their carelessness or lack of skill in making; that the above clauses be inserted in agreements between makers and factorymen; that in case of dispute re quality between maker and factorymen, the maker has the privilege of calling in an inspector appointed by this Association; that an inspector be appointed in the different sections, to be called on if necessary."

Officers.—President, T. B. Millar, Guelph. Directors—E. Agur, Bowmanville; J. T. Henderson, Pine River; G. H. Barr, Sebringville; G. E. Goodhand, Milverton; W. W. Brown, Attercliffe Sta.; J. Morrison, Stratford; T. Barre, Ingersoll, and John Brodie, Mapleton.

British Columbia Dairymen's Association.

The Dairymen's Association of British Columbia convened at New Westminster on the 21st January, when, although the attendance was disappointing, a good meeting took place. Papers on "The Winter Feeding of Cows," by Mr. Richards, of the *Pacific Coast Dairyman*, and Mr. F. H. Page, were presented in a very practical manner, and the "balanced ration" problem was thoroughly discussed. At the evening session the question of feeding fat into milk came in for a great deal of attention. Owing to the very diverse views held and expressed, the discussion became very animated, but ended by, apparently, leaving the audience without definite evidence on either side of the "case."

Mr. A. C. Wells, of Chilliwack, was elected president for 1898, and J. H. Hadwen, of Duncan's, secretary-treasurer.

The financial statement showed the Association to have a surplus on hand, and it was decided to hold a series of meetings throughout the dairying districts of the Province, and a committee was appointed to arrange for the systematic testing of milk, as it was held that many cows were unprofitable and a source of loss instead of profit to their owners. The next annual meeting of the Association was fixed for Ladner's Landing.

VETERINARY.

Glanders and the Mallein Test.

Professor McCall, of the Glasgow Veterinary College, recently submitted to the local authority a report on the above subject, which we copy from the *Scottish Farmer*. He says: "Authority having been given me to apply the mallein test (owners consenting) to horses suspected of being affected with glanders, or in contact with diseased or suspected horses, I find that since 16th October till 31st December, 1897, 320 horses have been inoculated with mallein. Of the 320 horses, 147 have responded to the test, the indications of which are elevation of temperature, and, in from twenty-four to thirty-six hours, considerable swelling of the part injected, with stiffness or lameness of a fore limb. The 147 horses having responded to the test, and by it declared to be affected with glanders (although in not one single instance presenting visible or clinical symptoms of being diseased), were thereafter valued and slaughtered." He proceeds in his report to deal with the query as to whether it is imperative that all horses which react to the mallein test should be slaughtered. He quotes from a paper by Professor Nocard, of the Alfort Veterinary College, Paris, and agrees with the opinion that pulmonary glander in its early stage is curable, and that, therefore, the slaughter of infected horses should be suspended until clinical evidence of glanders is recognizable. To sum up, what he thought now wanted was: (1) Power to license stables. (2) Power to test with mallein all studs in which glanders by clinical evidence has declared itself present. (3) Power to compel separation of the horses which react to mallein from those which do not react. (4) Power to prohibit the sale of all horses which react to mallein, and to retest the reacting animals twice during the first month, and monthly thereafter, until the animals cease to react to mallein. The local authority, after consideration of the report, appointed a deputation to co-operate with the Lanark County Council in approaching Mr. Long, of the Board of Agriculture, to seek power for both city and county to license stables, to test with mallein, to compel separation of the horses which react, to prohibit the sale of all horses which react, and to retest them at particular periods thereafter. The members of the local authority appointed to the deputation were Councillors W. Stevenson, Brechin, Martin, McFarlane, and Chisholm, with Professor McCall and the clerk.

Remedy for Warts.

To the Editor FARMER'S ADVOCATE:

SIR,—I see in the ADVOCATE recipes for taking warts off animals. I will give you one with which I have taken off large warts after trying several other remedies which did no good. Rub the wart well with castor oil (such as is used for machine oil) once a day until wart is gone. It will take quite a while if the warts are large, but it will make a complete cure and no sores about it.

R. W. L. R.

The merchant who allows his delicately tinted prints to stand in the sun and fade out until they will not bring more than a quarter of their original value shows quite as much business ability as the farmer who leaves corn fodder standing in the field in shocks until winter is half over, when it is neither palatable nor nutritious.

Abortion (Premature Birth).

This affection has been ascribed to many exciting causes, such as overdriving, railway journeys, ill-usage, accidents, acute indigestion, etc. It may spread as an epizootic, the cause depending upon a microbe present in the uterine discharges and fluids of animals that have aborted.

This specific microbe is now stated to have been discovered by Professor Bang, of Copenhagen, and his assistant, M. Stubolt; but whether the infecting or contagious germ has been isolated or not is a matter of little practical importance to stock-owners; it does not afford more information in the prevention and cure of the malady, at all events until the special life history of that microbe can be ascertained, than we at present possess. The old theory of the disease being of sympathetic origin, or that it was caused by the smell emanating from the placental membranes or cleansings that had been left in a field or cowshed, has been pretty generally done away with, owing to the fact of animals smelling and being in close proximity receiving no injury. Another supposed cause—the presence of ergotized grasses in the herbage—has also become obsolete to a great extent, as its supposed action of causing spasmodic contractions of the womb has been superseded by what at present is considered the true action when administered internally, viz., contracting the blood-vessels of the womb, and in this way preventing hemorrhage (bleeding) after difficult parturition (calving).

It was the supposed action of ergot of rye that caused it to be thought by analogy that the ergot of other graminaceous forage might provoke the contraction of the gravid uterus. It, however, has not been experimentally demonstrated that the ergotized grasses possess an identical action with that of the ergot of rye, and, were it even shown that it had the power of causing contraction of the muscles of the womb after the expulsion of the calf, there is no evidence of it having a similar action on the gravid uterus. Professor Nocard, of the Alfort Veterinary College, Paris, has never succeeded in causing a pregnant cow to abort, no matter what the dose or mode of administration of that substance. Abortion takes place when animals are housed before autumn, when the herb is cut before maturing of the ear, before the ergot has time to form; consequently, it can have no influence in the development of the disease. It has been proven the pus (matter) that drains from the vulva (orifice of external generative organs) of cows after abortion abounds in micro-organisms of the bacilli and micrococci type, and that these microbes are capable of cultivation in their appropriate media (fowl and veal soups, etc.), and that the liquid obtained by scraping the mucous membrane of the womb of aborted cows is not only acid, but swarming with microbes, specially between the mucous membrane of that organ and the envelopes or coverings of the young animal, and after the expulsion of the fœtus these micro-organisms exist without impairing the health of the animal, and are ever ready to react upon a new fœtus or its envelopes. This is the cause of repeated abortions in the same animal.

According to these views, the treatment lies in preventive measures being adopted to arrest the spread and destroy the infecting agent. The first introduction of the disease into a cowshed or byre is generally ascribed to the purchase of cows at fairs or auction marts, at which places the previous history of the animal is not stated—the cow being generally described as newly calved. Professor Nocard has made numerous investigations on this subject, and among these he made *post-mortem* examinations of cows that had aborted the previous year, and were found afterwards not capable of conception, and the reason he gives for this is of great importance: On *post-mortem* examination a mixed variety of micro-organisms were found. The liquid obtained by scraping the mucous membrane of the womb gave a *slightly acid reaction*. From this statement it is probable that as the spermatozoids—the impregnating agents of the semen of the bull—can only live in an *alkaline* medium, they cannot retain their vitality, consequently the cow remains barren. It must be remembered that these microbes, no matter how they gain access, live and breed between the lining membrane of the womb and the placental membranes of the young animal, and that the irritation set up by them and their products cause the expulsion of the calf.

Treatment.—Isolate aborting from pregnant cows. Cleanse and disinfect the premises in which an animal has aborted. Every week the floor of the byre or cowshed should be scraped and washed thoroughly, and then watered with a strong solution of sulphate of copper. Every week a vigorous injection should be thrown into the vagina of the pregnant cows with a clyster pipe full of warm liquid, of which the following is the composition: Take of distilled water, 20 litres; glycerine and alcohol, of each 100 grammes; bichloride of mercury, 10 grammes. Directions: Dissolve the bichloride in the alcohol and glycerine, mix with the water, and agitate well [Nocard]. This solution should be kept in a wooden bowl or other receptacle, and put out of the way of animals and children. Each morning as the animals are being dressed they should be carefully washed with the above warm solution around and over the anus, vulva, and inferior surface of the tail. In the case of a cow which has aborted, she ought to be cleansed by a veterinary surgeon, who should exercise great care, and afterwards irrigate the uterus (womb) with a caoutchouc tube carried to the fundus (neck), and through which should be poured eight or ten pints of the tepid solution above referred to. The fœtus and membranes on removal should be immediately destroyed, either by burning or boiling. Animals which have aborted should be fed off, for the microbes are dislodged with difficulty, and fresh generations are liable in subsequent conceptions to repeat the attack.—*Reviresco, in Scottish Farmer.*

APIARY.

Beekeeping.

The keeping of bees can be carried on as a profitable branch in any section where farming, gardening or fruit-raising can be successfully followed. Moreover, regions so rough and sterile or so swampy as to give no encouragement to the agriculturist, or even to the stock-raiser, will often yield a good income to the beekeeper, provided there is honey-producing flora or trees within a range of three or four miles.

Beekeeping usually becomes peculiarly fascinating to most people who take it up from choice, and when conducted on modern principles a material profit is usually secured. To this end, however, much labor and great watchfulness are necessary, and the performance of work at stated times is imperative, so that it is well in any case for a beginner to undertake only a few hives at first. Apiculture, like all other branches of agriculture, depends largely upon the natural resources of the location and the favorableness or unfavorableness of any particular season. The knowledge, skill, industry, and promptness of the apiarist have likewise much to do with the return.

A moderate estimate for a fairly good locality would be thirty to thirty-five pounds of extracted honey or twenty pounds of comb honey per colony, says Frank Benton in U. S. Department of Agriculture Farmer's Bulletin No. 59. When two or more of the important honey-yielding plants are present in abundance, and are fairly supplemented by minor miscellaneous honey plants, the colony may be considered excellent. With extracted honey at the usual wholesale price of six to seven cents per pound, and comb honey at twelve to thirteen cents, each hive should, under favorable circumstances, give a gross annual return of $2.50 to $3.00. From this about one-third should be deducted to cover expenses, besides the labor. These will include the purchase of comb foundation, and sections, repairs, eventual replacing of hives and implements, and the interest on the capital invested. By locating in a decidedly favorable location, the returns in a good honey season may be easily double or treble of the sum indicated. Reverses may come in any locality, and among these may be drought, great wet, late spring freezes, etc., which come sufficiently frequently to offset the very good seasons. On the whole, the intelligent management of a few swarms should be expected to pay for one's time, good interest on the money invested, a sufficient margin to cover contingencies, and a constant supply of one of the most healthful and luscious foods for the table.

With the exception of a very few persons whose systems are particularly susceptible to the poison injected by the bee, almost any person with fairly steady nerves and some patience and courage can easily learn to control and manipulate bees. It must be constanly borne in mind that quick motions around the hives give the guards warning that their home is in danger, hence the likelihood of stings in such instances. One who moves about with deliberation is seldom stung while in the discharge of his duties among the colonies. The exceptions to this occurs with some kinds of bees and at certain seasons. It is safe to say that almost any one can with perseverance and the exercise of due caution learn to manipulate bees with perfect freedom, and without serious risk of being stung. As a race, Carnolian bees are the gentlest, but the beginner need not hesitate to undertake to manipulate pure Italians. Crosses between blacks and Italians are nearly always quite vicious in the case of the first cross, and are even harder to subdue with smoke than pure blacks. The next essential after quiet bees is the possession of a good smoker, to be used when the bees are to be handled. This consists of a narrow can with pointed top and fitted with a bellows to blow the smoke evolving from burning wood inside the can. They can be secured from any bee supply store at a slight cost. A black bobinet or Brussel's net veil and a pair of gloves are also necessary. The veil should be drawn down over the hat, but after some experience both the veil and gloves can be dispensed with, if gentle bees are kept. Simple and convenient hives of Langstroth or Dadant pattern will also facilitate the avoidance of stings. The use of the bee-escape, too, greatly reduces the risk of being stung, as it saves much manipulation of combs and shaking and bruising of bees. This useful device is fitted into a slot made in a board the same size as the top of the hive, and the whole when slipped in between the brood apartment and an upper story or super will permit all the workers above to go down into the lower story, but not to return to the top one, so that in one night it is possible to free entirely a set of combs from bees without any further interference. Careful attention to the above appliances, with extra gentleness and intelligent moderation in manipulation, will enable anyone who desires to avoid bee stings.