

Oregon Agricultural College Extension Service

PAUL V. MARIS

Director

Cooperative Extension Work in Agriculture and Home Economics
Oregon State Agricultural College and United States Department of Agriculture, Cooperating
Printed and distributed in furtherance of the Acts of Congress of
May 8 and June 30, 1914

Feeding and Management of Chicks

By

H. E. COSBY,

Extension Specialist in Poultry Husbandry.

The practice of buying and selling day-old chicks has developed into a business of great magnitude. A majority of poultry keepers derive their income from the sale of commercial eggs and meat. Poultry breeding and incubation of eggs involve different scientific practices from those of commercial poultry farming. The baby chick industry has grown because the farm flock and commercial farm owners have found it more economical to purchase chicks than to attempt to be successful in all the phases necessary to produce them.

Poultry keeping is profitable when the owner is successful in rearing well matured, healthy and vigorous laying stock. Many poultry farms fail because through mismanagement they fail to bring the pullets to a healthy maturity. The buyer is vitally interested in the quality of chicks purchased and in following a dependable system of management. The seller is likewise interested in the success of his product on the farm of the buyer; it is the safeguard of his business.

Probably no farm animal is subjected to so many systems of feeding and management as the chicken. Most of these systems are based on mere opinions. This bulletin has been prepared in the effort to provide a definite system of management based upon years of practical application and to promote a better understanding between buyer and seller.

Factors influencing vigor of chicks. Strong, livable chicks will not be produced from breeding stock that is immature, under-nourished, over fat, of low vitality, forced for high egg production, or subjected to a long period of confinement away from direct sunlight. Breeding stock should have access to outside range in direct sunlight a month before eggs are saved for incubation.

Strong, fertile eggs are necessary in hatching strong, vigorous chicks. Eggs for hatching should be kept in a temperature between 50° and 60° F. Frequently stale eggs will hatch, but it is not advisable to use eggs for hatching that are older than ten days. The breeding pen should be mated three weeks or longer before eggs are to be incubated. During the active breeding season the males should be given extra feed. The breeding flock should consume slightly more grain than high protein mash during the breeding season. Succulent, leafy green should be fed liberally to the breeding flock.

The buyer has a legitimate right to expect each chick purchased to be hatched from a two-ounce egg and of a color characteristic of the breed.

Chief causes of chick losses. A normal loss of 5 to 10 percent of the chicks during the first eight weeks is to be expected.

The seller is at fault when an excessive loss occurs due to poor quality breeding stock, forcing breeders under confinement for high production, improper care of eggs, improper incubation, or exposure of chicks prior to shipment.

Public carriers and receiving agencies are at fault when shipments are delayed or unduly exposed to excessive heat, cold, or drafts.

The buyer is at fault for excessive losses incurred as a result of improper brooding, poor equipment, unsanitary quarters, neglect, improper feeding, crowding, or contaminated soil.

Vigor is the foundation of the poultry business. Giving "dope" to weakly chicks is wasted effort. Neither sentiment nor cost of chicks should prevent the owner from killing weak, deformed, or diseased chicks.

The soil contamination factor. One of the greatest contributing factors in undermining the efforts to rear healthy pullets is soil contamination. Growing chicks are susceptible to coccidiosis and intestinal parasites when brooded on the same soil year after year, or when a large number of them are compelled to remain too long on new soil of small area. To ignore this fundamental principle of brooding chicks will in time result in heavy losses and perhaps failure.

Types of brooder houses. There are two types of brooder houses in general use; namely, the portable and the stationary. Each type has been developed with the objective in view of providing disease-free soil for each brood of chicks.

The soil problem is simplified by using the portable brooder house. It is built on runners and can be moved each year to a new soil location.

The stationary house is necessary on hill or logged-off land, and where a greater number of chicks is to be brooded, with a special type of brooder, than would be practicable with the smaller portable type. Soil contamination accumulates from year to year. The future security of the poultry business on farms using the stationary type of brooder house depends upon the ability of the farmer to offset the accumulating dangers.

The stationary brooder house should be so located on a given area that two or more runs are available, one yard being used once each year in its logical rotation. If it is impossible to provide but one yard a part of the used soil should be removed and new soil or sand added every year. In extreme cases the one brooder yard should be concreted and covered with fresh sand for each brood of chicks.

Range houses. Either type of brooder house is designed to be used only until the young pullets are fully feathered and no longer need artificial heat. At the age of about ten weeks they should be removed from the brooder house and soil upon which they ran during the brooding period, and allowed to roost in well ventilated houses on free range. This principle of management is fundamental, as it reduces the dangers of brooder soil diseases and prevents crowded conditions in the brooder house.

Preparation for chicks. The brooder house should be thoroughly disinfected and cleaned several days before the chicks are expected. The

brooder should be cleaned and the regulating device carefully tested. The brooder should be operated two or three days to be certain that it is dependable and to dry thoroughly the house and the new sand on the floor.

The brooder house floor should be covered with a layer of sand from one-half to one inch deep. Cut straw or alfalfa litter may be scattered over the roosting area if desired. For the first day or two it is advisable to form a circle a short distance from the outer edge of the hover, using one-foot fine mesh chicken wire.

Chicks should not be chilled or overheated when they are held in the chick boxes before placing them under the brooder. It is usually best to transfer the chicks to the brooder at night. Do not put chicks under any brooder until confident that the brooder is working accurately.

Basic feeding principles. Just before the chick is hatched the yolk of the egg is taken into the body, supplying the natural food for the first few days. For this reason, the chicks should not be overfed during the first week.

The chick develops rapidly and in a few months is mature. Mistakes made in feeding during the growing period can never be corrected after the fowl has reached mature age. An excess of one class of feeds does not offset any deficiency of another class. Therefore, a cull fowl may be made of any chick not intelligently fed and managed, regardless of its early potential possibilities.

Any successful method of feeding is based upon supplying in a proper balance the following classes of feeds:

- A. Cracked grains termed "chick scratch" and a combination of ground grains termed "chick mash."
- B. Animal protein, in the form of milk, eggs, insects, or commercial meat feeds.
- C. Mineral matter to supplement the basal ration in the form of pearl grits, oyster shell, bone-meal and charcoal.
- D. Abundance of leafy, succulent green feed.
- E. Water or milk.

Vitamins. Vitamins have been found necessary to growth, body maintenance, and reproduction. They are known to exist by their effects. Under normal feeding, abundance of green feed, free range, and direct sunlight they may be more or less ignored, but conditions may arise during the growing period where the ration should be supplemented with food elements rich in content of the desired vitamin. For reference the vitamins are classified and explained as follows:

Vitamin A is essential to growth. This vitamin is found abundantly in such substances as butter-fat, whole milk, egg yolk, cod-liver oil, alfalfa, clover, tomatoes, and yellow corn.

Vitamin B is also necessary to growth and is the special factor in preventing polyneuritis and inflammation or paralysis of the nerves. Sources of this vitamin include milk, alfalfa, cabbage, tomatoes, wheat, corn, oats, barley, and the by-products of these grains which carry the germ of the seed, such as middlings, and corn-meal sifted from cracked corn.

Vitamin C is a protection of mammals against scurvy. It is not known what relation, if any, this vitamin has in poultry feeding.

Vitamin D is necessary in that it prevents leg weakness or rickets. Butter-fat, egg yolk, and cod-liver oil are rich sources of this vitamin. This vitamin aids in the assimilation of the calcium and phosphorus. Exposure of the chicks to direct sunlight will supply the equivalent effect in preventing rickets.

FEEDING AND MANAGEMENT SCHEDULE

DO NOT OVER-FEED FIRST WEEK—FEED SMALL AMOUNTS FREQUENTLY—DO NOT OVER-FEED FIRST WEEK				
Age	Grain	Mash	Drink	Other necessary factors
Until 48 hours old	None.	None.	Optional.	Small drink of milk may be given.
First seven days.	Commercial chick feed or home mixture of 3 lbs. cracked wheat, 3 lbs. cracked yellow corn, 3 lbs. steel-cut oats, 1 lb. fine pearl grits. 5 times daily (10 minutes).	No mash necessary in this schedule first week.	Sour milk, butter-milk, semi-solid or powdered. No water until chicks are 4 weeks old.	Provide pearl grits and charcoal. Feed chicks on clean boards, box lids, or paper first two days. Keep brooder hot enough so chicks will not crowd under hover. Add cut litter on second or third day and compel chicks to scratch for all grain. Get chicks outside after fourth day. Feed abundance of green feed. Kill low vitality chicks. Clean litter reduces dangers of coccidiosis. BROOD CHICKS ON CLEAN, DISEASE-FREE SOIL.
Second, third and fourth weeks.	Chick feed 3 times daily in clean litter. (Feed all they clean up at night feed.)	Commercial chick mash or home mixture, equal parts bran, ground yellow corn and shorts. Feed in hoppers about 1 hr. in mid-forenoon and 1 hr. in mid-afternoon.	Milk. No water. Keep vessels sanitary.	Keep mash hoppers sanitary and brooder house floor clean. Increase depth of litter and compel exercise. Feed all the green feed the chicks will eat. Cull out low vitality chicks. Provide pearl grits or chick size oyster shell during growing period. Construct open-air range house for use on range.
Fifth to twelfth week.	Gradually change to coarser scratch feed. 3 times daily.	Keep dry mash in hoppers before chicks 4 hours daily, divided between forenoon and afternoon.	Provide both milk and fresh water.	Add 10 percent sifted meat scrap and 3 percent bone-meal to home-made mash, if milk is discontinued or fed in limited amount. Commercial developing mashes do not need these additions. Separate all cockerels by eighth week. Move all pullets out on free range not later than tenth week. Feed green feed. Move range house occasionally during growing season.
To maturity.	Coarse scratch feed. 2 times daily.	Keep dry mash in hoppers before pullets on range (10 a.m. to 2 p.m.).	Amount of milk fed, if any, depends upon insect life on range, meat food in mash, and succulent green feed.	Leghorn pullets should come into flock production at six months of age rather than earlier. Growing pullets need grain, mineral matter, animal protein, green feed, and water. Holding pullets back by withholding food elements they actually require is poor management. Too much milk, meat scrap, bugs, and worms will force early sexual maturity. Meat food should be regulated but not eliminated. Pullets should be housed just before they start laying and fed to store up reserve body fat before heavy production.

Free reference obtainable from Oregon State Agricultural College, Corvallis, Oregon:—Agricultural Experiment Station Circular No. 66, The Portable Brooder House; No. 54, Open Air Range House; No. 51, O. A. C. 400-Hen Laying House.