

bent to a circle with the ends overlapping some inches, so that they can be tied together with small wire or stout cord. The mouth of the sack is then securely sewed round this wire hoop. A crotched stick, the prongs of which naturally or of their own accord stay as far or a little farther apart than the diameter of the wire hoop, is used, and with stout cord the end of each prong is tied to the wire hoop directly opposite each other, so that the sack swings free. Now the open mouth of the sack will always point upwards, no matter at what angle the pronged stick may be held. The stick below the prongs should be at least two feet long, so the small end of a long, light pole can be attached to it by allowing the two to overlap a couple of feet and binding them together with two short straps. Different length poles can be used, as they can be attached or detached in an instant.

"When a swarm is clustered on a small limb, the catcher can be raised up around them, then quickly raised up, which jars the limb so that the whole swarm falls right into the sack. If they are clustered on a large limb, the mouth of the sack can be raised up under them, then by moving it to one side the bees are brought into the sack, and a swarm can be picked right off the body of a tree, for by letting the mouth of the sack catch on the body of the tree below the bees, then gradually raising it up, the bees will be brushed in.

"Until tried, no one would believe from what apparently inaccessible places swarms can be secured with one of these, when rightly made."

[NOTE.—We have used this style of swarm-catcher in our apiary practice and found it most effective. If a swarm that repeatedly leaves the hives is kept imprisoned in this catcher for eight or twelve hours it will effectively cure the swarming impulse.—Ed. F. A.]

VETERINARY.

Making the Tuberculin Test.

Editorially in this issue of the FARMER'S ADVOCATE reference is made to the late conference at Ottawa on the subject of bovine tuberculosis and the tuberculin test, when, after discussion, an educational rather than a "slaughtering out" campaign was approved. Tuberculin, as a diagnostic agent, came in common use in America about five years ago. The latest publication on the subject to hand is from the pen of M. H. Reynolds, M.D., V. M., Veterinarian of the Minnesota State Experiment Station, from which we give a few points on the nature of tuberculin and the mode of conducting the test, which is an operation requiring skill and care:—

"Tuberculin, as usually seen in the West, is a thin straw-colored fluid, slightly more viscid than water. It is a chemical product from the germs themselves, and is made as follows: A certain kind of soup or broth is infected with the bacilli of tuberculosis which multiply in this soup until it has become highly charged with this germ product tuberculin. The whole fluid is then filtered through a porcelain filter and heated to kill any germs that might possibly have passed through a defective filter. The fluid is not only thus germ free but has been heated to a sterilizing temperature. It is obviously impossible to infect an animal by means of its hypodermic injection. Observation on thousands of tests shows that tuberculin is without appreciable effect upon the health of non-tuberculous cows, even when taken in large doses. And the results of our tuberculin experiment indicate that tuberculin has an effect favorable (curative) rather than otherwise on tuberculous cattle.

"How the Test is Made.—We take any number up to forty-five in one test. The time of the test is divided into two periods: (a) before injection, (b) after injection.

"During (a) the temperatures are taken at eight and ten a.m., two, four, six and eight p.m. The tuberculin is given by hypodermic injection at ten p.m. in doses of 1 c.c. or one-quarter dram for 500 lbs. live weight.

"During (b) temperatures are taken at six, eight, ten and twelve a.m., and two, four, six, eight, and sometimes ten p.m. The cattle are kept under the same conditions as nearly as possible on both days of the test; that is, watered at the same hours and fed at the same hours each day, given as nearly as possible the same amounts, and treated alike on the two days in every respect as nearly as possible.

"Making the Injection.—The hair is clipped over a space about four inches square just back of the shoulder blade and just below the spinal column. This spot is then disinfected by a solution of corrosive sublimate (1:1000). An assistant stands back of the cows holding a sort of tray, usually a short piece of board, upon which is placed a slender and deep vessel of some kind, holding half a pint of four per cent. carbolic acid solution with a little oakum or cotton in the bottom to protect the needle and knife points, two small graduated (one dram and one ounce), and a small bicycle lantern. In the four per cent. carbolic solution there is placed a slender bladed knife with a piece of cob upon the blade, allowing the point to project about half an inch, and a common veterinary hypodermic syringe, medium size preferred, although almost any kind may be used. The operator takes the lantern, loaded syringe in one hand and knife in the other, makes a quick puncture through the skin with the knife blade surface held in a vertical

position for greater ease in inserting the needle of syringe. The syringe then takes the place of the knife in the operating hand, needle is inserted into the knife puncture, and the tuberculin is forced out of the syringe and left beneath the skin. An operator soon becomes very expert at this and can make either the puncture or the injection with a heifer on the jump. By raising the skin with the thumb and first two fingers the needle can usually be inserted through the skin by making a quick, hard thrust with the needle at right angle to skin surface. The method by knife is urged for those who have not enough practice to become expert with the needle alone. For convenience and safety the operator should stand well forward by the cow's shoulder or even in front of the shoulder.

"The tuberculin is emptied, one bottle at a time, into the one-ounce graduate, and from this it is measured, dose by dose, into the small graduate, which should be graduated for cubic centimetres, although the dose can be measured out in minims (about 15 minims to the c.c.). It is very easy to inject thirty to forty cows per hour in this way. The knife is dipped into the carbolic solution and a little of the same solution is drawn into the syringe and forced out after each injection.

"The diagnosis is made mainly upon the fever reaction; that is, if the temperature rises between eight and twenty hours after the injection two degrees or more above normal as shown by comparison of (a) and (b) temperatures it is safe to diagnose tuberculosis. A rise of 1.5 degree should be called suspicious and the animal held for future test. I would sound a word of warning with reference to the use of tuberculin. In the first place it is not absolutely infallible, and there are possibilities of error if the operator be careless or hasty in his methods. There are side issues that may come in to make it inaccurate, and there are many things besides tuberculin that may result in rise of temperature. A large drink of cold water may suddenly lower the temperature at just a time when the maximum would otherwise have occurred. The cattle must not be excited or worried in any way, but kept as quiet as possible during the whole test, and if the whole stable, or any part of it, be much warmer during the second day than on the first notes should be made of this fact, and it should be considered in making a diagnosis of doubtful cases. Another source of possible error is found in the fact that an animal may be so thoroughly tuberculous that the system is already saturated with tuberculin, and it may have thus naturally acquired such an immunity to the agent that the animal will fail to react."

GARDEN AND ORCHARD.

The Longevity Apple—A Doubtful Discovery.

We have received from a Mr. E. W. Graves a letter written on the letter paper of the Horticultural Society of Northern Illinois, in which is given a list of the officers of that Society for 1887, calling our attention to an inclosed newspaper clipping sounding the praises of an alleged hardy variety of apple which is said to have been originated in Canada, two barrels of which are claimed to have been sold in Montreal in 1895 for \$25 a barrel. A prominent horticulturist, it is said, having noticed the report of this remarkable sale, began an investigation by correspondence, and finally by a personal visit, to ascertain where the apple grew and all about it. He found the apples were of no known variety, but were grown upon a tree which came up from seed over 100 years ago and had withstood the rigors of a climate where the thermometer registers as low as 35 to 45 below zero at times, while it stood as a giant five feet in circumference, healthy and thrifty to the tips of the smallest twigs. The apple was named Longevity, for the seed from which this tree grew was brought to Canada by the U. S. Loyalists in 1784. A company named the Longevity Apple Co. has been organized with a large capital in Nebraska to introduce the apple, and a stock of the trees is now being propagated in the most favored apple-growing district of the U. S.

Having some doubts about the wonderful claims of the friends of this "coming apple," as it is described, we wrote to Mr. L. Wolverton, Secretary of the Fruit Growers' Association of Ontario, to enquire what he knew about it. In his reply he says: "I would not place very much confidence in the boom that is being made over the Longevity apple. The apple was shown at our meeting in Kingston, but the fruit committee did not think it worthy of very much notice. Possibly it may have been kept a very long time in special cold storage, but neither its appearance nor its flavor were anything wonderful. I remember seeing the statement that this apple was sold in Montreal at \$25 per bbl., but I believe it was a sale made for advertising purposes, and not a bona fide sale. However, I cannot say anything very definite about the apple."

Having been asked to call attention to this apple, we have deemed it best to give what information we have been able to gather concerning it in this form, so that our readers may draw their own conclusions and govern themselves accordingly. They will do well to be on their guard should any agent make his appearance taking orders on the strength of absurd claims for this apple.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Legal.

LANDLORD AND TENANT.

J. C.:—"A tenant who holds by the month is \$26.00 in arrear, being about ten months' rent. He has a cow, an organ, and some other chattels, and he proposes to move away without paying the rent due. What goods are liable to be distrained for the rent, and how should the landlord proceed?"

[The rent being more than two months in arrear, the tenant is not entitled to claim the usual exemptions, and everything may be seized. The landlord simply goes to a bailiff and signs a warrant to distrain the goods, and the bailiff will seize and sell the goods to pay rent and costs.]

MASTER AND SERVANT CONTRACT.

W. C.:—"A, who is a mill owner, hires B and C to work for him, promising them work all the summer, and B and C to live in a house on the mill property. After B and C move into the house, A tells them that he has given their jobs to other men, and says he heard that B and C were intending to leave anyway. Can A legally discharge B and C in this way?"

[No. A must carry out his agreement, and he has no right to assume that B and C intended to break their agreement with him upon any such report as to it being their intention to quit.]

LINE FENCE DISPUTE.

L. L.:—"Who pays fenceviewers for work done upon a dispute between two owners when neither of the owners notified the other of having the fenceviewers act, but the notices were signed by the Clerk of the township?"

[The statute contemplates the notice to be given by an owner or occupant and not by the Clerk, and perhaps the fenceviewers were not properly appointed; but if the owners acquiesced in the appointment and attended before the fenceviewers, then we think any irregularity in the appointment would be considered waived, and the costs would be disposed of in the usual way by the award.]

Veterinary.

LAMENESS IN SOW.

J. H. T., Richmond Sta., Que.:—"I have a sow with a litter of eight pigs five weeks old. Yesterday she did not come to the trough for her feed, and I found she had lost the use of her hind legs. I removed her to another pen, and to-day the pain has gone to her right fore leg, but her appetite has returned. Can you explain the cause and suggest a remedy, and will the young pigs in any way be affected thereby?"

[The trouble is probably rheumatism and may have been caused by lying in a damp pen. We would advise a dry bed and some greasy swill food mixed with bran to open the bowels; and if she is able to go out, would let her out on warm days on the sunny side of a building, with a bed of straw, where she could lie in the sunshine. With this treatment we should expect her to recover, and we do not think her pigs are likely to be affected.]

LUMP ON COLT'S HEAD.

B. M., Northumberland Co. Ont.:—"I have a yearling colt with a lump at the root of each ear. They are soft and puffy; one has broke and is running. Can they be cured? If so, please give remedy?"

[From the description given it is difficult to decide what has been the cause of the lumps. In all probability it is the result of a slight attack of blood poisoning or navel ill while the foal was quite young. We would advise fomenting well with hot water once a day, and apply to the discharging lump the following ointment: Red oxide of zinc, one-half ounce; carbolic acid, one dram; and lard, two ounces. To the other lump apply tincture of iodine daily until well.]

COW HOLDING UP MILK.

W. H. P., Durham Co., Ont.:—"I have a new calved cow that I got two weeks ago. When we go to milk her she holds up her milk, especially in the front teats. It takes about twenty minutes to milk her, then she only lets it down a little at a time. She gives a large flow of milk, and as we cannot get the milk all down her udder is inflamed. Kindly write what will be the best to do and to stop her from holding her milk up."

[Inflammation is evidently the cause, probably by too great a flow of milk, perhaps the result of too heavy feeding. First get the fever out of her system by giving the following dose: Epsom salts, one pound; sweet spirits of nitre, four tablespoonfuls; saltpetre, one teaspoonful. Mix in one quart of warm water and give as a drench. Bathe her udder well with warm water, an hour at a time, three times a day, then bathe with warm vinegar, and rub dry. After this apply belladonna liniment, which you can get from your V. S. or druggist. This will reduce the swelling, and by keeping the udder well greased with lard or goose oil, milking the cow three times a day, feeding lightly and treating her gently, she will probably come all right.]