

dividual than one whose dam is a phenomenal, record-breaking cow. There are many fine bulls sacrificed to the idea that nature will permit sudden great elevations of quality. Now, quality must be backed by the physical health of the animal; so, if we push quality before conformation, or correct form has been built up strongly, we are apt to lose health. Milk production is a heavy strain, and the animal must not only be physically educated herself to stand it, but must have inherited the acquired constitution from her dams.

Each sire used in breeding the herd should be more refined in type than his predecessor. We believe in each generation having fresh blood introduced, and do not believe in incestuous inbreeding.

Dosing for Milk Fever.

American special-purpose dairy papers, and some general-purpose journals, continue to publish antiquated formulas for the cure of milk fever in cows, under which thousands of the best annually go down to death, while enlightened Canadian veterinarians and dairymen are saving the lives of over 95 per cent. of cases by the simple process of injecting pure oxygen into the udder through the teats, and without any dosing with salts or other medicines, one firm of veterinarians having saved 47 cases out of 48 by this means, the only troublesome cases having been those which had been dosed before the up-to-date doctor was called in. Another veterinarian reports a magical recovery in every case except those previously dosed, a few of which have succumbed to pneumonia, the result of medicine given having entered the trachea, owing to the inability of the cows to swallow. Even in these cases, the administering of the oxygen brought the cows out of their state of coma, and would doubtless, have saved their lives but for the dosing.

When dairymen and cow-keepers generally learn to adopt nature's course of letting the calf suck for the first three or four days after it is born, or being careful to milk the cow only partially for that period, there will be a mighty falling off in the number of cases of milk fever, and if the few cases that then occur are treated with the oxygen remedy the losses will be practically nil, but it takes some people a long time to learn, and the oxygen cure is so simple that it doesn't appeal with force to those who are fond of physic. It is well, however, that so many have so far advanced as to rule out of the list of cattle complaints what used to be termed hollow-horn, the orthodox treatment for which was boring a gimblet hole in the horn, splitting the tail, and filling both orifices with salt and pepper. The practice of dehorning has knocked one branch of this business endwise. Let us hope the tails may not have to go as a sacrifice to ignorance or superstition. But whatever you do, dear reader, don't dose the cow for milk fever, for the good ones that have been killed by that process would make a hecatomb higher than the Himalayas.

Watch Your Skim Milk.

At this time of the year, when the milk comes in cold, there is need of care in heating the milk for separating. It is true some separators will skim closer than others with cold milk, yet they will all do better work when it is warmer. The extra loss of 0.05% of fat in the skim milk seems very small in itself, and yet it means five pounds of fat on 10,000 pounds; but in some creameries it may be found twice that, simply because the milk is not properly heated.

It behooves the buttermaker to watch this part of his work as closely as he does the cream ripening, but it behooves the owners—be they individual or co-operative—to enable him to do this without slighting other work. In order to do this a proper heater—indeed, a pasteurizing heater, of sufficient size—should first of all be provided so that the buttermaker need not stand with his eye on the thermometer and his hand on the steam valve all the time to get a uniform temperature. But even a good heater is not all that an up-to-date creamery should have; there should also be one of the automatic heat regulators, which now seem to be accepted across the water as being satisfactory—that is, they will hold the milk within two to four degrees of the desired temperature. We thus notice that the Casse regulator is fully endorsed by Swedish and Danish authorities. Why haven't our experiment stations investigated the matter? Meanwhile, pending obtaining perfection, we hope the buttermakers will not forget to watch the temperature of the milk frequently, and test their skim milk often.—[American Creamery and Produce Review.]

Diluting Cream.

In discussing the dilution of heavy cream, a writer in the New York Produce Review and American Creamery, says:

"I should prefer skim milk to either whole milk or water for thinning a heavy cream. The water supply at most creameries is an unknown quantity. A complete chemical analysis might determine whether it was sufficiently pure, but the possible sources of contamination are usually so numerous that it would be rather risky to use it when either whole or skim milk could be obtained, as, though perhaps pure to-day, it might not be a few weeks or months later.

"I prefer skim to whole milk or water, for these reasons—in addition to my reasons for not using water as given above—the process of separation has removed a large amount of objectionable matter that is present in whole milk, and it is, in my opinion, much easier to detect faults in skim milk. Again, although milk is largely composed of water, and although, perhaps, a chemical analysis will show no difference between such water and that drawn from a well, still it seems to me that there is a difference not susceptible of analysis, but which, nevertheless, is potent in its influence, and that influence is for the good of the ultimate product—whether it be butter, cheese, or cream."

APIARY.

Ontario Beekeepers' Association.

The twenty-fourth annual meeting of the Ontario Beekeepers' Association was held in Trenton, Ont., Dec. 1st, 2nd, 3rd, 1903. The president, Mr. W. A. Chrysler, occupied the chair. Besides the usual papers, question drawers and discussions on management, addresses of interest were given by C. C. James, Deputy-Minister of Agriculture; Prof. F. T. Shutt, Chemist, and John Fixter, Apiarist, Experimental Farm, Ottawa.

In his opening address, the President unkindly reminded the members that they were a year older than at last convention. He hoped that the discussions would tend largely to the matter of marketing honey. He also urged careful attention to the foul brood disease, that, if possible, it might be stamped out. According to the Ontario Government statistics, we have in Ontario this year 207,936 colonies of bees, an increase over 1902 of about 5,400.

In a paper on Ontario apiaries, Mr. B. O. Lott advised beekeepers to study their locality as to the proper time and place to move. He gave instructions for preparing hives for moving. On top and underneath the hive are fastened frames covered with wire-cloth screen; these replace the cover and bottom board. The combs are secured from shifting sideways, and care is taken, when hives are loaded, to have them lengthwise in car, or crosswise of wagon. The discussion brought out different ways of fastening frames. If the top bars are even with the top of the hive and the bee-space underneath the frames, no special fastening is needed, provided they are self-spacing. The pressure of super or cover will hold them firm. A permanent portico, to which the bees can be confined by a screen, was recommended by Mr. R. F. Holtermann.

QUESTION DRAWERS.

The first was opened by Mr. Morley Pettit:

1. In hiving swarms on starters, pollen is kept out of sections by using a comb with the starters to catch the pollen; also use a queen excluder.

2. To separate propolis from beeswax, allow the mass when melted to cool very slowly, and it will settle out of the wax.

3. As to size of hive, Mr. Pettit advised the 10 or 12 frame Langstroth, with 24 L. frames super capacity. Queens that cannot fill a hive of this size should be replaced by better ones. Messrs. J. B. Hall, R. F. Holtermann, C. W. Post and others endorsed this view. A large hive can easily be contracted with division boards, a small one cannot be enlarged except by doubling up, when the tendency is for the lower brood chamber to be deserted. Others opposed the use of so large a hive, and the matter was left to every man to settle for himself.

4. Bees will carry eggs from one comb to another, but probably not into the super. Drone brood there is the result of laying workers.

5. It is more profitable to have extracting combs built on full sheets foundation. When established in combs the extra secretion of wax can be saved by uncaping deeply, and allowing bees to build out the cells again.

6. Mr. H. G. Sibbald—Too much honey has been put into barrels this year.

Mr. C. W. Post, Trenton, opened the second question drawer. When asked:

1. About bee escapes, he advised their use for removing comb honey, but not extracting supers. The honey gets too cold for the extractor.

2. To prevent swarming, give plenty of supers and wire-screen bottom boards. Messrs. Dickenson, Pettit, Hall, Holtermann, and others, said this did not prevent swarming for them. With an intermittent honey flow it might be all right, but where one source yields till the next begins it is no use.

3. Hive swarms on starters for comb honey, but for extracted honey put full sheets of foundation or drawn combs in brood-chamber.

4. In running for extracted honey use the regular Langstroth depth of frame, 9 1/8 in.

Mr. Morley Pettit read a paper on "Forced or Shaken Swarming." The swarming problem, he said, is perhaps the greatest one in connection with expansive beekeeping. One yard can be watched for natural swarms from morning till night, but that is poor economy. We must study short cuts. He retards swarming as long as possible, then practices shaken swarming, a method which has been described in these columns before.

Experiments conducted at the Experimental Farm, Ottawa, were reported by Mr. John Fixter. He spoke highly of sanfoin clover as a honey plant, and also for hay and pasture. He also described a method of wiring frames with vertical wires.

Prof. F. T. Shutt, Chemist, Experimental as to probable prices, and had also drafted a set Farm, Ottawa, described a continuation of the experiments he has been conducting, re proper storage of honey. His results confirm the usual teaching to keep honey in a dry place. Experiments in making honey vinegar will be more fully reported next year.

MARKETING HONEY AND THE FOUL BROOD ACT.

Mr. H. G. Sibbald, Chairman of the Honey Exchange Committee appointed last year, gave his report. Owing to lack of confidence of beekeepers the Exchange had not handled honey, but had collected crop reports and advised members of grading rules for honey. Mr. Morley Pettit stated that the committee had done good work, but in order to handle honey a stock company was necessary. The possibilities of the British market were discussed at some length. A committee was appointed to collect crop reports, also to approach the Dept. of Agriculture at Ottawa, with a view to establishing a market in England, with power to arrange for a system of grading by special Act of Parliament. At the suggestion of Prof. C. C. James, a transportation committee of Messrs. B. O. Lott and Wm. Couse was appointed to meet the R. R. Commission at Ottawa, with reference to better rates on bees and honey.

The report of Foul Brood Inspector, Wm. McEvoy, elicited much discussion and criticism. A committee appointed to revise the Act recommended that organized districts be given power to appoint sub-inspectors. This recommendation was adopted by the convention.

The election of officers resulted as follows: President, J. W. Sparling, Bowmanville; 1st Vice-Pres., H. G. Sibbald, Claude; 2nd Vice-Pres., R. H. Smith, St. Thomas; Secretary, Wm. Couse, Streetsville.

Directors—District No. 1, W. J. Brown, Chard; 2, J. K. Darling, Almonte; 3, M. B. Holmes, Athens; 4, C. W. Post, Trenton; 5, J. W. Sparling, Bowmanville; 6, H. G. Sibbald, Claude; 7, Geo. Wood, Wesley; 8, Jas. Armstrong, Cheap-side; 9, R. H. Smith, St. Thomas; 10, G. A. Deadman, Brussels; 11, J. F. Miller, London; 12, Samuel Wood, Nottawa; O.A.C., Prof. F. C. Harrison, Guelph.

Inspector of Apiaries, Wm. McEvoy, Woodburn; Asst. Inspector of Apiaries, F. A. Gemmel, London. Auditors, Messrs. Nolan and Byer. To Revise Report, Messrs. Sibbald and Pettit. Next place of meeting, Toronto.

Special Clubbing Rate.

In order to greatly increase our subscription list, we make the following liberal club rate: One renewal and one new subscriber, \$2.50; one renewal and two new subscribers, \$3.25. Regular subscription price, \$1.50 per year (52 numbers). Show prospective subscribers a copy of the weekly. Every farmer should have it. Address, "Farmer's Advocate," London, Ont.

Clean the cream separator every time it is used. No matter what type of separator be in use it requires cleaning with hot and cold water every time it is used. Some agents claim for the machine they handle that their particular separator requires little or no cleaning. Some separators are more easily cleaned than others, but every one of them requires to be cleaned every time it is operated.