

APIARY.

Bee-keepers Meet in Convention.

The Ontario Apiary Association held its annual convention in Stratford, Jan. 22-24. The attendance was good, and discussion lively.

As the outcome of a paper on "Conventions," by W. A. Sherrington, Walkerton, it was resolved that the Executive Committee make it their business to arrange a programme for the next annual convention, and that the same be in the hands of members of the Association a considerable time before the convention takes place.

Spraying Fruit Trees at Blooming Time.—Prof. Fletcher referred to American experiments conducted to find out the effects on bees of spraying fruit trees in bloom, which have proved that there is great danger of killing large numbers if such a practice is carried on. To spray while the bloom is on has a very disastrous effect upon the crop of fruit, for the reason that the pistil of the flower is such a delicate organ that a spray sufficiently strong to destroy insect life would also render fertilization and fruit setting almost impossible. An instance was cited in which a plum grower sprayed his trees in full bloom, irrespective of the result to bees at that time. The crop was almost an entire failure.

Foul Brood.—Inspector McEvoy reported that he had visited 105 bee-yards officially in 1894, finding disease in 39 apiaries, 34 of which had suffered a high death rate. He found the unfortunate ones anxious to comply with his line of action. Most of the outbreaks found last year were largely in new fields. Foul brood is decidedly on the decrease in Ontario.

Will the Bee-keeping of the Future Differ from that of the Past?—Mr. W. Z. Hutchinson, Michigan, editor of the Bee Review, spoke of the primitive methods of half a century ago, when bees were able to collect large stores of honey with very little care. The rapid advance made in the science has resulted in the production of such large quantities of honey that the price has dropped till many have discarded the industry. Mr. Hutchinson is of opinion that the prospects for bee-keepers are not sufficiently bright to warrant any one depending upon bee-keeping alone. For several seasons the honey crop has not been satisfactory, owing in a large measure to summer droughts, destruction of basswood, and falling off of general floral growth. The discussion on this paper brought out the idea that Ontario bee-keepers have less reason to complain than Michigan apiculturists. Our hopes need not drop while Canadian thistles flourish to the extent we yet see them. Wild mustard, too, yields a liberal flow. Alsike clover has furnished the bees with liberal stores most seasons; but the little white clover is not safe to depend upon.

How Are Bees Wintered?—Mr. R. H. Smith, St. Thomas, is of opinion that out-door wintering is all right where the bees can have a flight in January; but in climes too cold for that, cellar wintering is productive of best results. For out-door wintering, it is a good plan to place four hives in one box—two facing east and two west, allowing a few inches between the hives and the outside case, to be packed with such materials as dry forest leaves, sawdust, chaff, etc. In cellar wintering, they should be kept in a dry atmosphere, about 43° Fahr. It is important that the cellar be well ventilated.

Pure Honey Bill.—Mr. S. T. Pettit, Belmont, reported the advance that had been made in regard to obtaining legislation to prohibit the manufacture of sugar honey. Many replies from ministers and members of the Dominion Parliament, to a circular letter sent them by Mr. Pettit, showed clearly that the movement is right, in order that Canadian honey may have a high reputation in the markets of other countries. The bill passed the Commons, but was thrown out by the Senate. There is every reason to believe that at next session the Senate too will see fit to put it through. The Association therefore re-appointed the Committee that have had the matter in charge to go to Ottawa at the proper time to wait upon the Parliament in the interest of its passage.

Marketing Comb Honey.—Mr. T. A. Gemmil, Stratford, in a suggestive paper on "Marketing Honey," pointed out that honey should in every case be put on the market in as attractive a form as possible, and that as comb honey sells more readily and at a higher price than extracted, more comb honey should be produced. Comb honey should always be well capped. One of the reasons why extracted honey brings so low a price is because it is often placed upon the market before it is properly ripened. Mr. Gemmil suggested that producers of comb honey stamp their names on the sections, so that good honey will be rewarded by an increasing demand.

Some Difficulties.—Mr. J. K. Darling, Almonte, dealt with "Difficulties" in a manner to draw out valuable discussion. In regard to winter losses, it is the opinion of some that colonies of bees can be wintered with as little fatality as any live stock on the farm. Mr. Pettit, who has been very successful in bringing out live swarms, said that wintering should commence in July by arranging to have a good queen, strong colony and liberal stores of well-capped honey. If wintered in the cellar, they should be put in just before freezing up, which will vary with location, from Nov. 1st to 20th. The cellar should have ventilation pipes which can be closed in windy weather. Mr. Pettit's plan is to raise the

back of the bottom board three inches higher than the front, and the hive proper three-eighths of an inch higher at the back than the front, so that there shall be free bottom ventilation. The top should be hermetically sealed with a heavy white duck cloth, that has been on for some months previous. It is also well to have a cushion on the top of the cloth. Now, by this automatic ventilation, if the temperature is kept about 40 to 42°, the bees will be in as near a state of hibernation as possible; which is desirable. When they are in this condition they are not wearing out by buzzing, and they are using the minimum amount of honey to keep them alive. If a swarm becomes uncomfortable in the winter season they almost invariably commence feeding the queen, causing her to commence to lay, and brooding results, to the disadvantage of the colony. The hives are set in tiers, commencing 15 inches from the floor.

Mr. Darling complained in his paper about heavy winter losses. When it was learned that his bees were moved a long distance from the summer stands to the cellar, the trouble was at once solved to the satisfaction of many of the bee-keepers, as by jarring the colonies, as would be done in a long transit, many cells would be uncapped, and a general disturbance ensue. "Mixing up" in spring was well discussed. Mr. J. B. Hall, Woodstock, has overcome that difficulty by numbering the stand and colony when cellared in the fall. In the spring only a few are put out at a time and placed in different quarters of the yard, but each colony on its previous stand. They are never put out in windy weather, as that causes mixing. In this way there is never any confusion, as there is not apt to be trouble after the first flight.

Some of the members have had trouble getting the bees to work in the upper combs. It was generally concluded that the fault lay in the breed of bees. The lighter colors, as the five-banded, often fail to rise readily. Virgin queens have been introduced with good effect.

Comb Foundation.—Prof. Fletcher discussed experiments that have been conducted at the Central Experimental Farm, along the line of comb foundation. According to samples of comb made upon artificial foundation, it was shown that there was great advantage in using good wax over poor for foundation. A medium weight of foundation gives best results.

Mr. Allen Pringle read an elaborate, well-prepared paper on Education, containing many suggestive points, but without any reference to bee-keeping.

OFFICERS.

President, Mr. J. B. Hall, Woodstock; Vice-President, Mr. J. K. Darling, Almonte. Directors—Messrs. W. J. Brown, Chard; J. K. Darling, Almonte; M. B. Holmes, Athens; Allen Pringle, Selby; J. W. Sparling, Bowmanville; William Couse, Streetsville; A. Pickett, Nassagaweya; F. A. Rose, Balmoral; S. T. Pettit, Almonte; A. B. S. Herrington, Walkerton; F. A. Gemmil, Stratford; W. A. Crystler, Chatham; Hughes, Barrie. Foul Brood Inspector, Mr. William McEvoy, Woodburn; Sub-Inspector, Mr. F. A. Gemmil, Stratford; Auditors—Messrs. John Myers, Stratford; R. H. Smith, St. Thomas. Delegate to Toronto Industrial Fair, Mr. R. F. Holtermann, Brantford; to Western Fair, Mr. R. H. Smith, St. Thomas.

The next annual convention will be held in Brantford.

VETERINARY.

Milk Fever.

An article on this subject appeared recently in the FARMER'S ADVOCATE. It contained so many inaccurate deductions that I feel it incumbent to point out what I consider to be the cause and its prevention. I shall not attempt to analyze the statement, but leave your readers to compare each article, and as far as my experience of a very large number is concerned, state what I consider to be the actual cause, the symptoms presented in all cases, and the result of many post mortem examinations.

Parturient apoplexy, milk fever, or dropping after calving, occurs from a few hours up to two or three days—rarely after the third day. It is more common in old cows than young ones, and generally at the birth of the third or fourth calf, or after the cow has become mature and devoting all her powers to the production of milk.

Calving may be said to be an exciting cause, yet the labor and fatigue is not the exciting cause, for it is after the easy calving—when there has been little expenditure of vital forces and no loss of blood—that this malady is more frequently seen: cows in high condition—those that give a large quantity of milk. One of its irregularities is its being entirely confined to the bovine race, no other animal being liable to its attacks.

The symptoms, if noticed in the very earliest stage, are characteristic and peculiar. The cow, standing in her stead, will be observed to have a peculiar, restless, exciting movement with her hind-quarters; she will shift her weight first on one leg and then on the other, and may be termed paddling, as children do when walking on the water's edge. If she is made to walk she will reel as if from weakness; she steps unsteadily, staggers, falls, and rises with difficulty; the eyes appear dull, listless, with the pupils dilated; the weakness increases and she will fall, unable to rise again, although she

makes frequent efforts. Her pulse is now increased in number 75 per minute; temperature, 102; her breathing accelerated, and the stomach filled with gas. The brain becomes affected at this stage, which may be known by her throwing her head about, lying on her right side; the head now becomes fixed and cannot be withdrawn, the hind limbs become insensible to pain; the eyes are not only insensible to light, but may be touched with the fingers without the animal evincing consciousness; the breathing is attended with difficulty, and the power of swallowing entirely gone.

As to the pathology of this disease, many and various are the opinions of those most qualified to judge. The rapid and easy removal of the fetus causes a large curtailment of the maternal circulation, and the sublumbar blood vessels dilate, owing to the sudden removal of pressure, and as a result we get sudden congestion of the brain and spinal cord, and the symptoms of cerebro-spinal excitement present; or, to put it very plainly, we get all the symptoms of drunkenness: first the excitement, then the stupidity, and afterwards the profound sleep. During the congestive stage a capillary may be ruptured in her brain, and death result from true apoplexy.

So it is with the cow: she practically bleeds into her own vessels; if the primary injury to the cerebro-motor centres be not too severe, this dilatation becomes nature's cure. The excess of blood is absorbed, the nerve centres regain their power gradually, and the cow rises again, to all appearances as well as before, but will be again liable if from the same cause.

We say with all likely subjects, allow the calf to suck from three to four days after calving. "And never hand-milk before."

The question now naturally arises: How can emptying of the udder produce brain pressure?

It is a recognized fact that during pregnancy the nervous system is in a peculiarly excitable condition, easily disturbed and prone to the influence of shock. Parturition is naturally accompanied with much pain and great expenditure of nerve force. This extra expenditure of nerve force does not cease with the termination of labor, but is, in part at least, transferred to the udder, which is now taking on its active secretory duties, and is attended by swelling, tension and pain.

Cows which are subject to milk fever, by reason of their painless labor, the forced feeding to which they are usually subjected, and their more highly developed mammary gland, have this transference intensified. If left to nature—that is to say, "the calf be allowed to suck and no milk drawn by hand"—several days must elapse before the vessel can be entirely emptied, and the congestion, swelling and pain relieved.

This will explain why the disease is never seen in primipara, or the first calf, for in them the milk-secreting functions of the udder do not assume their full function until several days after calving. It also explains why cows who require much manual assistance in calving are exempt, for in them the superabundant nerve force is expended in the efforts of expelling the fetus.

Treatment.—If the theory of the cerebro-spinal congestion is correct, there are two methods, both of which are successful: one to increase the heart's action by means of stimulants, the other to administer nerve sedatives to allay their irritability. In the first stage small and repeated doses of alcohol—say good whiskey, ten to twelve ounces in equal quantity of water, and repeated every two hours—will often cut short an attack, but it must be given in small doses, frequently repeated, and not in poisonous doses. The other by means of nerve sedatives, to allow of a natural supply of arterial blood to the brain. Small doses of chloral hydrate and the extract of belladonna are indicated.

Place the patient on a level floor, put her in as natural a position as possible, and maintain her in such by bundles of straw; keep her head on a level with but not raised from her body; do not take any milk from the udder until recovery is apparent, and then only a very little at short intervals for two days.

The medicine should be stopped as soon as the cow can hold up her head quite steadily. During convalescence, which in most cases is remarkably short, the patient should be fed on hay, bran and flax-seed mashes, and should have well-boiled oatmeal gruel to drink.

Prevention is better than cure, and the treatment should be as follows:—Within six or eight weeks of calving (the longer the better) the cow should be turned off to dry. At the end of thirty-seven weeks of gestation, take her into the stable day and night, allow hay and water only, and let this be her only food.

After calving, which ought to be always indoors, give two hours after that event a brisk purgative: Sulphate of magnesia, 1 lb.; nitrate of potash, 1 oz.; ginger, 1 oz. Dissolve in three pints of boiling water and give when cool. For three days after parturition the hay and water diet is to be continued, and rigidly adhered to after the time all danger may be considered over.

There are no post mortem pathological lessons whereby we can determine the actual cause of death. A small quantity of blood will be found on the ventricle of the brain, and slight effusion into the spinal canal; these cause pulmonary apoplexy and death; and provided these organs were removed, we doubt if any one could say the animal was not fit for food.

DR. WM. MOLE, M. R. C. V. S., Toronto.