

YOUNG BIRDS NEED CAREFUL CARE IN SUMMER

PROPER BROODING, CORRECT TEMPERATURE OF HOUSES AND RIGHT FOOD.

By Prof. H. R. Lewis.

New Jersey State Experiment Station, (Copyright.)

Raising young chicks is not unlike the raising of other animals. They require protection, eternal watchfulness and special attention to the kind and quantity of food to give them. They need wide range, lots of green stuff, shade, ventilated houses and exercise. It will pay you to see that they get what nature demands.

The object of caring for the young, growing birds during the summer months is to induce a uniform and continuous growth and development from hatching time to maturity. The early care necessitates proper brooding, which means a correct temperature and careful feeding. If chilling is prevented and they are kept from crowding in the brooder a greater percentage of the birds hatched can be brought to the weaning age, which is usually from eight to ten weeks, in good condition. After this time they should be put out on the range, in fresh air houses, and every effort made to induce a continuous, uniform development.

Free Range Is Best.

It is rarely profitable to attempt to rear many young chicks in close confinement, with bare yards, without green food, and an absence of shade. Where it is possible to give them an extended range and green sward abounds they can get plenty of grubs and insects, and can take plenty of exercise, which is conducive to health. The more range they have, the easier it is to keep the yard and soil green and free from contamination.

Green Food Necessary.

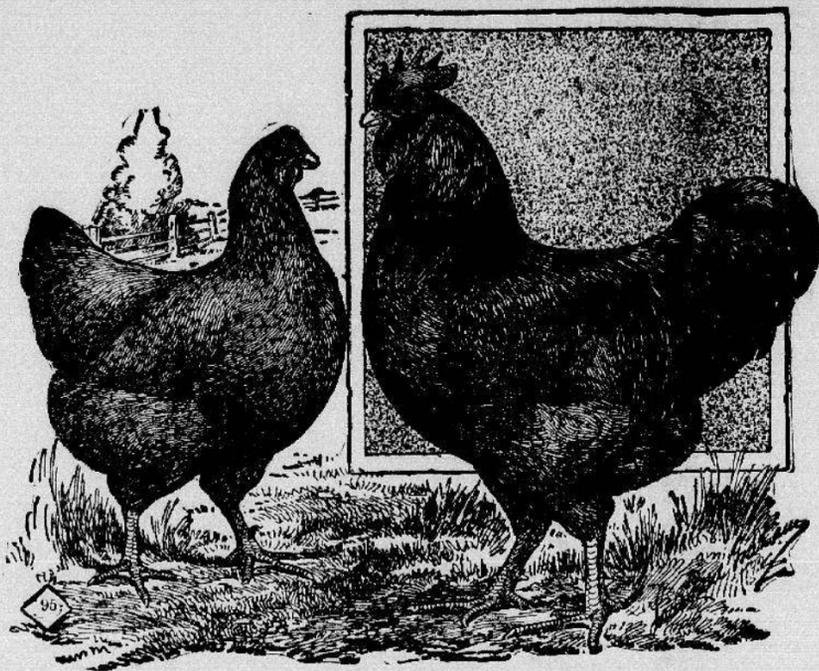
Plenty of green succulent food is necessary during the warm summer months. With free range this is usually supplied. Where small yards are used, and it is impossible to keep grass growing continuously, it is the best practice to divide the yard available, regardless of size, into two yards, alternating the growing of green crops in these yards. Peas and oats are a good early crop. This can be followed by buckwheat. This in turn by soy beans and in the fall rice, vetch and crimson clover can be planted with an idea of providing green food early the next spring. A permanent alfalfa soil sward makes the best green food, for, in addition to its succulence, it carries a high nitrogen content.

Provide Plenty of Shade.

Shade is necessary to provide a place where the birds can get away from the direct rays of the sun, thus inducing a better growth and preventing sun burning and slow feathering. Natural shade is by far the best, wild forest growth or cultivated orchards making ideal shade. In the absence of trees or shrubs, the planting of corn, sun flowers and castor beans, or some fresh quick-growing, leafy plant is desirable. There is probably no better place to rear pullets than the corn field. Artificial shade may be constructed by stretching cheese cloth or burlap over a frame, or by making an elevated platform covered by boards.

The Summer Shelter.

The house in which the chicks are sheltered during the summer months has a very marked effect upon the rate and certainty of the growth. The house for the summer flock is used primarily as a place in which to roost at night, protected not only from the rain and damp cold nights which often come at some time during the summer, but also from the various enemies, such as rats, weasels, dogs, etc. One of the reasons that young birds grow so rapidly when allowed free range is that they are continuously supplied with an abundance of fresh air, a very essential and important requirement of growing life of all kinds. It is of prime importance



SINGLE-COMB RHODE ISLAND REDS.

"S. C." Rhode Island Reds

This breed of poultry was originated more than 50 years ago by the practical breeders in the Little Compton district in Rhode Island. It is today one of the famous American breeds. After years of practical use, some fanciers bred them for exhibition in the '80s, and in 1892 they were shown in Philadelphia as Golden Buffs. One class of breeders took up the breed and developed from them the modern Buff Plymouth Rocks and Buff Wyandottes, while others still further developed them into the Rhode Island Reds, all having as antecedents the Leghorns, Malays, etc., crossed on cockle and Brahma hens. Other crosses were made with Brown Leghorns and Indian Games, until the resulting red birds of Rhode Island became more famous than the Jersey Blues or the Bucks County fowl of Pennsylvania, which really, compar-

tively, were of the same origin as the Rhode Island Reds. Like all the American breeds of poultry, Rhode Island Reds were originated with perfection of utility value as the uppermost thought. They lay big brown eggs, and many flocks and individuals have made high egg records for a year's work. The chicks when hatched are strong and vigorous. They are hardy and develop rapidly, being one of our best varieties for the producing of broilers. They make consistent rapid growth and when full grown weigh: Males 7 1/2 to 8 1/2 pounds; females 5 to 6 1/2 pounds. Many specimens exceed these weights. The pullets mature early and lay well. This breed is one of the very best for the small back yard poultryman. The hens can be depended upon to produce plenty of eggs at all seasons, and the chicks will furnish toothsome meals at any age, from broiler size until full grown.

to construct houses for summer flocks with a view toward getting a maximum amount of fresh air. This can be obtained only by building a house planned so that there will be abundant ventilation and circulation of fresh air during the night. Another quality, other than abundant ventilation, which a summer colony house should have is roominess. Of course, it is hardly necessary to allow as much room in a house of this kind as we would in a winter laying house in which the birds would be confined the greater part of the time, but enough room to allow each bird room enough to rest without being crowded is essential. Where chickens are being raised in rather large numbers, the colony system of rearing has proven to be very efficient. By this system we mean allowing one house to from 50 to 75 birds, and keeping them in smaller flocks rather than allowing several hundred to run together and roost together in one large summer house. The colony house is made portable so that it may be moved from place to place as it may be desirable to do in order to make use of the most economical range or keep on hand a constant supply of green food.

New Jersey Summer Colony House.

For ordinary purposes, a summer colony house measuring eight feet in length and six feet in depth has been found to be a convenient size. This house should be constructed with a shed roof, as this is the most economical and serviceable style of roof to use at least for a small house of this kind. In height the house should be about six feet in the front and four feet in the rear. The measurement giving a desirable slope for this size of building. In constructing a house

of this type the fresh air proposition should always be kept in mind, and the doors and windows set in with the purpose of supplying it, and at the same time economizing as far as practical on lumber and other materials used. In the house referred to above, the door is in the center of the front and is a sliding window. This means that the front of the house is practically open and a constant source of fresh air yet capable of being a protection during chilly rain storms. The lower halves of each side are made like doors, to open toward the top, and to be kept open except in bad weather. Under these side doors, each mesh chicken wire should be stretched. A house built like this will afford as much fresh air as the out of doors world and still furnish an excellent protection in bad weather and protection against rats and other enemies. The floors should be wood or cement and not be used in portable houses. These colony houses are built on either 4x4 or 4x6 sills, used as runners in moving the houses. This raises them up several inches from the ground and does not afford a place for the rats to build their nests. The lumber and other materials needed for the construction of this house are given below.

Lumber and Materials.

- 215 square feet yellow pine, tongued and grooved 8-inch boards, 10 feet long.
- 12 2x4 hemlock, 10 feet long.
- 2 2x4 hemlock, 10 feet long.
- 1 2x2 hemlock, 12 feet long.
- 2 1x3 white pine, 10 feet long.
- 1 2x2 hemlock, 10 feet long.
- 80 square feet roofing paper.
- 2 pairs 3-inch hinges.
- 3 pairs 4-inch hinges.
- 1 door latch.
- 2 yards muslin.
- 20 feet 1-inch wire mesh, 2 feet wide.
- 5 pounds 8-penny nails.
- 1 box locks.
- 1 pound ordinary staples.
- Approximate cost of material, \$12.65.

Food of the Right Kind.

The feeding of growing stock on the range is comparatively simple. The chick at this time should be growing continuously, its muscles and organs increasing rapidly in size and its metabolism enlarging daily. In order that this change may take place it is necessary that the chick be supplied with the kind of food that can be used in this development. In other words, the growing chick, like the growing calf or pig, must have a ration which is relatively high in protein and ash material. The protein food is that which will be built up into the muscles, or the meat of the chicken, and the ash

material is that which will go to form the skeleton or bony framework. In developing the future layer it is necessary that her body be properly built up into the machine which is in the future to use a large amount of raw material and transform it into eggs. Along with the protein and ash material must be a liberal amount of carbohydrates and fat food to satisfy the other demands of the chick's body. This means that the growing chick, like the laying hen, must receive a balanced ration. This is not only for the purpose of furnishing what the chick most needs, but doing it in the most economical way. The best practice is to keep a well-balanced dry mash before them all the time and supplementing this with a cracked grain ration. Throughout the growing period of chicks there is probably no food of greater value than wheat bran. This feed is high in protein and in ash content, furnishing them the two food elements that are most needed for the growing chick. A well-balanced mash can be made as follows:

Wheat bran	50
Ground oats	10
Gluten meal	10
Corn meal	10
Alfalfa meal	10
Meat scrap	5
Bone meal	5

Dry mash for growing stock on range, 100 pounds. This dry mash can be fed most easily and economically in large covered dry mash hoppers which will be open to the birds at all times. In the morning and evening grain rations of medium cracked corn and whole wheat will be found to be valuable supplementary foods. Using a system of this kind in feeding will give the smaller and weaker chicks an equal chance with the larger and stronger chicks, which with grain ration alone, would get the greater part of the food given the flock. This system involves a little work that it adds to the possible profits. The effort throughout the growing season should be to protect the birds from natural enemies, to watch their development and maintain a quick growth and health they should be gotten into their laying houses fairly early in the fall, usually by the latter part of September, so that their exact maturity can be more closely watched and so that they can get accustomed to their quarters.

CARUSO PAYS "BABY" \$3,000 HEART BALM



ENRICO CARUSO.

Enrico Caruso has settled that \$100,000 breach of promise suit brought by Mrs. Mildred Moffert, an actress. All these dear "Baby" letters and postcards by which it was said Mrs. Moffert hoped to prove her claim against the tenor have been returned to him. And he has paid her \$3,000, a sum about equal to his earnings of a single night. Mrs. Moffert, a handsome woman of perhaps 29 years, living at No. 741 Fifth avenue, New York, said in her suit that the grand opera singer had promised to marry in 1909, but after "stringing her along" for several years, had jilted her. Mrs. Moffert said she had received dozens of burning love letters from Sig. Caruso. Her attorney asserted they would be produced at the trial. A blither, half-ack feeding, loss of energy and constipated bowels can be relieved with surprising promptness by using HERBINE. The first dose brings improvement, a few doses put the system in fine, vigorous condition. Price 50c. Sold by Garden City Drug Co. Adv.

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Dates of sale—Daily, June 1 to September 15, 1914, inclusive. Final return limit October 31, 1914. Final return limit on tickets to Pacific Railway and Navigation Co., beach resorts, September 30, 1914.

Twin Cities, Duluth, Superior, Kansas City, Omaha	\$49.80
Milwaukee	\$62.80
Chicago	\$65.80
St. Louis	\$61.00
Denver, Colorado Springs & Pueblo	\$42.30
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N. H. MASON,
Agent, Missoula, Mont.

ADVICE OF EXPERT ON MAKING ROADS

(Continued From Page Seven.)

On broken stone road, ordinary condition	.119
On broken stone road, covered with mud	.143
On broken stone road, muddy and rutty, bad repair	.26
On dry hard earth road, not dusty	.18
On earth roads, with ruts and mud	.39
Gravel roads, loose	.516
On gravel roads, compact	.32
On plank roads, good order	.088
On wet sand	.325
On dry sand	.040

Conclusion.

In conclusion will add that good roads are only obtained at the cost of eternal vigilance. A road, no matter how well built or of what material, if not maintained will soon go to pieces under traffic. The surface will be washed away during the rainy season and blown away during the dry. Where a road is properly constructed of whatsoever materials maintenance must be immediately started to keep it in condition. That is, the water must be carefully kept off the road and the crown kept up in sufficient repair so that the surface water will drain off quickly.

All the hillsides intercepting ditches kept open and in repair.

Keep the weeds and debris clear from the side ditches.

See that all culverts and ditches are kept open.

If holes are found in the road, mud holes or dust holes, repair them with the same material as that of which the road is constructed.

Do not fill a hole with rock, brush or other material different from that of which the road is constructed. If a hole in an earth road is filled with rock or gravel the result will be that two holes will be formed, one on each side of the hard filling, due to wheel jumping off the hard spot on to the softer material.

In order that the best surface conditions may be obtained drag the road in the spring when it is beginning to dry, drag it whenever there is a wet spell throughout the season.

The best results can only be obtained by methods of system, and vigilance. Co-operation is necessary and in this spirit this department offers its aid that its purpose may be best fulfilled in the best interests of the people in general.

Adopted by the Montana highway commission March 28, 1914.

GEORGE R. METLEN,
Secretary Montana Highway Commission.

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ease is as rare as the dew on a peach blossom, as powerful as the heroic works of nature, as searching as the peremptory demand of the most exact surgeon.

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