

a wonder that some fields yield as much feed as they do. It usually pays to keep the cattle in the stable until the grass gets a good start, and, if it can be arranged so that the stock may be turned off the field at intervals of two or three weeks, more feed will be obtained per acre throughout the season than if the stock is kept constantly in the one lot. Some stockmen keep the cattle in during the day when the flies are bad and turn out only at night. If hay or silage is fed in the stable it materially helps out the pasture.

Tuberculosis in Swine.

The prevalence of tuberculosis in swine was not fully realized until a few years ago, when the present somewhat thorough system of meat inspection was put in force. Under this system a considerable percentage of swine slaughtered is condemned as totally unfit for food, and a much larger percentage is found slightly affected, but not sufficiently so to warrant condemnation of the entire carcass.

Causes.—The active cause of tuberculosis in swine, as in other animals, is a specific germ, known as the tubercle bacillus. This germ is a very small, microscopic body, which gains entrance to the body in food or milk, or in the inspired air, and, locating in some favorable spot, sets up a diseased condition, which may remain localized, or spread and infect different organs. In most cases the virus reaches the body of the hog in the food. The most common foods in which the germ enters are the faeces from tubercular cattle, and the milk of cows that are tubercular. Cattle that are suffering from pulmonary tuberculosis, usually cough and in doing so raise the tuberculous sputum from the lungs, and instead of spitting it out, as is the case in human beings, it is swallowed and excreted with the faeces. In this way the faeces of tubercular cattle become a very productive source of infection in hogs. In many herds of cattle there are a greater or less number of tubercular animals, and, when swine are allowed to follow in the same yard or pasture, the disease is almost sure to be developed. Another very common source of infection in swine is through milk. The milk of any diseased cow may contain large numbers of tubercular bacilli; this applies especially to those with diseased

noticeable, they consist principally in a general appearance of unthriftiness. This, of course, is a general symptom of many diseases, hence has no great diagnostic value. In cases where the disease advances rapidly and becomes generalized (that is, involves many organs) more marked symptoms may appear. When the digestive organs are largely involved, the appetite becomes impaired or capacious, and digestion is irregular, either constipation or diarrhoea, or a frequent change from one to the other is often noticed. When the respiratory organs are the seat of disease, there is usually a more or less persistent cough, of a rather dry, harsh nature. Coughs in hogs that are kept in improper surroundings, especially with overheating and overcrowding at night, and also in those affected with lung worms or bronchitis, either accidental or infectious, are quite common, and there are no well-marked differences in such coughs that will enable a person to differentiate between the different diseases. In cases where different systems or organs are involved, the symptoms become more suggestive. There will generally be both a cough and irregular digestion and appetite with a noted loss of weight, energy, vigor and activity. Such cases, are, however, unusual, and even the most expert can seldom diagnose definitely without the tuberculin test, which, on account of the difficulty of controlling the animal, and the excitement caused thereby, is not as reliable a diagnostic medium as in cattle, hence is not largely practiced.

Post Mortem Lesions.—When a tubercular animal is opened after death, certain characteristic lesions or pathologic changes are noticed. There are certain parts of the body in which these lesions are particularly frequent, hence in making an examination for tuberculosis, these particular parts should be carefully examined. The favorite location for tuberculosis in swine is the digestive tract. At the angle of the jaw the submaxillary gland is situated. This gland is frequently affected. The mesenteric glands (those little bodies situated in the webbing which suspends the intestines practically in a sling) is another favorite seat. The liver is frequently involved, and sometimes the spleen. Tuberculosis of the lungs is not nearly so common as in cattle, but is sometimes noticed. In fact, any organ may be involved, but those mentioned are the

only 686 were classed as heavy finished steers. There were 2,521 good steers weighing from 1,000 to 1,200 lbs., but the bulk of the cattle offering were good steers weighing from 700 to 1,000 lbs., good heifers, and common cows. This would indicate that either the demand is for the light-weight stock, or else the heavy stuff is not being produced. The large majority of hogs sold were graded selects. Some 1,400 stockers, from 450 to 800 lbs., changed hands on the Toronto markets at a price around \$10.

At time of writing there seems to be a disposition on the part of farmers to get rid of their stock which they have been feeding during the winter. This rush has tended to have a bearish effect on the market. The drovers and farmers who usually secure stockers and feeders at this time of the year do not appear to be in any great hurry about purchasing, possibly owing to the high price asked for feeding stuff and the uncertainty of the cattle market four or five months hence. Drovers complain that there is difficulty in purchasing the right quality of stock to put on grass. Far too many of the stockers and feeders are of inferior quality and undersized for their age. At the price being asked, one wishes to secure cattle showing indications of feeding quality.

The last week in April the hog market showed a drop as compared with the week previous. Evidently the packers are endeavoring to lower the price, but the scarcity of hogs in the country counteracts their efforts. However, the unstable market is not conducive to an increase in the hog population. With the high price and difficulty in securing feed of any kind, the price of the finished hogs must be around \$20 before the producer gets anything for his investment or labor. It is unfortunate that conditions are such as they are because it reduces our supply and it is impossible for any country to attain and hold a foreign market unless there is a large bulk of supplies coming throughout the entire year. Although both the hog and cattle markets are apparently unstable, the man who carries his usual stock generally comes out ahead in the end. What he suffers in a slight depression he usually makes up on the stuff he has to sell when the markets are high. Of course, it is very discouraging to be feeding high-priced feeds to stock, not knowing what the price of the finished product will be or whether or not there will be a labor



A Group of Shorthorns on Pasture.



A Scene in Herefordshire.

udders. In creamery districts the milk from a greater or less part of the community is taken to the creamery, the cream separated from it, and the skimmed milk conveyed to a large vat, from which each patron draws his share, takes it home and feeds it to his pigs. If any of this milk is from tubercular cows (and there are few, if any cases, in which there is not) the whole becomes contaminated, by mixture, hence the virus of the disease is directly conveyed to the home of each patron of the establishment, and fed to pigs or chickens, or both.

Predisposition to the disease is increased by unsanitary conditions. Filthy feed lots, mud holes, dirty wallows, and general unhygienic surroundings of any nature, render the hogs more susceptible to the action of the germs, hence increase the probability of infection. Close, ill-ventilated sleeping quarters, and especially allowing pigs to sleep on a manure heap, increases the danger of infection. The overheating that results lowers the animal's vitality, hence decreases its resistive powers, chronic irritation of the lungs results, and the tubercle bacillus finds a very suitable field for development if it gains entrance.

Symptoms.—Well-marked and diffused tuberculosis often exists in the hog, without causing any apparent clinical derangement, or any observable symptoms that would lead the most expert observer to suspect the existence of the disease. The disease usually develops slowly, and, while there are exceptions, it usually requires many months, and probably years for it to cause symptoms that indicate its presence. On this account tuberculosis exists in a large percentage of hogs without its presence being suspected. At packing houses, some of the best marked cases of the disease are found in the carcasses of hogs that were large, fat and apparently in the best of condition. Some claim that during the first few weeks or months of the disease the presence of the toxic substances produced by the germ act as a general tonic to the system of the animal and increase thriftiness. In cases where evidences of the disease are

favorite seat. The pleura (the covering of the lungs) or the peritoneum (the covering of the contents of the abdominal cavity) may be diseased, in which cases a portion of the membrane is generally adherent to the walls of the cavity. The first noticeable stage is the presence of one or more small, hard nodules, which gradually increase in size and sometimes reach a great size. When of any considerable size, if cut open, the nodules or tumors are found to contain a greater or less quantity of cheese-looking matter, frequently gritty, pus-like substance is found.

Treatment.—Curative treatment is ineffective. Preventive treatment of course, consists in keeping swine away from the infection. Hogs should be kept under sanitary conditions and not allowed with tubercular cattle. If the disease could be eradicated in cattle there would be little danger of hogs. All milk should be sterilized before feeding. Kitchen refuse in which there may be the sputum of tubercular human beings should not be fed to hogs.

WHIP.

Live Stock Markets.

A glance over the monthly report regarding Canadian live-stock markets, issued by the Markets Intelligence Division of the Live-Stock Branch, shows that for the month of March there was a falling off in the sales of cattle, hogs and sheep at our principal markets. The calf receipts at Toronto were a third higher than they were during the same month last year, while at Montreal they were practically a third less. Some 2,000 fewer hogs were sold at the Union Stock Yards than in March, 1919, and over 13,000 fewer at Winnipeg and 6,000 less at Calgary. Approximately 1,200 fewer sheep changed hands at the Union Stock Yards, Toronto, than during the same month in 1919. The grading of the stock is of particular interest. Of the large number of cattle marketed at both Montreal and Toronto

income. On the other hand, it must be remembered that live stock is the basis of successful agriculture. Unless the crops are fed on the farm the land will not continue to yield the maximum crops. The man who breeds and raises the stuff he fattens should be the best off.

Turning the Stock to Pasture.

Unless care is exercised in changing from winter feeding to the pasture, there is danger of losses in the herd. A sudden change from dry feed to fresh, green grass tends to derange the digestive system. Once the animals become accustomed to green feed there is no time of the year when they are freer from disease than when on pasture. Under winter feeding conditions the animal system becomes more or less modified to conform to the environments and feeds provided. The grass ration is of a different character, and it takes some little time for the system to become accustomed to green feed. Where roots and silage are extensively fed there is not likely to be the same trouble as where the animal has been obliged to exist on dry roughage only.

One of the common complaints with ruminants is bloat, which is caused by the animals eating a large quantity of green stuff which ferments quickly in the stomach. This trouble is particularly noticeable when the animal has not been accustomed to this form of feed. Unless treatment is applied the trouble may prove fatal. For this reason it is a good plan to put the stock on grass for two or three hours the first day and gradually lengthen out the time. In case of bloat the first treatment would be to give three or four ounces of oil of turpentine in a pint of raw linseed oil. If this material is not at hand, a half cupful of baking soda may be given as drench. Some fasten a stick or keep a large rope in the animal's mouth, and force it to move around which facilitates the escape of gas. When drugs fail to give relief the rumen is punctured with the trocar and canula, to allow

the gas to escape point of the left or straw before to gorge them.

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