

## DAIRY

### A Larger Milk Supply

Patrons of cheese factories and creameries need not only to see that the raw material is delivered in the best possible condition, but that a large and steady supply is furnished. Can any means be taken to increase the production per cow or per acre? The answer to that query implies a knowledge on the part of every dairyman as to just what each cow in his herd can produce. Does any stable nowadays furnish free quarters and good feed to cows that have no intention of giving more and that have no possibility of a profitable yield? Is every dairyman quite certain that each cow in his stable "pays"? It is an excellent plan to make sure of that vital point; it is the initial step in successful dairying, the foundation for building a profitable herd. The only way to make sure is to keep dairy records; then it is an easy matter to distinguish and dispose of any non-paying guest, and feed each selected cow up to her full capacity of production. Through a continuous check on the yield of each individual cow many herd owners have been enabled to increase the average yield by as much as 1,500 and 1,800 pounds of milk per cow in three years.

C. F. W.

### Enthusiasm in Dairying

EDITOR FARMER'S ADVOCATE:

In the dairy industry are we doing the best we can under the circumstances? Your excellent article in your issue of February 23 is quite interesting to dairymen. You give reasons why dairymen do not get better results from their cows in the winter time. However, we think you have only partially answered the question. Dairying is a very big subject, and has many details. Too often we overlook some very important details, and probably what we do know on the subject is much less than what we do not know. It is proverbial how lax we are to do even as well as we know how.

We come far short of furnishing the cow the ideal ration in the winter time—sufficient protein, succulence, variety, etc.; but do we see that the cows get water at least twice a day? And do we insure that they get salt enough by putting some in their feed? They will not take enough otherwise. Do we groom them at least two or three times a week? It adds greatly to their comfort. Have we the stable warm and yet well ventilated? Are we careful not of leave them out too long in the cold? Do we feed and milk them regularly? Cows like meals at regular hours as well as we do. Provided we have pretty good cows, do we ever ask them if they will have a little more feed? Most of us can feed horses better than cows, and why should we? A good cow does twice as much work in a year as a horse. It is a different kind of work but is work just the same.

As dairymen, we need to understand a great deal more about "cowology" than we do before we can make a success of it. How many of us could take a cow that has made 25 pounds of butter in a week, and, provided we have access to the best feeds, feed her to produce it again? We fear most of us would fall down right there. Our knowledge of the cow and her requirements is far below what it ought to be. If we fail to make good use of the one "pound," how can we ever hope to make use of the "five or ten pounds?"

We all admire the man who is ambitious to "breed up," but we feel sorry for him if he fails to "feed up" and "care up," for he might better have stayed with the ordinary stock, as his stock will be only ordinary anyway.

Here is a little of our experience in caring for a small dairy herd of common cows: It may be encouraging, or it may be discouraging. Be that as it may, it will be facts, and it is facts we all want.

Part of the herd has been giving milk for ten months and will freshen in about three months. The last cow freshened about middle of Septem-

ber, so there are no fresh cows to augment the milk supply. They are averaging six pounds of butter each per week, are fed oat-hay morning and night and prairie hay at noon. Get on an average seven pounds of bran per day, but varies, the smallest producer getting the five pounds, the largest nine pounds. Each cow gets two tablespoonfuls of salt in the bran per day. They are let out to water before dinner, and each cow has a pailful of water carried to her at night. There is supply of salt in a box outside also. They are frequently groomed and made as comfortable as possible.

There must have been a mistake in the analysis you cited of prairie hay. In the analysis at our disposal, prairie hay is credited with 3.5 per cent. of protein. The 12 pounds would furnish .42 of a pound of protein instead of .073, as given in your article. This improves the ration considerably.

Sask.

JOHN H. COOK.

## POULTRY

### Eggs for Artificial Incubation

EDITOR FARMER'S ADVOCATE:

No one appears to have been able to explain exactly why it is necessary that eggs should be more freshly laid in order to be successfully hatched in incubators than with hens. Nevertheless, such is generally admitted to be the case. Eggs a month old will frequently give very good results when put under hens, but they never should exceed a week; and even three days old is a better limit for placing in machines. Early in the spring when eggs from the best birds often come in slowly and have to be kept some little time, this is often the cause of failure if an incubator is used. In such cases it will be found better to use a hen and let the machine wait until the supply increases, or otherwise to start it with only a few newly-laid ones.

Eggs awaiting the completion of a sufficient quantity to start incubation by either method should be kept regularly turned every day or two. They are best left lying on their sides in the natural position. When placed on end in egg trays the yolk settles down, and they are liable to chip too near the small end for the chicken to hatch out satisfactorily.

C. F. COOK.

### Incubators Easily Handled

EDITOR FARMER'S ADVOCATE:

The man who goes into poultry raising for profit, must, of necessity, use incubators, for the following reasons:

1. He must have his hens laying, not sitting.
2. He will be unable to get his hens to sit when he wants them, that is about the end of March and beginning of April.
3. There is less risk from disease and vermin when incubators are used.
4. Sitting hens break their eggs, and trample a certain percentage of the chicks.
5. It takes longer to feed and care for chicks with hens.
6. The mother hen usually eats more of the chicks' feed than the chicks do, and upsets and fouls their drinking water.

Any poultry-raiser with 20 good hens requires a sixty egg incubator; 50 hens a one hundred and twenty egg machine, and 80 hens a two hundred egg machine. Do not be afraid to try a machine. You can run them upstairs, downstairs or in the cellar, in cold weather or hot, so long as the air is ventilated to the extent of making it healthy for a person to live in. During warm weather most any outhouse will answer, as with reasonable care nearly any good make of machine is safe for fire.

A novice will be surprised how quickly he can become expert in running an incubator and will, if interested, derive considerable pleasure in looking after it, and later in watching the chicks roll out. The amount of labor expended during

the 22 days of a hatch will run from fifteen to twenty-five hours, and a large part of this can be done during spare minutes.

Eggs must be aired and turned as nearly the same time each day as possible, the turnings preferably twelve hours apart. Great care must be taken in testing all eggs in which dead germs exist. Don't be afraid to break eggs that look doubtful. This is the only way to become experts. Write out a list of your observations during each test. Mark certain eggs that you are not sure of and record just what they looked like. Note what they are like the next test, and don't forget to hunt for those marked ones when the hatch is completed, and note how many of them have hatched. Note what kind of eggs do not hatch. You will be surprised to find a dozen of eggs all alike in size and shape and color, and perhaps ten or a dozen more of another color and shape infertile, or with dead chicks from weak germs. This will prove that some of your hens should be culled out of the breeding pen, and you must compare the eggs so tested with each hen's eggs until you find the guilty one and remove her. In this way you will insure yourself stronger stock. Also on your note list, describe for reference, the size of air space in the larger end of a newly laid egg. Note at sitting time if it is any larger than when laid, also how many days from it was laid till time of sitting. Note at certain stated dates during the hatch the size of this space. In this way you will soon be able to tell if you are losing chicks by too much evaporation or too little. This is a very important subject and you cannot study it too closely. Too much evaporation will leave dead chicks; fully formed and too little will leave a late hatch, with many weak chicks that will not come out, and many more that might as well not.

I use a piece of blanket in the chick trays in the bottom of the incubator and when hatching in the house or outside during dry warm weather. I sprinkle this blanket with warm water about the eighth day and each second day till the sixteenth, using my own judgment so as not to overdo it. I have sprinkled the eggs on 14th, 16th and 18th days with success. Machines run by hot air require more moisture than those run by hot water.

But I must say here, what every writer on the subject will, that you must have good fertile eggs not more than three weeks old. In saving eggs for hatching, keep them in a clean, cool place, covered with a light cloth to keep the dust off them. And keep the breeding hens in sanitary quarters and feed scientifically. Keep the male bird away from the hens during the forenoon.

I do not find it as hard to raise incubator hatched chicks as those hatched by the natural method. I have raised incubator chicks with the hens, and hen-hatched chicks in the brooder and my experience goes to teach that incubator chicks are stronger, freer from vermin and disease, more easily fed and cared for, quieter to handle, and come to maturity faster than by the hen system.

Man.

W. S. PHILLIPS.

### Profits From Small Incubator

EDITOR FARMER'S ADVOCATE:

Having used an incubator and brooder several years, I am satisfied it is the most profitable way to raise chickens. It gives a chance to market chickens two months sooner than would be possible with the old way. At that time they are worth 4 cents a pound more than later hatched chicks. It also gives hens more time to lay and a person can keep a non-sitting breed and produce a large number of eggs.

Most machines will hatch a large percentage of chicks, providing the germs are strong enough to stand the incubation test. I find eggs most suitable must be collected from fully developed hens, strong and healthy. I have also found eggs from year old birds prove most suitable, as the chicks seem stronger. If a chick is hatched very weak. I think it is best to kill it at once, as I have never known them to pick up. I have never lost many chicks that hatched out strong and healthy. There is a lot in selection