

#### **SOME POINTS ON INCUBATOR**

Beginner Will Be Greatly Aided In Management of Machine by Observing Rules Given Herewith.

The following points in the management of an incubator may be helpful to the beginner:

Set the machine perfectly level to insure perfect ventilation and efficient working of all the heating apparatus. Do not place the working machine in a north or west room, if possible. A

south or east room is preferred. The incubator should be in a room where there is fire at no time or fire

at all times. In a cold room the eggs must be aired when the temperature is above

60 degrees or chilling will result. Fresh air and some moisture are necessary for successful incubation, and these are supplied by the ventila-

ted device of every incubator. Incubator doors should be made of double glass and fit neatly to avoid loss of heat.

A machine of from 50 to 120 egg capacity is about right for the beginner. It is large enough for practical purposes and not so large as to cause confusion.

Avoid excess of temperature and absence of moisture in the room in which the incubator is located. Fill and trim the lamp daily and

use a wick of sufficient width so that a low blaze will produce the necessary heat. Let one person only attend to the

incubator and give it attention a least twice each day. Keep the lamp burner and bow

free from oil and other foreign mat-Eggs are overheated at 110 degrees, but it will take ten to twenty-four

hours to kill them, according to how near the hatching point they are. Eggs can be considered chilled when the heat falls to 50 degrees or below. They will still hatch, however,

if not kept cold too long-say not over twenty-four hours-but it al ways hurts them more or less, and it is best never to let them cool below 70 degrees under any circumstances. Investigation shows that the sitting

hen imparts a temperature to the eggs varying from 110 degrees at the outside of the nest to 105 degrees in the center, the average temperature being 103 degrees, hence 103 degrees is the temperature at which an incubator should be run.

Many of our choicest market fowls, as well as show prize winners, were incubator hatched, which disproves the notion that artificial incubation produces weak chicks.

Turn the eggs daily, yet it is not absolutely necessary to turn them all exactly alike.

The attachment which gives warning signal when the temperature runs beyond the danger limit is good device and relieves one of much

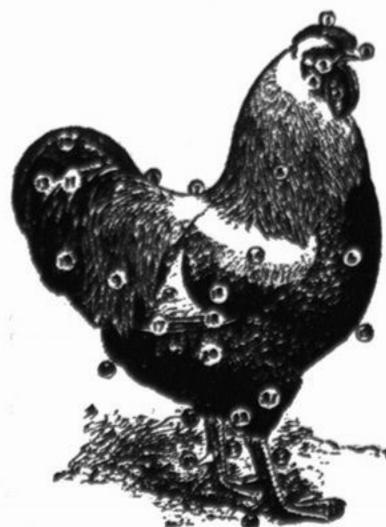
When the chicks are nearly ready to hatch the inside temperature of the machine will rise and the heating apparatus must be regulated, as less heat is needed then than at the begin-

ning of incubation. Give attention to details, learn the workings of your machine, and don't worry. Let the machine do the work. Let the chicks stay in the incubator

without food from twenty-four to for-

ty-eight hours after they are hatched.

DIAGRAM OF THE CHICKEN



0 Beak.

1 Comb

2 Face. 3 Wattles

4 Ear-lobe. 5 Hackle.

6 Breast.

7 Back.

8 Saddle. 9 Saddle feathers.

10 Sickles.

11 Lesser sickles.

12 Tail-coverts.

13. Main tail feathers. 14 Wing-bow.

15 Wing coverts, forming wing bar. 16 Secondaries, wing-bay.

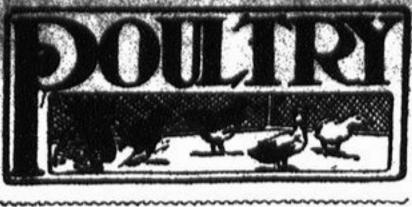
17 Primaries, or flight feathers.

is Fight-coverts. 19 Point of breast bone.

19, 20, 20 Body and fluff.

0, 20, Fluff.

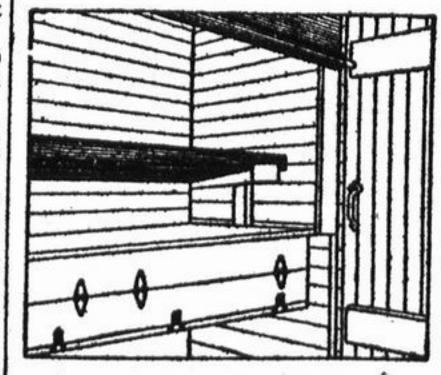
22 Knee-jointa



#### PLATFORM ROOST FOR FOWLS

Convenient Device Recommended by the Department of Agriculture Shown in Illustration.

The accompanying illustration shows the design of a convenient roosting platform which is recommended by the department of agriculture for use in chicken houses. At the front of this platform is hung a duck curtain operated by means of cord run through rings attached to



Convenient Roosting Platform.

the ceiling. This additional protection effectually prevents the freezing of combs in all except the most severe winter weather, says Homestead. The nests are directly under the platforms and are entered from the rear. The bottom of the nests are attached to one side by means of hinges and are held in place by a number o hasps. To clean the nests it is simply necessary to unfasten the hasps and the entire bottom swings downward. The floor consists of matched boards. The outside of the studs of the walls are first boarded, then covered with paper and clapboarded. The inside of the stude is covered with matched boards, making a four-inch dead air space between the two walls. The ceilings are made of matched boards. Over each pen in the celling is a trap door about 20x24 inches, opening into the attic. At each end of the attic is a window, and at regular intervals along the peak of the roof are ventilating cupolas. Straw may be placed in the attic, thus providing an effective means of absorbing the moisture.

### POULTRY HOUSE IS ARTISTIC

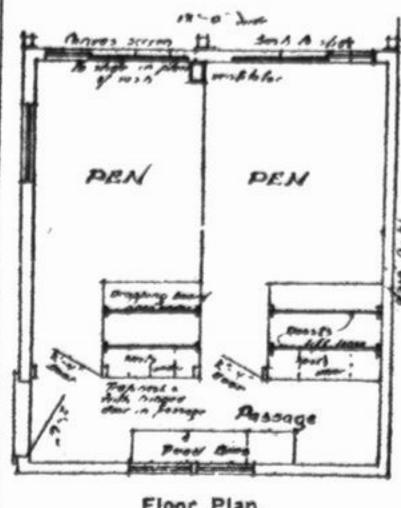
Moderately Priced Structure So Anranged That It Can Be Extended-Shelters Fifteen Birds.

Here is a moderately priced poultry house with artistic exterior, and the practical appointments of a large plant, says Green's Fruit Grower. This house is so arranged that it can be extended any time. This is known as the open frame, fresh air constructien that is now being extensively



An Artistic Poultry House.

used. There are large windows on the south side that may be opened by sliding; the windows being equipped with canvas screens. The platforms under the roofs are well up from the floor and the nests are neatly hordered in passage-way so arranged



Floor Plan.

as to drop down when getting the eggs. The ventilator is one of the latest make and will draw all foul air and moisture from the house. This house will accommodate 15 birds. Notice the grape vine running at the side of the building.



Wheat grows feather. Do not neglect to clean the poultry

house often. Corn is a good food for poultry, es

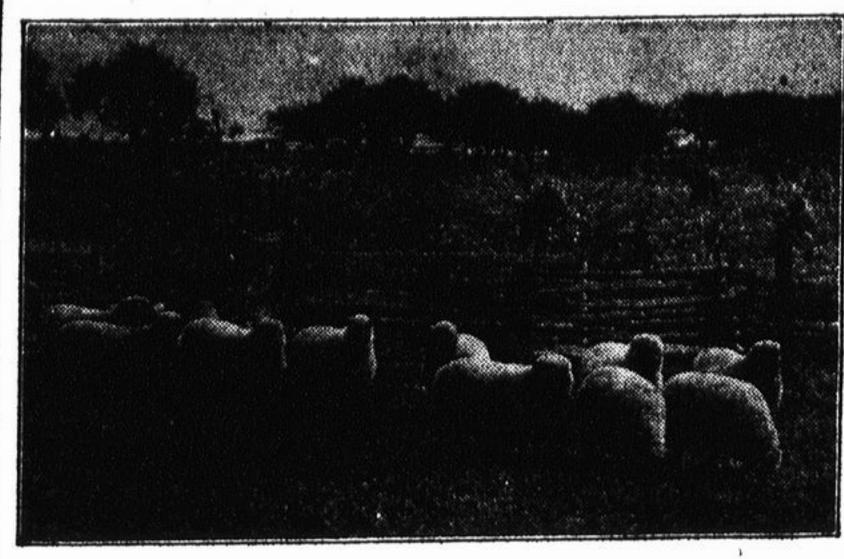
pecially excellent for fattening. Let all the sunshine into your poultry houses that you can these days. To be a successful poultryman one

must know fowls. are the cause of egg-eating many

ducting a dairy from a business Look out for soft-shelled eggs. They standpoint, and special emphasis is laid on the necessity of, and the best

term in the training

FOR THE RAISING OF SHEEP



Fancy Selected Breeding Ewes.

By PROF. W. C. COFFEY, University of Illinois.

The state of Illinois, according to

the census of 1910, has 251,872 farms; 26,262 or 10.4 per cent, of these farms reported sheep. During the past decade there was an increase of 840 in the number of farms keeping sheep, and there was an increase of 32,265 in the number of sheep. These figures are sufficient to indicate that the industry held its own during the past decade. The average size of farms in Illinois is 129.1 acres, and the average number of ewes (mind you, I say ewes) on farms reporting sheep is 22.4. From these figures it would seem that flocks are maintained principally to keep down weed growth and to utilize what cannot profitably be consumed by other live stock; that they are kept as a side issue and not as a main feature of the farm operations and that we have no definite measure as to the extent to which they figure in farm economy.

Illinois has never been thickly populated with sheep. Her greatest number was reported in the census of 1870. These were the days of cheap lands and many larger flocks than we have at present. The method of handling was more like a system of herding, and when the range lands of Texas and the far west opened up the large flocks rapidly disappeared from our state. All that was left was the little flock here and there. Communities where sheep were maintained on most of the farms were very scarce and therefore we really have done little to test the adaptability of Illinois for sheep.

But there are inidications of adaptability of which we may be reasonably sure and we have them in southern Illinois. For such a long time that I cannot tell when the first time was, it has been said that rolling, hilly land is best adapted to sheep. All of you have listened to sheep talk and have heard how they love the hills where the footing is dry and the breezes cool and pleasant. In that part of the state lying south of the northern boundaries of Clark, Cumberland, Shelby and Bond counties there are approximately 14,387 square miles, of which 4,025 square miles are hilly, and 1,213 square miles undulating timber. Together these areas amount to 35.3 per cent. of the whole, The 14,387 square miles mentioned do not include the river counties, such as Madison, St. Clair, Monroe and Randolph, which belong in a group estimated to have 48.08 per cent. hilly and 14.6 per cent, undulating timber land. In all this territory there is land designated as unimproved in the census reports. In some countles this amounts to 35 per cent. of the total farm area and in a very few cases less than 10 per cent. Here, then, is an

#### TWO COURSES IN SANITARY DAIRYING

By ASSOCIATE PROFESSOR BURT R. RICKARDS. University of Illinois.

In March, 1911, a new division of the dairy department was created at the University of Illinois under the title of "Municipal and Sanitary Dairying." The object in undertaking this new line of work was not only to educate agricultural students in the best methods of producing and handling milk, but also what is just as important, through co-operation with dairymen and through making known to the public the actual facts regarding their milk supply, and through general propaganda to make an effort to better sanitary conditions in dairying throughout the state. In addition to this it has been planned to conduct original investigations m dairy bacteriology in order to gain new information in this branch of sanitary sci-

Two courses of nine weeks each are given by this division of the dairy department, one in city milk supply. commencing the first half of the second semester, and a course following this in the second half of the semester in dairy bacteriology. In the city milk supply course the student is given instruction in the proper handling and care of milk from the time it is produced until it reaches the consumer. Not only are all mechanical details gone into thoroughly, such as the best kinds of apparatus to use for various purposes, but the student also

is instructed in the best way of con-

expansive area particularly adapted to sheep. It is so well adapted because sheep love the hills and the undulating timber land, and surely nothing is more suitable for gathering some returns from the unimproved lands than the class of animals we are discussing.

It is well to remember that I have not said all the land of southern Illinots is hilly, undulating timber, and unimproved. Be that far from us. On the level lands crops are grown which are suitable for feeding and maintaining sheep. Corn, wheat, red top and timothy may each occupy a useful place in feeding the flock, and no animal relishes more and thrives better than the sheep on cowpea and soy bean forage or hay. Since these plants mean much to you in the upbuilding of your soil, this latter statement should be significant. The proper use of the feeds at hand will dispel any notion that southern Illinois cannot produce the right kind of feed for successful flock husbandry. You have I the land, you can grow the crops. If you produce the product, have you a market? St. Louis is within easy reach; Chicago is not far away. The latter boasts that its capacious maw will take in any meat-producing animal at some price; the former lacks a great deal of being an indifferent market. It is true that the volume of sheep business at St. Louis is small compared with Chicago, but that does net work against prices paid, but often in their favor. For example, the pack ers conduct slaughtering there, and when the supply runs so low that they are considerably under their slaugh tering capacity they are obliged to bid up to encourage shipments.

I cannot see anything but encour agement for the flock husbandry which considers the production of wool and lambs. We have attained proportions as consumers of mutton, Study any of our large markets by ten year periods and you will note phenomenal growth in the receipts of sheep and lambs. Take Chicago for example. Her receipts of sheep and lambs in 1870 were 350,000; in 1880. 336,000; in 1890, 2,180,000; in 1900, 3,500,000; in 1910, 5,229,000. We are consuming about 17,000,000 sheep and lambs annually in this country, or a total weight of 630,000,000 pounds. Approximately 80 per cent, of these animals are lambs. The bulk of the mutton supply comes from the west at present, but this supply is likely to be reduced because of the restriction of the range. If the supply is kept up to the demand of consumption, it will devolve on us to grow more sheep, and with production reduced in the west we shall be assured of more remunerative prices for the good product.

methods of producing, clean, whole

In dairy bacteriology, the student is instructed how to take counts of bacteria in milk, how to detect the presence of pus and pus organisms in milk, how thus to discover diseased

animals in a herd. By demonstrations and actual laboratory work those taking this course learn how to control the output of a dairy by hacteriological methods so that in actual practice they will be able to tell, for instance, at just what step in the process the milk is being improperly handled. The student further learns about the action of bac teria in milk, and how to isolate and identify species and how to study the different effects on the milk of different kinds of bacteria, and the source from which they found their

way into the milk. The course in city milk supply is of particular advantage from the busi ness standpoint to the young man who intends to run a dairy or a distributing station, while the course in dairy bacterfology teaches him the rea sons for the practice laid down in the first course and, moreover, is invaluable in assisting him to conduct his business in a proper manner both from an economical and from a santtary standpoint. The course in dairy bacteriology will, in addition, fit men either for positions in the laboratories of the big distributing stations in the larger cities, and for commercial laboratories, or for teaching similar courses in the universities.

Kitchen Parings for Fowls.

Do not throw away the parings from vegetables, nor the scraps from the table. The hens are fond of them; they add variety to the ration, they are good foods and cost nothing. Be sure to save them for the fowls.

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