep the premises free of rodents and screen free-flying birds from the poultry house. Obtain chicks or pullets that are from Pullorum-typhoid clean stock. A vaccination program for Newcastle disease and bronchitis is desirable, particularly if there are other poultry flocks in the area. Your hatchery may offer chicks that have been vaccinated for Marek's disease. Good sanitation and a low level coccidiostat drug in the feed during the brooding and growing period can usually prevent coccidiosis. Examine birds occasionally for lice and mites. A local veterinarian, county extension agent, or a commercial field serviceman can assist with flock health and other management problems or direct you to a source of competent help.

Clean waterers daily and periodically wash with a sanitizing solution. Maintain litter in good condition and remove caked and wet spots. Add additional litter as necessary. Adjust ventilation to avoid moisture and ammonia build-up in the house.

Cannibalism often occurs in growing and laying flocks and is difficult to control once it has started. Various factors contribute to cannibalism including crowding, nutrient deficiencies, inadequate ventilation, too little drinking and eating space, too much light, idleness, and the appearance of blood on injured birds. Good management can frequently control many of the contributing factors that lead to cannibalism. In small flocks a pick-paste remedy can be used with success in many instances if the problem has not gotten out of hand. A more permanent solution is debeaking or the use of anti-pick devices of various designs. Chickens can be debeaked at any age although the most frequent time is during the first week or between 16 to 20 weeks of age.