

POULTRY I

THE 4-H BABY CHICK CLUB

4-H CLUB CIRCULAR 31

COLUMBIA, MO.

REVISED MAY, 1934



COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE AND THE UNITED
STATES DEPARTMENT OF AGRICULTURE COOPERATING

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Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914

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Poultry I--The 4-H Baby Chick Club

CLUB PROJECT REQUIREMENTS*

Object.—The object of the first year poultry club work is to organize boys and girls into groups for the purpose of introducing purebred poultry from high producing strains, to demonstrate proper methods of hatching and rearing chicks; and to train the members in leadership.

Work Required.—*The 300 Baby Chick Club.*—Each club member is required to secure 300 purebred baby chicks by April 15. The goal shall be to raise 120 pullets to maturity.

The Hundred Egg Club.—Each club member is required to set at least 100 purebred eggs or to buy 75 baby chicks between February 1 and May 1. The goal shall be to raise at least twenty purebred pullets to maturity.

The Thirty Egg Club.—Each club member of the beginner's club is required to set at least 30 purebred eggs or buy at least 25 baby chicks between February 1 and May 1. The goal shall be to raise at least six purebred pullets to maturity.

Records Required.—Each club member is required to keep an accurate account of all costs, hatching date, feeds and profits of the club work, and write a story of the club work for the year, in a record blank provided by the Extension Service of the Missouri College of Agriculture.

Ownership Required.—Each club member is required to own the chicks and to provide the feed used.

The 300 Baby Chick Club.—Each member shall have access to a brooder house and brooder stove. The sale of cockerels should pay the entire cost of raising the chicks until the cockerels are sold as broilers. 300 chicks will cost approximately \$45.00.

The Hundred Egg Club.—Each Club member shall have access to a brooder house and a brooder stove. The sale of the cockerels should pay the entire cost of raising the chicks until the cockerels are sold as broilers. If 100 eggs are purchased, they will cost approximately \$6.00. If 75 baby chicks are purchased, they will cost approximately \$10.00. By using baby chicks, the uncertainties and delays of incubation are overcome.

*Prepared by Berley Winton, Poultry Extension Specialist, in collaboration with T. T. Martin, State Club Agent.

The Thirty Egg Club.—The eggs for the beginner's club will cost approximately \$2.00. If brood coops are not available and must be built, they will cost about \$2.50 for each unit of thirty eggs.

Time Required.—Time to feed and care for the chicks.

Time for attendance at regular club meetings.

Time to take part in a tryout for the club demonstration team.

Time for attendance at the club achievement program at the close of the year's work.

Organization.—The first year's poultry club work should begin between January 1 and April 15, and end about the time the pullets are six months old. It is recommended that the first year poultry club members continue in second-year work.

ORGANIZATION OF THE CLUB

A standard 4-H poultry club is composed of a group of five or more boys or girls, 10 to 21 years of age, from one community who are working upon the same project under the direction of a local club leader.

Each standard club should be sponsored by a community organization of some kind, or by a small committee of interested persons, who are selected to speak and act for the community in cooperation with the county club leader in the conduct of 4-H club work.

Standard clubs are required to hold at least six regular meetings during the club year. These meetings may be held as often as the local club leader and the members desire; however, the meetings usually are held once each month.

Below are subjects suggested for a number of club meetings. It may be necessary to devote two or more meetings to some of the subjects. It is suggested that these subjects be followed in the order named. *Local club leaders and clubs are expected to adapt these subjects to local community conditions.*

SUGGESTED PROGRAMS FOR POULTRY CLUB MEETINGS

I. Organization of the Club.—Choosing the Breed and Selecting Hatching Eggs.—(See Club Secretary's Record Book).

1. The business meeting.—The local club leader in charge.

(1). Explanation of the duties of the club officers and members.

(2). Election of club officers from the membership of the club: President, Vice-President, Secretary, Song Leader, and Club Reporter.

(3). Selection of a name for the club. (It is suggested that the name be selected so as to identify the club and the project.)

- (4). Selection of a time and place for regular club meetings.
 - (5). Appointment of a committee to work up or select an appropriate song and yell for the club.
 - (6). Adjournment of business meeting for instruction in club work.
2. Instructions.—The local club leader in charge.
- (1). Distribution of club circulars and record blanks and explanation of their use.
 - (2). Explanation of the standard 4-H club requirements.
 - (3). Explanation of the club project requirements for the Poultry Club I. Page 3.
 - (4). Setting club goals: (Some suggested goals are submitted).
 - a. Every member will attempt to carry out the following practices in raising chicks.
 - (a). Hatch before May 1.
 - (b). Raise on clean, fresh, range.
 - (c). Feed a growing ration.
 - (d). Brood each hatch separately.
 - (e). Separate pullets and cockerels.
 - (f). Maintain roomy, sanitary quarters for the pullets.
 - (5). Discussion of the main club events for the year. (See blanks in Club Secretary's Record Book.)
Some Suggested Events:
 - a. Poultry club tour in June.
 - b. State 4-H Club Round-up at the Missouri College of Agriculture in early August.
 - c. Exhibit at the club achievement program by October.
 - (6). Discussion: Choosing the Breed and Selecting Hatching Eggs. Page 8.
 - (7). Stating specifically what each member should do to start the work, as:
 - a. Make arrangements for equipment.
 - b. Clean and disinfect brooder houses and brooder coops.
 - c. Secure baby chicks or hatching eggs.
 - d. Move brooder houses or coops onto fresh range.
 - (8). Assignment of work for the next meeting, as:
 - a. Assignment of the 4-H club pledge to be learned by all members before the next meeting. (See suggested outline of Meeting II.)
 - b. Bringing of record blanks to the meeting.
 - c. References:
 - (a). Choosing the Breed and Selecting Hatching Eggs. (See Meeting II for detailed assignment)
 - d. Demonstration: Plan an individual demonstration on selection of hatching eggs. (See Demonstration, page 16.)
 - e. Assignment of one or more topics to be used in response to roll call, as:
 - (a). Name a standard club requirement.
 - (b). Name the breed of chickens which you are raising.
 - (c). Give desirable date for hatching chicks.
 - (d). Name breed of chickens in home flock.
 - (e). Designate the number of chicks with which you plan to begin your club work.
3. The Social hour, games, etc.

II. Incubation.

1. The business meeting.—The club president in charge. (References: Duties of club officers, Club Secretary's Record Book.)
 - (1). Meeting called to order by the president, who leads the club members in repeating the national 4-H club pledge, as follows: "I pledge my *head* to clearer thinking, my *heart* to greater loyalty, my *hands* to

larger service, and my *health* to better living, for my club, my community, and my country."

- (2). Roll call by the secretary, the members responding on the previously assigned topics.
 - (3). Reading of the minutes of the last meeting by the secretary, which should be adopted as a permanent record by the club when approved.
 - (4). Unfinished business:
 - a. Unfinished business from last meeting.
 - b. Report of the committee on club songs and yells.
 - (5). New business:
 - a. Appointment of a social committee to plan for some games at future club meetings.
 - b. Anything for the benefit of the club, such as club tour, club picnics, etc.
 - (6). Songs and yells, led by the song leader.
 - (7). Adjournment for work.
2. Instruction and demonstrations.—The local club leader in charge.
- (1). Discussion: Incubation. Page 10.
 - (2). Demonstrations:
 - a. Selection of hatching eggs.
 - b. Candling eggs.
 - (3). Explanation of how to keep the record blank.
 - (4). Assignment of work for the next meeting.
 - a. Bringing of record blanks to the meeting.
 - b. Reference: Brooding the Chicks. Page 11.
(See Meeting III for detailed assignment).
 - c. Assignment of one or more topics for roll call, as:
 - (a). Name a standard club requirement not previously given in response to roll call.
 - (b). Name method used in hatching eggs.
 - (d). Name a disinfectant or material used in cleaning the brooder house and coops.
 - d. Assignment of one or more individual demonstrations to be given at next meeting: Making a chick mash feeder. (See Home Made Poultry Equipment,—Missouri Extension Circular 151).
3. The social hour, games, etc.

III. Brooding the Chicks.

1. The business meeting.—The club president in charge.
(Follow order of business as suggested for Meeting II.)
2. Instruction and demonstrations.—The local club leader in charge.
 - (1) Discussion: Brooding the Chicks. Page 11.
References: The Missouri Colony Brooder House, Experiment Station Circular 239; Brooding Chicks, Missouri Extension Circular 295.
 - (2). Demonstrations:
 - a. Individual demonstration on making a chick mash feeder.
 - (3). Assignment of work for the next meeting, as:
 - a. References: Feeding Chicks.
(See Meeting IV for detailed assignment).
 - b. Assignment of one or more topics for roll call, as:
 - (a). Name a standard club requirement not previously given in response to roll call.
 - (b). Name grains and mash used in feeding chicks.
 - (c). Tell briefly how chicks are being brooded.
 - c. Assignment of individual demonstrations to be given at the next meeting.
3. The social hour, games, etc.

IV. Feeding Chicks.

1. The business meeting.—The club president in charge.
(Follow order of business suggested for Meeting II.)
2. Instruction and demonstrations.—The local club leader in charge.
 - (1). Discussion: Feeding Chicks. Page 13.
References: Feeding Baby Chicks.—Missouri Experiment Station, Circular 244. Missouri Plan of Growing Healthy Chicks, Missouri Extension Circular No. 265.
 - (2). Individual demonstrations.
 - (3) Assignment of work for the next meeting, as:
 - a. References: Chick Management.
(See Meeting V for detailed assignment.)
 - b. Assignment of one or more topics for roll call, as:
 - (a). Name a standard club requirement not previously given in response to roll call.
 - (b). State time cockerels should be sold.
 - (c). Report the kind of dry mash feeder used.
 - (d). Name advantages of raising chicks on fresh range.
3. The social hour, games, etc.

V. Chick Management.

1. The business meeting.—The club president in charge.
(Follow order of business suggested for Meeting II.)
2. Instruction and demonstrations.—The local club leader in charge.
 - (1). Discussion: Chick Management. Page 14.
References: The Missouri Plan of Growing Healthy Chicks, Missouri Extension Circular 265.
Brooding Chicks, Missouri Extension Circular 295.
 - (2). Demonstrations: Individual tryouts for making the demonstration team.
 - (3). Assignment of work for the club achievement program.
 - a. Bringing of completed record blanks to the round-up or achievement program.
 - b. Being prepared to give a complete business report of the project work in response to roll call.
 - c. Planning to take part in the club exhibit at the round-up or achievement program.
3. The social hour, games, etc.

VI. The Club Achievement Program.

The club achievement program should be held by October at the close of the work for the club year.

Each club member should hand in to the local club leader the completed record blank so that the results of all the work of the club may be summarized for the year in the Club Secretary's Record Book.

SUGGESTED PUBLIC PROGRAM

1. Exhibit: (1) Equipment made; (2) A pen of 4 pullets and a cockerel, or exhibits of individual males or females.
2. Typical meeting by the club.
3. Talk on the club's achievement by a club member, a club officer, or by the local club leader.
4. Team demonstrations.
5. Presentation of awards. The Missouri 4-H club achievement pin may be awarded to each member who hands in a record blank, indicating that all club requirements have been met.
6. Plans for next year. (Follow with Poultry II—Flock Management Club.)
7. Adjournment.

SUGGESTIONS

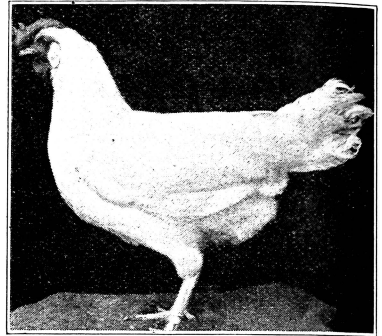
Only club members who make a complete report or have their records up-to-date should be eligible to take part in county or state contests, club camps, etc.

The events of the club achievement program and the results of the club work for the year should be carefully prepared and offered to the local newspapers for publication.

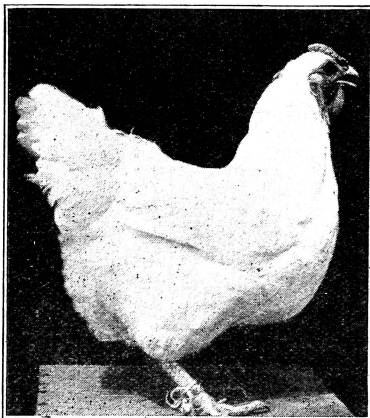
I. CHOOSING THE BREED AND SELECTING HATCHING EGGS

Choosing the Breed.—After discussing the merits of the various breeds and varieties of poultry, the club members should select one of the most popular varieties of chickens. The important commercial breeds and varieties of poultry are:

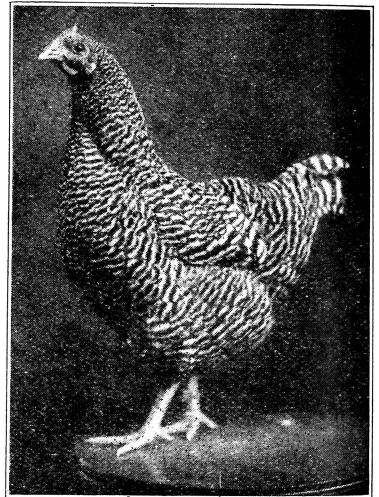
1. White Plymouth Rocks
2. Barred Plymouth Rocks
3. White Wyandottes
4. Single Comb Rhode Island Reds
5. Buff Orpingtons
6. Single Comb White Leghorns



Single Comb White Leghorn

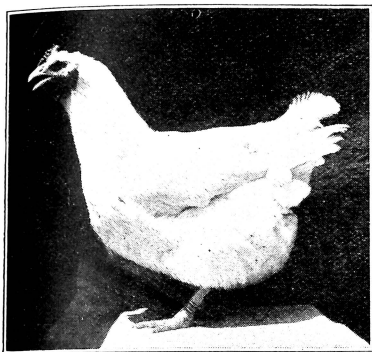


White Wyandotte

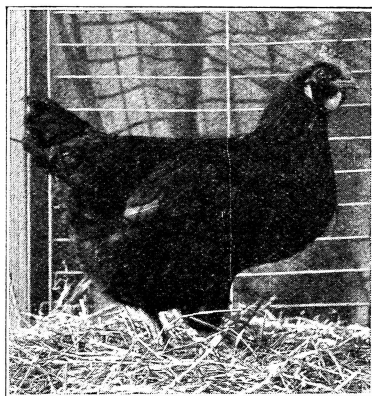


Barred Plymouth Rock

The breed of chickens chosen is not as important as the strain selected. Hatching eggs or baby chicks should be purchased from a breeder who raises vigorous, standard-bred chickens that have been bred for high production. More satisfactory results will be obtained with chicks from stock blood tested for pullorum disease. From one-half to two-thirds of the poultry income is derived from the sale of eggs. Hence, the importance of getting chicks that will develop into high producing pullets is emphasized.

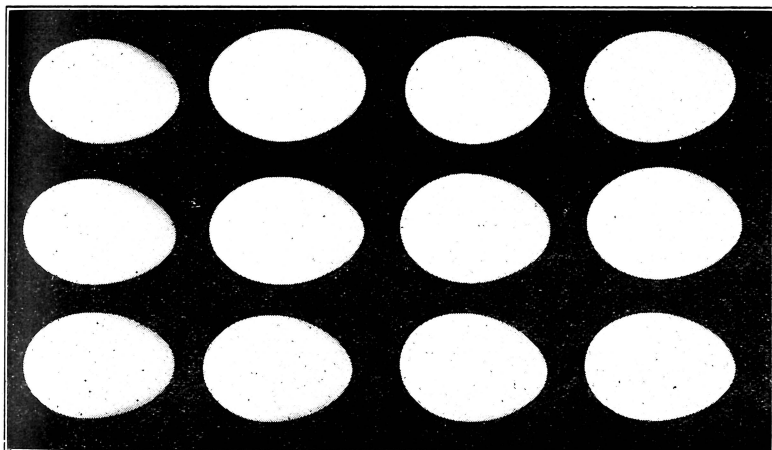


White Plymouth Rock



Single Comb Rhode Island Red

Club leaders may secure from the county extension agent or the Poultry Department, College of Agriculture, Columbia, Missouri a list of reliable breeders who have hatching eggs and baby chicks for sale.



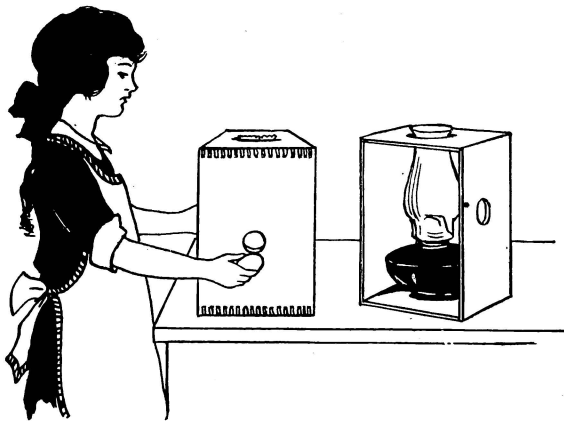
The appearance of good hatching eggs

Selection of Hatching Eggs.—An ideal hatching egg weighs two ounces or slightly more. Small eggs should never be used for hatching purposes. Size, shape and color of eggs are inherited characters. In other words, pullets are likely to lay the kind of eggs from which they are hatched. Small eggs will not produce large, vigorous chicks. Brown eggs may vary slightly in color but white eggs should be chalk white and not creamy tinted.

II. INCUBATION

One-hundred-egg club members may find it advisable to have their eggs hatched in an incubator or else buy seventy-five chicks. This will make it possible to have chicks of the same age. If natural incubation has to be depended upon to hatch the eggs, seven hens can be set.

All chicks should be hatched before May 1. It is desirable to have the heavier breeds (Plymouth Rocks, Rhode Island Reds, Wyandottes and Orpingtons) hatched the first half of March and Leghorns hatched not later than the first half of April.



A simple egg candler

Incubator Management.—Before the eggs are set, the incubator should be gone over carefully and gotten into condition by someone who is familiar with it. Missing or broken parts should be replaced. The heater should be disconnected and the soot removed. The inside of the machine and its parts should be thoroughly cleaned and disinfected before it is used and after each hatch.

Operating Incubator.—Club members who have access to a dependable incubator will find it good experience to do their own hatching. In operating the machine, the instructions given by the manufacturer should be followed rather closely. As a rule, the location of the thermometer is on the egg tray with the bulb on a level with the top of the eggs. In this case, the temperature of the incubator usually should be kept near 101° F. throughout the hatching period. If a forced draft incubator is used, the temperature should be kept between 99 and 100° F. One should remember that more chicks on the inside of the shell are killed from overheating than by running the incubator with the temperature too low.

The eggs should be turned twice each day or more if convenient from the second to the eighteenth day of incubation.

The incubator should be well ventilated, with openings on the bottom or on the sides, and located where plenty of fresh air is available but not in a draught of air.

The lamp should be cleaned and filled each morning with the best grade of oil and the wick cleaned by pinching or rubbing off the charred portion. Handling or turning the eggs should be done before caring for the lamp. This procedure will prevent getting oil on the eggs.

Hatching Time.—On the nineteenth or twentieth day the eggs usually will begin to pip and on the twenty-first day the hatch will be completed. When the eggs begin to pip, it is good practice to darken the incubator by hanging a dark cloth over the glass door.

The chicks should be kept in the incubator for 36 to 48 hours before they are transferred to the brooder. The weak, the deformed and crippled chicks should be killed at this time.

In setting hens it is the usual practice to place fifteen eggs under each. Several days before the chicks hatch the broody hens should be dusted twice (seven or eight days apart) with sodium fluoride for the purpose of killing any lice that may be present.

III. BROODING THE CHICKS

Chicks, whether brooded with hens or with brooder stoves, should be raised on a fresh sod of grass, alfalfa or clover, away from where the old hens run and away from where chicks were brooded last year or the year before. This may be done by moving the coops or the brooder house before the chicks are placed in them. The coops or brooder house should be tightly constructed and properly ventilated to insure the comfort of the chicks.

The 10' x 12' brooder house will accommodate 250 to 300 chicks but may be used for a smaller number. (Reference: The Missouri Colony Brooder House, Extension Service Circular 239.)

Chicks should be kept confined to the coop or brooder house when the grass is wet. In natural brooding, the hens should be kept confined to the coop or a small enclosure until the chicks are six to eight weeks of age.

In brooding chicks artificially a brooder stove that will burn continuously and provide ample heat is necessary. A draughty, or poorly ventilated house that is not well heated is likely to be responsible for a heavy mortality. Over-heated houses are likewise responsible for heavy losses.

At the time the chicks are placed in the brooder house the temperature should be 98 to 100 degrees Fahrenheit around the edge of the hover two inches above the floor. A litter made of brightly cured alfalfa, clover or soybean leaves aids in keeping the brooder house floor warm and sanitary. The temperature may be lowered as the chicks grow older and they become more completely covered with feathers. The chicks, themselves will serve as a guide to the operator in regulating the temperature after the first or second week of brooding. However, the temperature generally can be reduced five to eight degrees each week until eighty degrees is reached.

THE BROODER HOUSE

On farms where early hatched chicks are produced, a comfortable brooder house is indispensable. Plans and the bill of material for such a brooder house are given in Missouri Experiment Station Circular 239.

The advantages of this 10 by 12 Missouri colony brooder house are its ease and economy of construction, its adequate ventilation system, its conformity in type with other farm buildings and its provision for ample head room, so essential when one is working in the building.

In estimating the amount of room necessary for chicks when they have access to free range, it is good practice to allow approximately one square foot of floor space for every 2 to 3 chicks of the light breeds and a like amount of space for every 2 chicks of the heavy breeds. This being the case, the 10 by 12 house will accommodate 300 chicks of the light breeds (Leghorns and Anconas) and 250 chicks of the heavy breeds (Plymouth Rocks, Rhode Island Reds, Wyandottes, and Orpingtons). However, when the

chicks are confined to the brooder house on account of weather conditions, from one-third to one-half more room should be provided.

It should be remembered, however, that if one is reasonably successful in growing chicks, the brooder house will soon become over crowded due to the need of greater space by the larger chicks.

IV. FEEDING CHICKS

The Missouri chick rations and methods of feeding are given below and are recommended by the Missouri College of Agriculture.

Rations for Chicks

First 8 to 10 Weeks	From 8 to 10 Weeks to Maturity
Feed	Feed
ALL MASH	GRAIN AND MASH
260 Pounds Yellow Corn Meal (Ground Yellow Corn)	Grain—Whole or Cracked Yellow Corn Mash
75 Pounds Bran	100 Pounds Yellow Corn Meal
75 Pounds Shorts	100 Pounds Bran
50 Pounds Dried Milk	100 Pounds Shorts
25 Pounds Meat Scraps	40 Pounds Meat Scraps
10 Pounds Bone Meal	20 Pounds Dried Milk
5 Pounds Salt	16 Pounds Bone Meal
	4 Pounds Salt
Start feeding at 36 to 48 hours of age. Keep the "All Mash" feed before them in open hoppers. No other feed is given during this period. With early chicks which cannot get out in the direct sunshine 5 pints or 1% by weight of tested cod liver oil or sardine oil may be added to this feed mixture.	By feeding both grain and mash in open hoppers the young stock will fatten and grow faster and the pullets will be in better condition for heavy winter laying.

Sour skimmilk or buttermilk may be substituted for the dried milk and meat scraps provided it is kept before the chicks all the time. It is not necessary or advisable to give the chicks water when liquid milk is kept before them. If liquid milk is not used, provide clean water at all times. Liquid and condensed buttermilk attract flies and for this reason they are not such desirable forms of milk to use as is dried or powdered skimmilk or buttermilk. Grit may be supplied in open hoppers from the start.

By feeding the chicks when from 36 to 48 hours of age they will not over eat, even though the feed is kept before them from the start. The practice of delaying the time of feeding until the chicks are 60 to 72 hours of age is conducive to a higher mortality.

V. CHICK MANAGEMENT

Green Feed.—The raising of chicks on fresh range where plenty of green feed is available is highly recommended. Such a location for the coops or brooder house not only tends to keep the chicks free of intestinal worms but the green feed provides nutrients and serves as a tonic in keeping the birds in good condition. A sod of either alfalfa, clover or bluegrass makes an excellent range. In case these are not accessible, one should seed the runs to oats, wheat or rye. Chicks only a few days old relish lettuce, onion tips and other tender plants.



The young flock should have a shady range

Provide Shade.—The importance of providing shade during the hot summer months cannot be over-emphasized. The orchard or the edge of a corn field is an ideal location for the coops or brooder house.

Sell Cockerels.—All cockerels which are not kept for show purposes or prospective breeders should be marketed when they weigh $1\frac{1}{2}$ to 3 pounds. Cockerels sold at this weight usually make more profit than when they are kept for a longer period.

Feed Pullets Liberally.—During the summer pullets should be housed comfortably, and supplied abundantly with proper feed, clean fresh water, or milk and shade. Strict sanitary measures should be followed closely and the chicks be kept free of lice and worms.

DEMONSTRATIONS

In so far as possible, all club members should be instructed in the regular club meetings by the demonstration method. As a usual thing, one or more members of each club can begin doing useful phases of the work program before the club soon after the processes have been demonstrated by the club leader.

After two or three months of practical experience in handling real things, all mature club members should be able to give public team demonstrations. The scope of the team demonstrations usually should be limited to the essential processes of some phase of the club work of the current year on one subject. A team of two or three best demonstrators, according to the number needed, should be selected from the membership of the club, either by mutual consent or by competition. All teams should have an opportunity to demonstrate before the local club group and the people of the home community, and the championship team should represent the local club at the county round-up.

SUGGESTED SUBJECTS FOR TEAM DEMONSTRATIONS

1. Feeding Baby Chicks.
2. Selection of Hatching Eggs.
3. Making a Mash Feeder.
4. Making a Water Stand.

Suggested Outline of a Demonstration on Selection of Hatching Eggs

This demonstration is arranged for a team of two members from the same club, designated as "A" and "B".

Reference: Missouri Extension Service, Circular 268, Producing Quality Chicks.—E. M. Funk.

Equipment: Small cases of eggs and egg candler.

The demonstration should be presented in a forceful manner and should be continued with each member working or speaking all the time.

It is suggested that each demonstrator wear a 4-H club cap, made up in the national club colors of green and white.

Insofar as practicable, members should arrange their own equipment and stage and should clean up after the demonstration.

Time—Fifteen to thirty minutes.

Procedure

<i>A</i>	<i>B</i>
<i>A speaks</i>	<i>B assists</i>
A addresses the audience; makes a brief statement about the club which the team represents; leads in repeating the 4-H club pledge or in giving a spirited club song; and introduces team mate and self.	B stands at attention; joins in repeating the 4-H club pledge or in giving the song; and remains at attention while being introduced.
Discusses and demonstrates: Care of eggs: 1. Gather frequently (1) To avoid chilling. (2) To avoid soiling. 2. Store in room with even temperature, cool, but not hot. (1) Start incubator 70 degrees F. Not cold, avoid freezing. Explains that team mate will continue the demonstration.	Prepares equipment and materials for continuing the demonstration.
<i>A assists</i>	<i>B discusses and demonstrates</i>
Candles eggs, to show shell texture and to detect body checks and cracks.	Discusses: 3. Selection of eggs (1) Proper a. size b. shape (2) Shell texture. (3) Egg should not be cracked. (4) Uniform color. Explains that team mate will summarize the demonstration.
<i>A speaks</i>	<i>B assists</i>
Gives a brief summary of points made in the demonstration. Asks for questions pertaining to the demonstration. Leads in giving a spirited club song or yell Thanks the audience for its attendance and attention.	Assists A, if necessary. Quietly collects equipment and cleans up the table, if time permits. Stands at attention. Joins in giving club song or yell.

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