

more subject to smothering as they grow older and the weather becomes warmer."

A great many people prefer a lamp-heated brooder, and regarding these we can do no better than quote Robinson: "Lamps are generally used when poultry is grown artificially on a small scale. Lamp brooders are of many different makes, but are nearly all built on the same principle. They consist of a box heated by an outside lamp, the hot air from the lamp being conveyed to the upper part of the interior, and the passages for the chicks being small, to prevent a circulation of air which would make the temperature too low. In some brooders a second compartment, partly heated by the warmer air from the first, is provided. Though mostly on the same general model, brooders of this type vary somewhat in construction, especially in quality of materials, workmanship, and adjustment. With proper attention most of them will give very satisfactory results. As a rule, the cheap brooders require closest attention, and involve the greatest risk of fire. In all lamp brooders the danger from fire is greater than with incubators, first, because of the dust raised by the birds, and next, because the lamp is more exposed. Somewhat different styles of these brooders are made for indoor and for outdoor use, the outdoor style being built to protect the brooding compartment and lamp from the weather. Poultrymen generally prefer to use the indoor style in a small house or under a shed. Kerosene lamps are most used for heat, but gasoline has been found satisfactory. A small system of brooders may be heated from the same reservoir of gasoline. The risk and the labor of caring for many lamps tend to limit the use of individual brooders."

The best temperature for the brooder when the chicks are very young is 105 to 106 degrees F. This assures plenty of heat if the birds need it, and there is no need of them huddling together. The general practice is to take the temperature in the brooder at about the level of the young chickens, and about 95 degrees is considered a very good temperature for this. It is necessary in brooding that the young birds have access to plenty of heat, and also to a place where they get sufficient ventilation. When they get too warm they always seek cooler places, and when they get too cold it is necessary for them to be able to get a temperature even above 95 degrees without huddling. The regulation of temperature requires some over-sight. It is also necessary to keep the birds raised early in the season in the brooders longer than those raised later on when the weather becomes warmer. From two months to ten weeks is a very good length of time to brood chickens in the cold weather.

THE APIARY.

By dipping the fingers in vaseline, lime or talcum powder the apiarist may prevent propolis sticking to the fingers. It may be washed off the fingers with soap if a little lard is first rubbed on the hands, otherwise soap will have little effect. Alcohol is useful but rather expensive, and the same may be said of benzine or gasoline. Common lye used for soap making is inexpensive and useful for removing propolis from the fingers.

Queens usually begin to lay when eight or ten days old, but during a period of poor pasturage or when drones are scarce they may not lay until three weeks old. When queens do not lay inside of the first twenty days during the honey flow with plenty of drones on the flight they are not likely to prove profitable. The principal exceptions to this is the fall-hatched queen which may go into winter the first and make a good layer in the spring, or a fertilized queen may give no indication of being fertilized until the colony is fed.

Spring Care of Bees.

After the bees begin to fly in the spring a careful inspection of their hives should be made. Where the stores are unequal or entirely too scanty in some hives they should be equalized in order to bring them through until the honey flow. Unless they have two or three combs of honey, stores should be taken from colonies that can spare them, but where there is no surplus then the hungry ones should be fed with a thick syrup consisting of two parts of sugar to one of water. The feeders may be placed on top of the frames and covered with packing. If cool weather recurs after a warm spell starvation will be averted, for the bees will cluster around the food supply and keep themselves from hunger. When colonies have been stored away in the fall and given a sufficient amount of stores, there is not much danger of lack of food in the spring. The strength of the colony in the spring is very dependent upon the winter management. Where the bees are stored away with lack of food there will be a lack of vigor in the spring. Furthermore, if old queens have been allowed to exist in

the apiary brood rearing will be very lax in the fall, and the colony will go into winter quarters in a weak form. These conditions combined with improper packing is liable to cause dysentery in the brood. Where the hives are improperly packed the bees are liable to gorge themselves with stores in order to maintain their heat. Where the season of no flight is a long one their intestines will become gorged and dysentery will result. All these lead up to spring dwindling, which some consider a disease, but which is nothing more than a condition of the bees.

An inspection may reveal several dead colonies. The entrances to these should be shut up tight, else robbing may take place and the whole apiary become disturbed. If the combs are not too much daubed by dysentery in the bees, they may be stored away and given to healthy bees. They are valuable and should be well cared for, while badly-soiled combs should be put through the wax extractor. It is necessary in early spring to rake out the dead bees in the entrance of some hives. Some colonies will be able to do their own house-cleaning, but in many cases the entrances will become so clogged with dead bodies that it is impossible for the bees to do the work, and they may all die.

The question of uniting weak colonies has always been a debatable one. Some successful beekeepers do not believe in it and do not practice it, but there are some features about it that commend it to practical beekeepers. In practicing this method of strengthening hives it is not wisdom to unite two weak colonies. A weak one should be given to one of medium strength, allowing the two to grow. The "Alexander Method" of uniting colonies has in most cases been successful. It is done thus—about six or seven days after taking the bees from their winter quarters the weak and strong colonies should be marked with the numbers on each, indicating which ones are to be united. Then all the weak colonies that have a patch of brood in one comb as large as the hand are set on top of a strong colony with a queen excluder between, and all the entrances to the weak colony should be closed, except through the queen excluder. Those colonies that have only a queen and perhaps not more than a handful of bees with no brood, should be handled as follows: Going to the colony which is considered strong enough to have the weak one united with it, the operator gets a frame of brood with its adhering bees, being sure not to take their queen. The queen of the weak colony is put on this comb with the strange bees and put into the weak hive. They are left that way for about half a day, then they are set on top of the strong colony from whence the comb was taken, with the queen excluder between. This should all be done with very little smoke or excitement. If it happens to be a cool day and the bees are not flying the strong colony may be left uncovered, except by the excluder, for a few hours before setting on the weak colony. The whole thing should be done as quickly and as quietly as possible, so neither colony will realize that it has been touched. In about thirty days each colony should be crowded with bees and maturing brood.

A period of warm weather in the spring may result in brood rearing before pollen is available. If there is no pollen in the hives the bees will be seen to cluster in the hen-house or buildings and work amongst the sawdust or chop and bran. They are looking for artificial pollen, and if it is not provided in some form there will be a great quantity of dead brood about the hives. A little pea or rye meal should be placed in the sun, and covered so the bees may have access to it.

FARM BULLETIN.

What Would Mr. Banker Advise?

Editor "The Farmer's Advocate":

A city bank customer has borrowed \$900 for three months at 7% interest, giving as security a high-grade 4% bond of \$1,000. The loan matures but the borrower sees no prospects of paying it off before another six months. The bank's loan is good beyond question, but the borrower is obviously facing a loss in interest if he renews his loan. In the language of a live-stock man "it is eating its head off." What would his banker advise? Renew the loan, or sell his security and pay off the loan?

Now, this has been and is the position of many an owner of good feeding and pure-bred breeding cattle. From a patriotic viewpoint there is little doubt that it would be better for our country, and for the owners too, that such live stock should be carried on; but when the owners cannot stand the day to day loss without help, what are they to do?

Here is a chance for a "patriotic scheme" to save the present serious depletion of our live stock. The promoter of such a scheme need not be a live-stock man, the honor is open to a live banker or a member of parliament.

A CANADIAN CATTLE BREEDER.
Wentworth Co., Ont.

South Peel Notes.

Editor "The Farmer's Advocate":

Perhaps never before have we noticed how circumstances will alter people's ideals. A year ago the future looked so bright. Now our nation is involved in a bloody war. A year ago most of our stockmen were optimistic in their views. Now they are taking rather a pessimistic view of their business. When they see the raw material, such as oats and hay, going to such prices and watch the prices of cattle and hogs as well as horses go downward, they feel like going back to the style of farming of their fore-fathers—grow grain and hay, sell it and enjoy the winter months instead of working. Many a man will sacrifice a herd that took years to build up because he wants to share the little extra gain. If he would only stop to consider how different his plans would be! Although grains will likely be high during this year, yet meats will keep pace in price. We must not forget that Tommy Atkin's need to-day is flour for bread, oats for his porridge and food for his horse, but we also must remember that his appetite craves for our beef, our bacon and eggs as well as our cheese. Let us remember that if we do our part well as producers that we can serve our King and country, although not on active service. How selfish men are in this critical time, changing their methods not in the interest of their country but because of the lust of gain.

Farmers of this district took advantage of the low price of cottonseed meal, oil cake and gluten, and by using these along with home-grown feeds managed to economize in the feed bill. And yet there are a large number who are putting unfinished cattle on the market. At one shipping point in this county two weeks ago a dealer told the writer that he paid out for stock over \$5,000, and he makes a weekly shipment. I think that the warning should go out to those who are being led to change. Remember the words of the poet as he wrote truly when he penned these words:

Have a purpose,
And that purpose keep in view,
Drifting like a shiftless vessel
Thou canst ne'er to self be true,
Half the wrecks that cross life's ocean
If some star had been their guide,
They would have reached a place of safety,
But they drifted with the tide.
Peel Co., Ont. PEEL FARMER.

Huntingdon Dairymen's Association.

The Huntingdon Dairymen's Association held what was considered their best convention at Howick, Que., on Feb. 26, 1915. In opening the meeting the President, Robert Ness, referred to the progress made in dairying and agriculture since the organization of the Association thirty-three years ago.

Among the topics developed at the Association meetings was one entitled, "Market Milk." This was treated by W. F. Stephen, Huntingdon, Que., who drew attention to the regulations put into force by several cities in Canada and the United States, particularly mentioning the regulations of New York City where milk was graded and paid for accordingly, and where the farmer who delivered a clean, wholesome milk received a price in keeping with his product. The speaker said it cost more to produce clean milk, and the farmers should be paid extra to do it. He also contrasted the conditions governing the milk supply of Montreal and Ottawa. In the latter city the system of inspection is more perfect, and a higher price is paid to the producer who delivers a high-class milk. In Montreal, under existing conditions, no preference is given to the farmer who has at a big expense brought his herd, stables and dairy up to a commendable standard, as he realizes little more for the milk than does the man whose dairy only scores 50 points. Mr. Stephen advocated the grading of milk for Montreal in order that those supplying milk with a low bacteria count and with a fat content of not less than 3.50 per cent., should receive more than those delivering a poor quality product. The speaker emphasized the fact that for success it was essential to have cows that would produce annually not less than 8,000 pounds of milk, and as much of the protein foods as possible should be raised on the farm.

Another subject ably developed was the Live-Stock Industry. Prof. H. Barton, of Macdonald College, said in relation to this subject, after reviewing conditions in other countries and consulting authorities, he had come to the conclusion that there were not enough animal products to go around. He compared present-day conditions with those of the few years past. Now feeds have soared 30 and 40 per cent. over a year ago, and in the great live-stock centres they were rushing cattle and hogs to market unfinished rather than feed them. This would cause a great shortage of beef cattle and consequently higher