

in swine as in cattle, but it is sometimes noticed. In fact any organ may be involved, but those mentioned are the favorite seats. The pleura (the covering of the lungs) or the peritoneum (the covering of the contents of the abdominal cavity) may be diseased, in which case it is in mostly all cases adherent in spots to the walls of the cavity. The first noticeable stage is the existence of one or more quite small nodules which gradually increase in size and sometimes grow to the size of a man's fist or larger. When of any considerable size, if cut open, the nodules are found to contain a greater or less quantity of cheesy-looking matter, which is frequently gritty. In large nodules this sometimes breaks down and forms a yellowish, gritty, pus-like substance.

Treatment.—As with the disease in other animals, curative treatment is ineffective, hence preventive treatment should be carefully observed. If the disease could be eradicated in cattle, there would be practically no danger in hogs. Hogs should not be allowed access to yards or lots in which tubercular cattle are kept. All milk should be sterilized before feeding to hogs. Kitchen refuse that may contain the sputum of tubercular human beings should not be fed to hogs.

Keeping hogs under good sanitary conditions, as in clean, dry feed-lots, light, airy, well-ventilated pens to which sunlight has free access, tends to prevent contraction of the disease.

WHIP.

On Second Thought.

The prospects at time of writing indicate a poor crop of coarse grains, corn and roots throughout the greater part of Old Ontario. Wheat has yielded fairly well and the hay crop has been considerably above the average, but a shortage of roots, silage, straw and coarse grains is inevitable. In the past, farmers have interpreted such a condition of affairs as a signal to at once thin out their herds and reduce their flocks in order to establish a safe balance between live stock and fodder. One can well determine when this movement starts by the gradual, and sometimes sudden, weakening of the market. Selling under such conditions is not a good plan, and on second thought many live-stock farmers will find a way out of the difficulty. There is no cause for excitement this season, for with the abundant crop of hay and the Western grain crop promising to be well up to the average of good years, which will bring millfeeds within reach of all, we should be able to carry our live stock through the winter in a manner that will justify the sale of only those that would ordinarily be turned off. The reader should not understand us to imply that no loss will be incurred through the failure of crops in certain districts. The farmer is bound to lose the value of his crop when it does not materialize, but we wish to advise against future losses through the premature disposal of animals, not yet fitted for market, when some purchased feeds will tide the herds and flocks over to the period when grass grows again and circumstances take on a brighter hue. The crop in the Prairie Provinces cannot register as high as in 1915, for the acreage is less and the seed was put into the ground under less favorable conditions. The season also is late, which exposes the standing grain to frost injury. However, taking everything into consideration, namely, the present price of meat animals, as well as dairy products, and the future prospects for the same, also the crops as a whole, we cannot see that any great hardships should be experienced by those who keep live stock for the profits accruing from it and for the benefit of the farm. The purchase of some coarse grains and millfeeds may necessitate the floating of a small loan or establishing a line of credit, and right here it may be truthfully said that the machinery for lending money to farmers for such purposes is very antiquated and rusty, and many will not be able to secure long-term loans except on mortgage terms or on the security of notes, and then from known money-lenders rather than from the banks. Where there is a will there will be a way revealed, and we believe farmers will act in accordance with their "second thought" and not make any radical change in the well-matured and well-established plans upon which they have been building. If roots and silage are not produced in sufficient quantities this season their place will be taken by such laxative feeds as bran and oil cake. Both of these feeding stuffs contain considerable nutrients,

and at the same time much material that is of real, fertilizing value. One ton of bran, according to late and authentic analyses, contains 51.2 lbs. of nitrogen, 59 lbs. of phosphoric acid, and 32.4 lbs. of potash. These are the ingredients in which we are particularly interested when we buy commercial fertilizers. Before the war they cost approximately as follows: nitrogen 20 cents per lb., phosphoric acid 5 cents per lb. and potash 5 cents per lb. On the average 20 per cent. of these fertilizing constituents is utilized or incorporated into the animal system, and the remaining 80 per cent. is voided. After passing through live stock one ton of bran would carry to the farm nitrogen, phosphoric acid and potash worth \$11.84. The manurial value of one ton of oil-cake meal, after making allowance for the 20 per cent. absorbed by the stock would amount to \$21.33. This high manurial value is due to the liberal quantity of nitrogen contained in such feed, and the same reason holds good regarding cottonseed meal, which, at one time, was used directly as a fertilizer without first being fed to live stock. Nitrogen-rich feeds have a higher manurial value than do such feeds as corn or wheat, and, although one is obliged to pay what appears like a high price for oil-cake meal, cottonseed meal or bran, the returns are proportionately good from the viewpoint of animal gains and fertilizing ingredients voided. Soil fertility is linked with the live-stock industry to such an extent that we cannot consider one without the other, and for this reason we should view the present situation from all angles.

Experiments have pretty well proven that a good bacon type of hog will make a pound of gain for about 6 cents, when fed on grain worth \$30 per ton. Cattle will not do quite so well, but with proper type and careful attention the majority of live-stock breeds will return to the feeder a profit on the grain, meal and fodder consumed. With plenty of good hay, a few roots, perhaps some corn, and some purchased feeds, the farmer will be farther ahead to hold on to rather than dump on the market his half-grown and half-finished stock.

Put Sheep on Untillable Land.

F. C. Nunnick, in Conservation, draws attention to the possibilities with sheep on rough land. There



Doing His Bit.

This little Cornish boy, ten years old, milks three cows to help out with the work. International Film Service.

is a surprisingly large acreage of untillable land even in the older-settled districts of the older parts of the eastern provinces. According to Mr. Nunnick fifty-seven per cent. of the 400 farmers visited in 1915 by the Commission of Conservation in the four counties of Carleton, Dundas, Northumberland and Waterloo, possess untillable land other than that in woods. The average amount per farm of untillable land, of those having such, ran as high, in one county, as 53 acres; the lowest average in any one county was 15 acres.

Only 14 per cent. of all the farmers visited kept sheep. In one county only four farmers among the 100 visited were keeping sheep, averaging only four to each of the four farms. In this particular county, on 72 of the 100 farms visited, there were over 1,000 acres of untillable land and only 16 sheep, when there might well have been 16 sheep on each farm. No class of live stock is so well able as sheep to turn to good account untillable and otherwise waste land. It has been well demonstrated by experiments that the keeping of a small farm flock headed by a pure-bred ram is a profitable undertaking. They need very little care and yield two crops a year—lambs and wool. Expensive buildings are not necessary, as sheep require only to be kept dry and protected from

stormy weather, with a little extra care at lambing time.

Fewer bad weeds would be found on Canadian farms if more sheep were kept, as sheep will eat almost all classes of weeds.

Every Canadian farmer is not urged to go into sheep husbandry, but much idle land could and should be utilized as sheep pasture. It will pay.

A Few Facts About Wool.

Wool is wool and little more to the average farmer who keeps a few sheep and sells the clip through the ordinary trade channels, yet in a fleece are woven together several parts that decide for which of many uses it is, as a whole, best fitted. The wool fibre is not a unit, for its surface is covered with minute scales visible only under the microscope. Small as they are, they are very important. When a scale is injured or destroyed a weak section will exist in the fibre at that point which decreases the tensile strength of the wool and renders it too weak to withstand the strain of the combing process, necessary in the manufacture of worsted goods. The number of scales on the fibre is variable. Merino, one of the fine wools frequently has only a single scale surrounding the entire circumference of the fibre. The medium type of wool from the Shropshire or Hampshire may have three or even more scales, while a coarse grade, such as found on some of the long-wooled breeds, will possess several. These scales are only slightly colored by dyes. The central portion of the wool-fibre underneath the scales alone absorbs the coloring matter, and this explains why one class of wool will dye more readily than another. When the scales are thick and cling firmly to the fibre the dye is not absorbed in sufficient quantities to give a fast and uniform color. With other wools the scales are smaller and more open and take the dye more uniformly. When a quantity of wool reaches the manufacturer the fleeces and parts of the fleeces must be sorted and classed according to their respective merits in this regard.

Black, brown or grey wool, as well as the hair-like fibres sometimes found on the thigh or breech of coarse-wooled sheep, absorb little dye and are almost a waste product from the manufacturer's viewpoint. Such quantities must be used in dark-colored fabrics. The sisal of binder twine, too often used in tying fleeces, is also a detriment, for it will not take the dye, and the wool containing small particles of this material is depreciated very much in value on account of its presence.

The length of the wool-fibre determines for which kind of manufacture it is best suited, and the kind of goods into which it will eventually enter. Woolen and worsted yarns are most common. The fibres entering into worsted yarns are straightened out with a comb, and in such a way that the fibres lie parallel and are of the same length. Woolen yarns are made of a shorter wool worked on the cards. Three inches is usually the dividing point between clothing and combing wools, which correspond with the woolen or worsted yarns.

The grading of wool depends upon these several characteristics enumerated. The classification adhered to by the Co-operative Wool Growers' Associations in the Province of Quebec is of value in indicating the different grades of wool sought after by the manufacturers. Eight different grades were made as follows: medium clothing, fine medium combing, medium combing, low medium combing, coarse combing, black and grey, rejections, and tags. This classification represents the difference in fleeces and quality of wool. There is a corresponding difference in price, so every sheep raiser should attempt to breed good wool animals, to keep them healthy and free from vermin, and to handle the clip in such a way that it will be of most value to the manufacturer.

THE FARM.

A Cable for Hay Fork.

EDITOR "THE FARMER'S ADVOCATE":

The question was asked as to the size of cable and what price for hay fork and slings. I am using a 3/4-inch cable. It has six strands with nineteen wires in the strand. Three of us clubbed together and took a 500-foot roll of it, and by doing so got it for six cents per foot. One of my neighbors has used one for eight or ten years and it shows no sign of wearing out. I would prefer it to rope and by giving it a soaking of oil once or twice in the season it will prevent kinking. I took discarded rope and fastened it to rear of car and put a pulley at end of ventilator at peak of barn and ran rope through this pulley down to the ground where I fastened a 40-lb. block of wood. When car is at stop block this adds very little to the draft of horses and brings the car back to the stop block flying with 190 feet of cable attached to it.

Lambton, Co., Ont.

WILLIAM EDWARD.

Never before in the world's history was printer's ink so important a munition as in The Great War.