

KEYS

L-1825

TO PROFITABLE PRODUCTION

KEYS TO PROFITABLE MANAGEMENT OF BROILER BREEDERS

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Management is the key to success with broiler breeder flocks. Correct management practices, if carefully followed, will enable the hatching egg producer to obtain the performance capability bred into the broiler breeder flock. A little extra effort in flock management will pay high dividends. Good broiler breeder management is not complicated, but does require attention to the flock's needs as well as proper decision making at every step.

Floor Space

In houses with partially-slatted floors (for example, two-thirds slats and one-third litter), breeders should have at least 2.50 square feet of floor space per bird. Less space can create problems.

Ration Fortification

Two of the most important nutritional factors affecting fertility and hatchability in breeder birds are the vitamin and trace mineral contents of the feed. The following amounts of vitamins and minerals should be adequate for maximum fertility and hatchability when added to the finished feed.

Recommended Levels per Ton of Finished Feed

Vitamin Levels

Vitamin A	12,000,000 I.U.
Vitamin D ₃	3,000,000 I.C.U.
Vitamin E	15,000 I.U.
Vitamin K	2.00 g
Thiamin	1.00 g
Riboflavin	4.00 g
Pantothenic acid	6.00 g
Niacin	25.00 g
Choline	454.00 g
Folic acid	500.00 g
Vitamin B ₁₂	18.00 mg
Biotin	100.00 mg

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Trace Mineral Levels

Manganese	65.00 g
Zinc	80.00 g
Iron	60.00 g
Copper	5.00 g
Iodine	0.80 g
Selenium	0.15 g

Feeding

Feeder space should be sufficient to permit all birds to eat at the same time. A minimum of 4 linear inches of trough space per bird is required (measure each side of the trough separately); however, 6 linear inches is recommended. If pan feeders are used, at least fifty 14- to 16-inch diameter feeders should be provided per 1,000 breeders.

Chain-drive trough feeders equipped with a high-speed drive unit (40 to 60 feet per minute chain speed) are most popular for breeder flocks. The feeder chain should make a complete cycle within 10 minutes and should run until the allotted feed is consumed. However, with some types of feeders feed build-up is rapid, and feed waste can result if the chain runs continuously. In such cases, the feeder clock should be set for intermittent feeding. When the feeder cycle is greater than 10 minutes, more rapid feed delivery can be accomplished by: (1) placing supplemental hoppers at strategic locations along the feed trough; or (2) installing a faster transmission to speed up the feed drag chain.

Young flocks usually are placed on the breeder feeding program 1 week after the first egg or at 5 percent egg production. Body weights should be monitored closely until peak production is attained. After the flock peaks, body weights should be checked periodically and feed consumption adjusted according to breeder recommendations. Criteria involved in determining daily feed allowance includes egg production, flock health, mortality, environmental temperature and feed quality. Birds should generally receive the exact quantity of feed that the feeding

program calls for. Adjustments should be in accordance with breeder recommendations. Mortality and egg production may be affected if hens are allowed to become overweight.

Watering

Many types of waterers are in use, and recommendations vary with the type. If water troughs are used, approximately 1 linear inch per breeder or a minimum of 80 linear feet per 1,000 birds should be provided. Four to five 8-foot waterers or seven to ten large, round, plastic waterers are used per 1,000 birds. With cup waterers, one cup should be available for every 30 to 40 birds. With any system, supplemental waterers should be available in hot weather. The birds should be within 10 to 15 feet of water at any point in the house. A long walk to the waterers will cause birds to drink less and can lead to poorer health and lower production.

Nests

Better utilization of nesting space and cleaner eggs can be achieved with individual rather than community nests. For every 1,000 pullets housed, from 200 to 300 individual nest holes, 12 inches square and 12 inches high, should be provided. Recommended height of lower perches above the litter ranges from 15 to 27 inches. Placing nests too high or too low can encourage floor laying. Initially it may be necessary to stand some nests on the floor to reduce the incidence of floor eggs. As soon as possible, however, the nests should be suspended above the litter. In houses with part slats, two-tier, 10- to 12-hole nests can be placed so that one end rests on the slatted area and the other extends out over the litter. Nesting material should be added frequently. Nests with broken eggs should be cleaned and fresh litter added to minimize egg contamination. Nests should be opened before 6:00 a.m. and closed after the last gathering of eggs in the afternoon.

Lighting

A light intensity of 1 footcandle at bird height is recommended for breeders. Bulbs should be located 7 to 8 feet above the floor and equipped with reflectors. Use the minimum bulb size necessary — usually 40 watt incandescent bulbs. Higher wattage bulbs use more electricity and must be replaced oftener. During the laying period, egg production may be impaired if light intensity is reduced. Bulbs must be kept clean and defective ones replaced promptly. Lights should be used on dark, overcast days. Photoelectric sensors are inexpensive and can be used to automatically turn on lights on cloudy days.

The light management program for breeders varies according to strain (primary breeder's recommendation), season of hatch and light schedule used during rearing. The light period should not be reduced after birds reach 20 weeks of age, and never

during production. Time clocks should be checked daily to insure they are functioning properly. Both morning and evening lights should be used to avoid constant adjustment caused by changing day length. When increasing the light in hot weather, make the change for the cooler, predawn hours. Conversely, during cold weather, increase the light during the warmer evening hours.

Bird Comfort

Adequate ventilation is extremely important. Fans should come on when the in-house temperature reaches 80° F. An overhead fogging system, with thermostatically-controlled solenoid valves preset for 85° to 90° F, can be used to keep the birds comfortable in extremely hot weather. Fogging nozzles should be placed in front of fans. Leaks and drippy nozzles can cause litter problems. Properly engineered evaporative cooling systems can be a real asset in reducing mortality, production and fertility problems in hot weather. Adequate roof or ceiling insulation is a must to minimize heat stress in summer and conserve feed in winter.

Males

Nine to 11 strong, healthy males should be used per 100 females. An excess of males increases combat and competition and can result in decreased fertility. Males should be housed 1 or 2 days before females when sex-separate brooding and rearing is practiced.

Egg Handling

Eggs should be gathered at least four times daily. When the temperature is above 80° or below 30° F, eggs should be gathered five times a day. Minimize the number of times each egg is handled. Pick up floor eggs several times a day and fill in holes where these eggs were laid. Floor eggs should be kept separate from nest eggs. They are the most likely to "blow up" in the incubator because of high bacterial and mold contamination. Wash hands between gatherings and immediately after gathering floor eggs. Pack only nest-clean eggs, with small ends down. Fumigate following recommended procedures to reduce the number of organisms on egg shells, flats and carriers. Eggs should be stored at 60° to 80° F and 75 to 85 percent relative humidity. Mold growth may become a problem with high humidity, so a frequent (in some cases weekly) scrubbing of walls and floors in the egg holding room with a suitable detergent and disinfectant may be necessary.

General Management

Keep complete and accurate daily records of feed consumption, egg production, mortality, vaccinations, unusual flock symptoms and all medication and treatments. Follow recommended vaccination and disease-monitoring programs. Dead birds should be promptly removed and properly disposed of.

Pest Control

A comprehensive rodent extermination program should be carried out immediately after a flock is sold. During the production period, a continuing rodent control program should be followed. Be especially watchful for increases in mice and/or rat populations as manure builds up under the slats. Zinc phosphide, incorporated at a level of 1 percent by weight in chicken feed and placed under the slats, is usually an effective control measure. A few pelleted baits have also proven effective in Extension-industry field tests. Caution should be exercised in the use of rodent baits since most are highly toxic to all forms of animal life. Baits should be applied only by or under the supervision of a person holding a certified pesticide applicator license.

Flies can be a problem in slat floor houses. Water leaks must be kept to a minimum. Wet spots beneath slats should be limed and litter added to kill larvae and absorb moisture. Nightly fogging with an approved contact insecticide may be necessary. Weekly treatment of wet spots beneath slats with an approved larvicide also may be needed at times.

Control of mite infestations can be a real problem. Infestations can be prevented by housing clean stock, using sanitized coops and trailers, thoroughly treating housing and eradicating rodents and sparrows.

Extension publications L-867 *Fly Control in Poultry Houses*, L-1351 *Rodent Control on Poultry Farms* and B-1306 *Suggestions for Controlling External Parasites of Livestock and Poultry* provide more detailed instructions on pest control. All are available from county Extension offices.

