

giving the farmer an opportunity to have a steady income all the year round. The difficulty was so many made a mere "chore" instead of a business of dairying. He emphasized the importance of starting with good cows, and pointed out that where every little detail in the care and feeding of cows is properly attended to, and no false economies practiced, the bank account will begin to show an appreciable balance on the right side. At the close of his address, Mr. Wheaton answered many questions asked by those present.

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.

THE OATH OF ALLEGIANCE.

READER, Kirkwall:—"A person who was a British subject, moved to the United States and took the oath of allegiance there. He has now returned to Canada, and wishes to vote here; must he take the oath of allegiance to the Queen?"

[Yes.]

Veterinary.

SPRAIN OF THE HIND LEG.

SUBSCRIBER:—"I have a valuable four-year-old mare; she strained the cords of her off hind leg when about two years old; recovered under treatment; and although not lame, she appears weak on that leg, especially when driven any distance. Is there any help for it? An answer in your paper will greatly oblige."

[Sprain of the ligaments and tendons of the hind leg are always tedious in recovery, especially when they occur in young animals. The further apart the torn ligaments and tendons were separated the longer would it take to recover, depending on the extent of the damage and amount of swelling, etc. Get rid of the swelling, or thickening, as it is termed, is the first procedure. Procure a linen bandage three to four yards long and four inches wide, and a quantity of cotton, wool or batting. Apply a sufficient quantity of the batting to wrap around the leg, then apply the bandage firmly over and around the parts. Hand-rub the leg twice a day for half an hour, and give one hour's walking exercise; you might also apply a simple liniment, say tincture of arnica, one ounce; soap liniment, two ounces; water, one-half pint. Keep up the hand-rubbing and bandaging for about three weeks. By these means no doubt complete recovery will take place.]

DR. W. MOLE, M. R. C. V. S., Toronto.]

DEBILITY.

SUBSCRIBER, Rathwell:—"I have a colt coming two years old; he is very large, a little overgrown; eats very hearty, but is very thin; lies down the greater part of the time; sweats (when in the stable) over the kidneys and over the hind quarters. Kindly let me know through your columns what is wrong with him and what I should give him to cure him."

[The debilitated condition of your colt, if not the result of improper food, is probably due to worms or other internal parasites. Give on an empty stomach: raw linseed oil, twelve ounces; turpentine, six drams; oil of male-fern, half a dram. Forty-eight hours after giving the above dose, give morning and evening, in scalded bran mash, for one week: powdered arca nut, three drams; sulphate of iron, half a dram; nitrate of potash, one dram. Give a mid-day ration of good chopped oats. See that your stable is kept clean and properly ventilated.]

W. A. DUNBAR, V. S., Winnipeg.]

BOG SPAVIN.

READER, New Brunswick:—"I have a colt two and a-half year old. Its hind legs are both puffed at the gambrel joint on the inside and front of joint. Swelling is soft. I blistered it several times, and every time it goes away for a few days, and then it will swell up again in one day or a night. Is not lame or stiff or sore. Is in good condition and good health."

[This may be described as a dropsical condition of the true hock joint, being the result of abnormal secretion of synovia, causing enlargement of the capsular ligament without acute inflammatory action. They appear as soft, symmetrical tumors of varying size, generally well-defined in front of the true hock joint; usually painless; only cause lameness under certain exacting conditions; more frequently caused by severe labor or strains from heavy pulling or fast driving in young animals. If repeated blisters have failed to remove these conditions, a judicious application of the firing-iron by an expert veterinarian should be tried.]

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

INVERSION OF THE UTERUS.

QUEBEC READER:—"I have a five-year-old grade Holstein cow, now carrying her third calf, due to calve in April. When she lies down her wethers will come out about the size of a half-gallon measure, and the cow will press hard. When she gets up they will go back; she will sometimes press when standing up. She cast her wethers in calving last spring. She is milking well now. I am giving her six quarts of mixed cotton-seed and shorts once a day; have been "mealng" her for about three

months. Some days she seems worse than others; seems to want to lie the most of the time; eats and looks well."

[From your description, the cow has inversion of the uterus, or mouth of the womb. In these cases the cow is always liable to abort the calf, and it usually occurs in poorly-kept animals during their pregnancy, and from the stall being much higher in front than behind. It is a gradual distension of the lower wall of the uterus; and on examination, the form and movement of the fetus, or young calf, can be felt. However unsightly this may be, do not let anyone meddle with it. For treatment, give good nourishing food and plenty of it. Bathe the parts with cold water (not ice cold) night and morning. Apply a rope truss to the parts and keep it in position until her period of parturition is completed. Have the stall elevated behind until her hind parts are much more elevated than her front, and keep her in that position. As long as she does well there is no fear of any bad consequence during her calving.]

WM. MOLE, M. R. C. V. S.]

Miscellaneous.

TROUBLE WITH THE CREAM.

A. S., Ontario:—"We have had trouble with our cream the last month; it will not gather into butter. We have tried almost every known plan, and all we get is a light, white foam, like icing, without a sign of grain in it. Our cow is farrow. Our first bad churning was from the milk of five cows (four in calf), which are now dry, but the cream from the farrow cow is no better. Her daily food consists of about a bushel of raw Swede turnips, one good feed boiled potatoes and turnips, a bran mash, three-quarters of a gallon of oats; straw and chaff. Any suggestions in your next issue would greatly oblige."

[Our correspondent does not say what plans have been tried, but we would suggest adding the milk of a fresh cow, which might overcome the difficulty entirely. But if not in a position to do that, the rations fed should be dealt with. In the Dec. 15th issue of the ADVOCATE, our correspondent, "F. J. S.," reported cases where cream could not be churned, because of improper feeding. In view of the quantity of turnips fed, the above ration is one-sided. We would suggest that, say, three-fourths of the raw turnips be fed the dry cows, the boiled turnips discarded, while the boiled potatoes in small quantity, and the remainder of the turnips, pulped, be mixed with the cut straw and chaff and allowed to heat twenty-four hours. Add to this mixture the oats (ground), and if available, four or five pounds of pea-meal (stone ground), as the bran and oats are not a sufficient grain ration with the other fodder. If a little clover hay is available it will benefit the ration.]

But the difficulty may lie in another direction. Cream that is too cold frequently foams in the churn, just as when one beats cream for cake-icing. In cold weather, at this season, 67° or 68° is about the proper temperature, if the thermometer is reliable; but if it still foams, heat it, say, to 72°, and note results. Cream should not be very sour; only moderately so. If too sour, and churned at too high a temperature, foaming may result. The cream should be kept at a temperature just low enough to keep it sweet, no lower, preparatory to ripening. Unless the case is one of the "incorrigibles" (and there seems to be a few such), some of the foregoing suggestions should get over the difficulty. Will our correspondent give our readers the benefit of his further experience.]

GARDEN AND ORCHARD.

Pithy Points on Orchard Cultivation.

Apple culture is becoming one of the paying institutions in many parts of this country. A thorough knowledge of the best methods of cultivation is necessary to those who will ever make the business a success. The following practical hints are taken from Bulletin 72, of Cornell University Horticultural division, prepared by Prof. L. H. Bailey:—

If orchards are to be made profitable, they must receive as good care as other crops.

Good drainage, natural or artificial, is essential to success. Trees are impatient of wet feet.

Well-drained lands are dryer in wet spells and moister in dry spells than other lands. They can be worked earlier in spring.

Good tillage increases the available food supply of the soil, and also conserves its moisture.

Trees should be made to send their roots deep into the soil, in order to fortify themselves against drouth. This is done by draining the soil and by plowing the orchard rather deep.

This deep plowing should begin the very year the trees are set, and it should be continued every spring until the habit of the trees is established.

Moisture is retained in the upper soil by very frequent but shallow tillage, by means of which the surface of the land becomes a mulch for the soil beneath.

Tillage should be begun just as soon as the ground is dry enough in spring.

This tillage should be repeated as often as once in ten days throughout the growing season, which extends from spring until July or August.

Tillage should not exist for the purpose of killing weeds. Weeds have taught the most important lesson in agriculture, to be sure, but the school-master should now be able to retire.

Late cultivation may be injurious by inducing a late growth. At all events, it can be of small utility when the tree begins to mature and rains become frequent. This season of respite gives the grower the opportunity of raising a green manure, and of adding fertility to his land at trifling expense and with no harm to his trees.

Fall plowing may be advisable for farm crops, but it should generally be discouraged in orchards. The land in orchards should be left compact in the fall, and it is advisable to cover it with some close herbage.

Only cultivated crops should be allowed in orchards early in the season. Grain and hay should never be grown.

Nursery stock should not be grown in orchards. Even hoed or cultivated crops may rob the trees of moisture and fertility, if they are allowed to stand above the tree roots.

Cultivators is the best crop to raise in an orchard. Sod is sometimes allowable in apple and standard pear orchards, but never in other fruit plantations; but even then it should be pastured closely with sheep or hogs. If the stock is fed at the same time, the land will fare better.

Watch a sod orchard. It will begin to fail before you know it.

Probably nine-tenths of the apple orchards of New York State are in sod, and many of them are meadows. Of course they are failing.

The remedy for these apple failures is to cut down many of the orchards. For the remainder, the treatment is cultivation, fertilizing, spraying,—the trinity of orthodox apple-growing.

In general, level culture is best. The modern cultivators and harrows make such cultivation easy.

Trees, especially apples, are often trained too high, because of the difficulty of working close to them. Modern tools will bring the heads within reach.

Harnesses with no projecting hames nor metal turrets should be used in bearing orchards. Those requiring no whiffletrees are also useful.

Potash is the chief fertilizer to be applied to fruit trees, particularly after they come into bearing.

Potash may be had in wood ashes, and muriate of potash. It is most commonly used in the latter form. An annual application of potash should be made upon bearing orchards. Of the muriate, from 500 to 700 pounds may be used to the acre in mature orchards.

Phosphoric acid is the second important fertilizer to be applied artificially to orchards. It may be got as plain high-grade superphosphate (dissolved South Carolina rock), in the bone fertilizers, and perhaps in Thomas slag. Of the plain superphosphates, from 300 to 500 pounds may be applied to the acre.

Nitrogen can be obtained cheapest by means of thorough tillage (to promote nitrification) and nitrogenous green manures. There is rarely occasion for buying it for fruit plantations, if the lands are properly tilled and cropped.

Nitrogen promotes growth. It should therefore be used with some caution, for orchard trees should be grown for fruit rather than for timber.

Barn manures are generally more economically used when applied to farm crops than when applied to orchards; yet they can be used with good results, particularly when rejuvenating old orchards.

In general, the commercial complete fertilizers are less rational for orchards than a fertilizer made for the occasion out of materials evidently needed by the trees; but the complete fertilizers give much better results than the prevailing indifference and neglect.

Cultivation may be stopped late in the season, and a crop can then be sown upon the land. This crop may serve as a cover or protection to the soil and as a green manure.

A green manure improves the soil by adding fibre to it and by increasing its fertility. It catches the nitrates which, earlier in the season, are used by the tree-roots. Vegetable fibre in the soil increases its power of holding both moisture and plant food.

The crops well adapted to this late sowing are few. Vetch is probably the best which has been well tested in the State. But everything points to crimson clover as the ideal orchard cover and green manure.

The gist of it all is that orchards should be cultivated and fed. Cultivation should begin early and be continued often. It may be stopped in August, if the grower thinks best, and then, if the land needs it, a green crop may be sown for turning under the next spring.

Ontario Poultry Show at New Hamburg.

The annual show of the Ontario Poultry Association during the first week of January, at New Hamburg, was a grand success, indicating the thrifty condition of this industry and the energy with which the affairs of the organization are managed. The entries numbered 1,300, being 60 in advance of last year. A marked feature of the exhibition was the uniformly high scoring of nearly everything shown. Pet stock was well represented, as well as the more useful sorts. Detailed report is unavoidably held over for later issue.