

British Columbia, where there are only 44,985 head, or 306 less than in 1918.

Swine now total 4,040,070, a rather notable decrease of 249,612. Alberta again shows the largest decrease amounting to 155,676, to a total of 445,858. Saskatchewan is also decreased by 88,873 and shows a total hog population of 432,267. Manitoba shows a decrease of 23,954, and a total of 261,542. Quebec shows a decrease of 61,830, and a total of 935,425. Ontario shows the largest increase, amounting to 39,101 and a total of 1,695,487. New Brunswick comes next with an increase of 25,125 and a total of 104,939. Each of the Provinces of Prince Edward Island, Nova Scotia and British Columbia show increases ranging from 1,744 in Nova Scotia, to 5,155 in British Columbia, and 8,696 in Prince Edward Island. Prince Edward Island and New Brunswick have the distinction of being the only two provinces in Canada showing increases in every line of live stock during the past year.

Poultry has increased since 1918 by 485,547, showing a total population in Canada of 34,645,238. The remarkable increase of 1,404,042 in Alberta, coupled with an increase of 515,158 in Saskatchewan, 377,143 in Manitoba, 122,286 in New Brunswick, and 179,215 in British Columbia, serve to more than balance the remarkable decreases in Quebec and Ontario amounting to 1,555,022 in Quebec and 575,296 in Ontario. Ontario now has a total poultry population of 11,705,809, while Saskatchewan comes next with 8,515,527. Next comes Alberta with 4,426,375, and then Quebec with 3,808,970. Manitoba has 2,761,166, and British Columbia 1,181,021. New Brunswick, Nova Scotia and Prince Edward Island have 796,698; 854,959, and 624,713, respectively.

Cattle Lice and their Eradication.

EDITOR "THE FARMER'S ADVOCATE":

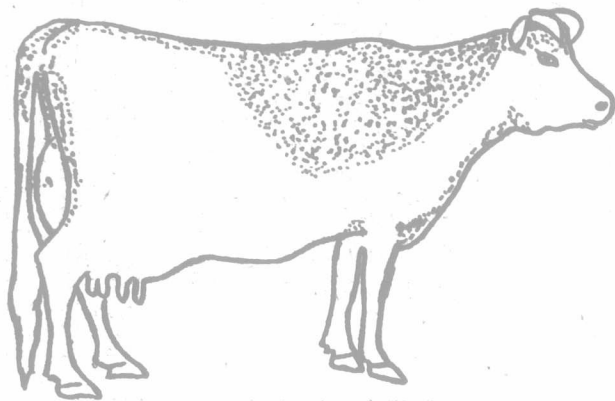
Cattle are affected by three distinct species of lice. These may be divided into two groups according to their method of feeding. One group includes the biting louse (*Trichodectes scalaris*), commonly known as the red louse, which feeds on the dry skin and hair of the animals. It does no particular injury, other than the irritation it causes on moving about, as it does not feed on any living tissue. This species moves about on the animal to quite an extent. When present in large numbers the irritation and damage to the hair may be sufficient to cause lack of condition in the animal. The second group consists of the sucking lice (*Haematopinus eurysternus*), the short-nosed cattle louse, and *Linognathus vituli*, the long-nosed cattle louse, both commonly known as the blue lice. The latter is found more often in calves than either of the other species mentioned. This group feed by sucking the blood of the animals, and when present in large numbers cause untold misery by reason of the numerous little holes which they puncture in the skin, to say nothing of the loss of vitality in the animal due to the loss of blood. They do not move about very much. Certain species within this group may transmit fatal disease, but these species are not found in Canada.

During the summer months when the cattle are at pasture, the number of lice on any given animal is reduced to a minimum through the fact that the animal is able to lick them off and they are kept in check by such agencies as rains and a heavier secretion of oil in the skin than is found during the winter season. However, it is doubtful if many cattle are entirely free from lice when put in the stable in the fall. Those that are present are there because of the law of the "Survival of the Fittest," hence, they can be expected to raise a good strong brood and they usually make good in short notice unless proper precautions are taken. The lice reproduce by means of eggs or nits which they attach to the hair of the animal. The life-history of the red or biting louse is not very well known, for, owing to its active habits, it is rather hard to study. That of the blue lice, which is the most important, has been pretty well studied. The eggs hatch in from seven to eight days, and the newly-hatched lice immediately punch a hole in the skin and start feeding. They remain in practically the same position until full grown, the rate of growth depending on the blood supply at the point of the skin where the puncture takes place. They mature in from fifteen to eighteen days, and then the females in turn lay eggs. As each female lays from 35 to 50 eggs in a period of from ten to fifteen days it will be seen that they can multiply rapidly. Therefore, early means to get rid of them should be taken.

Such agencies as dusty, poorly-ventilated and poorly-lighted barns and cattle poor in condition, consequently lacking the usual oily secretions in the hair, are predisposing factors in lice infestation. These should be overcome as much as possible, but even when remedied should be followed up by treatment of the cattle themselves. The dotted area of the accompanying diagram will serve to show the parts of the animal on which the lice congregate in largest numbers. It holds particularly good for the blue or sucking lice, but is also applicable to the red or biting lice. However, all parts of the body are liable to infestation and treatment should aim to cover all parts, but pay especial attention to the portions most liable to be heavily infested.

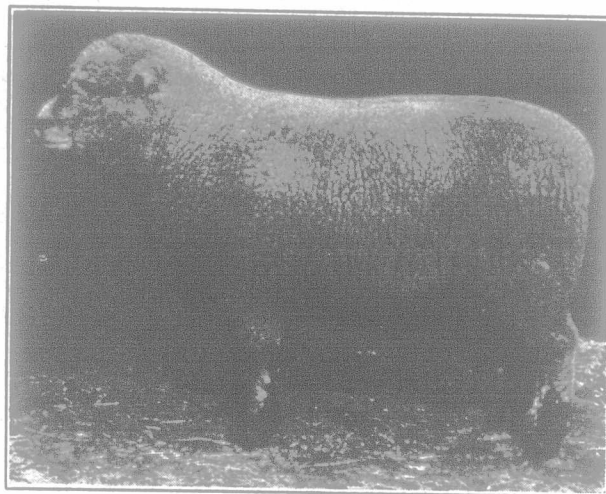
Control measures or remedies for cattle lice to be practical should be cheap, fairly easy to supply, effective in killing the lice, and at the same time not injurious to the animal. Common ones are clipping, dusting with powders, spraying or rubbing with emulsions and ointments, dipping or washing with coal-tar product dips or disinfectants, and rubbing with oils. Clipping, especially about the region most infested, is often practiced. While it gives the subsequent treatment a better chance to get at the part, it is doubtful if much is gained, for usually a sufficient time elapses between

clipping and treatment for the lice to disperse to regions not clipped. Moreover, the treatment gets right at the skin at once, and if inclined to be strong often burns and produces a scurf on the skin. If taken in time clipping is not necessary. As for the powders, they are hard to apply thoroughly and even when applied thoroughly are not entirely effective. The emulsions usually contain kerosene or other irritant and are hard to mix and apply without burning the skin, even where clipping is not practiced. Ointments are in the same class, being hard to mix to avoid burning, and still harder to spread thoroughly. The dips and disinfectants are amongst our most effective and easily-applied remedies. In the case of the proprietary dips the strength is given on the container, while with such disinfectants as creolin and zenoleum a ten-per-cent. solution is recommended. The material should



Showing Parts Most Liable to Attack by Lice.

be applied while fairly warm with a strong spray or with a stiff brush or a combination of both. It should be rubbed well in, paying particular attention to the worst infested parts. Blanketing immediately after this treatment will keep the fumes in and thus help to destroy the lice. Provided the animals are in a fairly warm stable free from drafts, there need be very little fear of their taking any harm from the drenching which this treatment necessitates. The oil treatment is applied by brushing such oils as cottonseed oil or raw (not boiled) linseed oil, preferably the latter, into the skin. There are many advantages to this treatment, such as ease of application; no drenching necessary, therefore good in cold weather; effectiveness; and leaving the hair oily, which is detrimental to the next batch of lice. The one disadvantage is the increasing cost of the raw oil. Precautions necessary in this treatment are not to subject the cattle to direct sunlight for twelve hours after treatment, and not to exercise them for a few days after treatment.



Southdown Yearling Ram.

First in large class at Chicago for Col. Robt. McEwen, London, Ont.

There has not been found as yet a remedy which will destroy the unhatched eggs present at time of treatment, consequently to make certain of getting all the lice on an animal killed it is necessary to apply the remedy again in from ten to fifteen days. By this time all the eggs present at last treatment will have hatched and still none of the new brood will have started to lay more eggs, so that after the second treatment the animals theoretically should be free of lice. Unfortunately, the treatments rarely catch every louse present, so that other treatments at intervals of one month to six weeks during the winter would be advisable to keep the lice in check.—Geo. W. Muir, Asst. Dom. Animal Husbandman, Experimental Farm, Ottawa.

THE FARM.

Headquarters for Farmers.

EDITOR "THE FARMER'S ADVOCATE":

Replying to your request for suggestions regarding the proposed "Rest Rooms in Town for Rural Folk," it has occurred to me that such an institution might well be coupled with the "Demonstration Building," now becoming so common throughout rural Canada, together with the Lending Library and reading room, another adjunct of inestimable value to the life of the farming community. How many of our youths, in-

stead of frequenting the pool rooms and blacksmith shops might put in a profitable and enjoyable hour or two in the reading room while waiting for their horse to be shod! The value also of a rendezvous where farmer meets with farmer on premises that are his own, and can there discuss the common interests of their calling cannot be over-emphasized. The "Demonstration Building" might also be not merely an auditorium for public meetings, but also a museum of permanent demonstration in the form of exhibits of such things as grasses, noxious weeds, native woods, etc., diagrams of injurious insects, plant diseases, mechanical appliances, etc., in fact an emporium of all the wise advice so generously bestowed on us through Government bulletins. Then as such premises would necessarily include a permanent caretaker, why not include a registry for farm help of both sexes? Added to this, the incoming settler, who, finding himself a stranger in the country of his adoption, would there find a centre of information and a guide for his future movements, coming in contact with those who are in need of his or her help, or as a purchaser, could enlighten him as to estates on the market. In short, a farmers' "Y."

Annapolis Co., N.S.

A. OWEN PRICE.

Grain and Seeds at Guelph Winter Fair.

In many respects the seed and grain exhibits at the Winter Fair were superior to those of last year. Corn particularly was represented in good quantity. The clovers were of good quality, but, as usual, were not out in extra large numbers. The cereals were of fair quality on the whole, and were well represented, but as might have been expected they showed the effect of the unusual season of 1919. For the first time in connection with the seed exhibits, prizes were offered for flax and sweet clover, but no entries were made in the flax class, in spite of good prizes being offered. There were a few entries in the sweet clover class, but not as many as might have been expected from the prizes offered. Potatoes were of good quality and well represented; especially noteworthy were a number of exhibits of Northern Ontario potatoes, of the varieties Irish Cobbler and Green Mountain.

The prices for seeds and grain at the auction sale were no better, on the average, than last year. In fact, the grains were somewhat below last year. The first-prize sample of red clover sold for \$46, while a great many of the prize-winning lots offered did not go above the reserve bids which had been put on them by the owners.

Exhibitors.—Wm. Winer, Guelph; A. Gilbert, Simcoe; S. W. Bingham, Hillsburg; Lee Bros., Galt; W. C. Barrie, Galt; Schmidt, Formosa; P. J. McEwen, Wyoming; F. H. Hoard, Matheson; J. H. Cruickshank, Chesley; J. J. Castator, Woodbridge; Frank A. Smith, Aylmer; R. Wilkins, Palmerston; R. M. Tupling, Honeywood; Wm. Webster, Lucknow; W. E. W. Steen, Streetsville; Robt. Watson, Woodbridge; John E. Alton, Rockwood; A. R. Wood, Fergus; Andrew Schmidt, Mildmay; N. Dryden, Galt; H. A. Cormack, Arthur; Jos. A. Dickson, Varna; Knox Bros., Wroxeter; R. J. Wilson, Charing Cross; Robt. G. Dawson, Niagara-on-the-Lake; Jas. Milloy, Erin; Mack Leitch, Guelph; F. G. Hutton, Welland; J. M. McCormack, Rockton; H. M. Hessenauer, Rodney; J. A. Bennett, Campbellville; H. L. Hutt & Son, Georgetown; Thos. Totten, South Woodlee; S. W. Wilton, Mt. Brydges; Fred Luck, Paris; W. A. McCutcheon, Glencoe; R. J. Johnston Chatham; C. M. Blyth, Guelph; R. R. Moore, Norwich; Wm. Murdoch, Palmerston; A. Elcoat, Seaforth; H. M. Vanderlin, Brantford; Richard Wilkin, Palmerston; R. E. Mortimer, Honeywood; Leslie High, Staffordville; B. R. Cohoe, South Woodlee; N. Dymont & Son, Brantford; John Doyle, Paris Station; Earl Rowe, Newton Robinson; Herman Lennox, Newton Robinson; P. J. Schoonenberg, Waldhof; J. Trothen & Son, Wallacetown; A. S. Maynard, Chatham; Peter Clark & Sons, Highgate; F. W. Scott & Sons, Highgate; Geo. W. Haas & Sons, Paris; R. E. Neely, Oxdrift; John Adams, Oxdrift; Conrad Snyder, Oxdrift; H. W. Wheatley, Oxdrift; B. G. Palmer, Norwich; F. A. Smith, Aylmer; J. S. Corner, Oxdrift; L. D. Hankinson, Aylmer; Frank Kelley, Aylmer West; J. N. Allan, Canboro; W. J. W. Lennox, Toronto; A. E. Currie, Guelph; W. J. Patterson, Brampton; F. R. Murdoch, Durham; A. MacColl, Rodney; Thos. Keepin, Vittoria; H. L. McConnell & Son, Pt. Burwell; Norfolk Specialty Farms, St. Williams; E. J. Mullins, Woodlee; A. S. Campbell & Son, Blenheim; Stuart Campbell, Blenheim; J. R. Stork, St. Catharines; Bert M. Wees, Sarnia; John Snobelen, Highgate; Robt. W. Knister, Blenheim; G. W. Coatsworth & Son, Kingsville; Walter C. Anderson, Amherstburg; D'Arcy E. Bondie, Arner; T. J. Ouellette, Walkerville; Shuttleworth Bros., Maidstone; John Parks, Amherstburg; Isadore Gouin, Tecumseh; C. Harold Zavitz, Ilderton; J. B. Cowieson, Queensville; John McKee & Son, Norwich; W. M. Smith, Scotland; Wm. Naismith, Falkenburg; H. L. Royce, Rockwood; Jas. Brown, Erin; H. L. Goltz, Bardonia.

Awards.—Fall wheat, white: 1, S. Schmidt (Dawson's); 2, Bingham, (Dawson's); 3, Lee Bros., (Dawson's); 4, Winer, (Dawson's); 5, McEwen; 6, Gilbert, (Dawson's); 7, Cruickshank, (Abundance). Fall wheat, red or amber: 1, F. A. Smith, (Michigan Amber); 2, Wilkin, Spring wheat (except Goose); 1, Barrie; 2, Watson; 3, Bingham; 4, Webster; 5, A. Schmidt; 6, Alton; 7, Steen. Goose wheat: 1, Cormack; 2, Wood. Banner oats: 1, Leitch; 2, Bingham; 3, Hutton; 4, A. Schmidt; 5, Dickson; 6, Wilson; 7, Milloy; 8, McCormack. O. A. C. No 72 oats: 1, Totten; 2, A. Schmidt;

3, Winer; 4, Cutcheon; 5, Daubeny; 6, Cormack; 7, Murdock; 8, Winer; 9, Wilson; 10, Vanderlin; 11, Tupling; 12, Schmidt; 13, Barrie; 14, Dymont; 15, Leitch; 16, Field beans; 17, Red Clover; 18, sold for \$46; 19, Wheatley; 20, Bingham; 21, Corner; 22, Sweet clover; 23, Timothy; 24, Lee Bros.; 25, 60 ears; 1, Johnston; 2, 1, Johnston; 3, Hankinson; 4, Specialty F; 5, 60 ears; 1, Johnston; 2, Wees; 3, 8, St; 4, (Champion; 5, Bailey; 6, 2, Smith; 3, Dent; 4, 60 e; 5, Ouellette; 6, Dent corn; 7, 3, MacCol; 8, Mitchell; 9, 2, Doyle; 10, Totten; 11, 6, McConn; 12, 1, Hankins; 13, 20 ears; 1, Smith; 2, Po; 3, 2, Leitch; 4, High; 5, (Gre; 6, Wood; 7, (Green Mo; 8, 9, Royce; 10, Potatoes, r; 11, 2, Naismit; 12, Son; 13, (Up-t; 14, 5, Wood; 15, Potatoes, l; 16, McConnell; 17, long, white; 18, 3, Doyle; 19, Early Eure; 20, Bingham; 21, 5; 22, 1, Naismith; 23, 3, Bingham; 24, Extra Early; 25, Barrie; 26, Swede turn; 27, W. M. Sm; 28, 1, Dymont; 29, ber seed; 1; 30, beans; 1, autumn w; 2, Goltz; 3, 1, Cohoe; 4, 2, Sheaf; 5, six-r; 6, Schmidt; 7, field of aut; 8, multiplying; 9, 2, Goltz; 10, field white; 11, Dickson; 12, rowed barl; 13, Naismith; 14, peas; 1, Go

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It is a continue to city, but To become amendmen this emigr effectual re boy—and in various is not bec work that keenly con give him a During barring pu the sound child. Hi abundant well-equip