

of the liver-substance, in which a germ closely resembling that of braxy takes up its abode and produces toxins (poisons) which result in the animal's death. Whether this is correct or not requires patient investigation, but, in any case, fluke infestation is a bad thing, and in order to get rid of it three courses are being followed—(1) Drainage of swamp areas; (2) dressing such areas with copper sulphate (both these procedures being aimed at destroying the small water-snails in one of which, probably *Potamopyrgus antipodum* var. *zelandiae*, the liver-fluke passes a part of its life-cycle—hence destruction of the snails automatically eliminates the fluke); (3) drenching of sheep with carbon tetrachloride or a reliable extract of male fern, both of these drugs being very destructive, though not 100 per cent. efficient, to the flukes present in the liver of the sheep. It is anticipated that the coming season will see a considerable advance in this investigation.

Paralytic Condition in Sheep.—This is a condition that has only recently come under notice, and there has been no opportunity as yet for proper investigation, but the condition is somewhat suggestive of certain plant poisonings which occur in Australia.

WORK CARRIED OUT FOR OTHER DIVISIONS.

Dairy Division.—Numerous bacteriological examinations have been made of factory water-supplies to determine their suitability or otherwise from a buttermaking point of view. Butter-samples have been examined for moulds and off flavours. A special vacuum process for sealing milk bottles, &c., was tested bacteriologically, but was considered unsafe. Work was also carried out on "gas-holes" in cheese, and so-called "non-acid starters."

Horticulture Division.—Several samples of honey supposed to be poisonous have been tested by feeding to rats. In certain of these there appears to be some irritating substance causing marked inflammation of the stomach a few minutes after being eaten.

Chemistry Section.—Barium carbonate being suggested as possibly suitable for poisoning rabbits, we undertook experiments to discover the dose required, &c. It was found that $7\frac{1}{2}$ grains was the smallest quantity which would cause death of an adult rabbit. With this dose, although the animal was soon unable to move, death might not occur for twenty-four hours.

Poultry Branch.—For this branch we have done considerably more work than usual, probably resulting from the establishment of the poultry-station at the Laboratory farm. Two items are of special interest.

(1) Tuberculin testing of poultry: This has proved very reliable in our hands, using specially prepared tuberculin (avian). The importance of this disease among poultry is not confined to the birds themselves; the fact that pigs may fairly frequently, and cattle occasionally, become infected with tuberculosis of avian origin is now generally recognized, and is a point worth careful consideration, hence the importance of being able to diagnose the disease with certainty among poultry.

(2) Sudden deaths: It has been found that as a result of many post-mortem examinations of such cases that sudden deaths very frequently are due to the presence of minute tapeworms which are found buried in the lining of the intestine. Their small size and the fact that they are embedded in the membrane accounts for their not having been discovered in past cases. Experiments have shown that a drug known as Kamala can be used efficaciously in combating this parasite.

IMPORTATION OF ANIMAL-MANURES.

The supervision of the sterilization of animal-manures from Australia and India has been continued during the year. The quantity of animal-manures imported into the Dominion has for some years been declining, but the importations from Calcutta during the past year show an advance, 1,650 tons having been imported. The importations from Australia amounted to only 215 tons. Higher cost of production in Australia is said to be largely responsible for the falling-off in imports from there.

POULTRY INDUSTRY.

The poultry industry is in a healthier position to-day than for some years past in spite of the reduction shown in the number of fowls kept. This reduction probably represents the elimination of the unprofitable birds, and, as the statistics reveal an increase in the number of holders of large flocks, a greater confidence in the industry is indicated. The improved position in regard to the supply of essential foodstuffs at a reasonable price is undoubtedly responsible for the optimism which no doubt prevails, and it is hoped that nothing will occur to prevent a continuous supply of foodstuffs, particularly wheat, as without this there cannot be success in the industry.

The poultry-breeding and experimental station which is being established at Wallaceville is now nearing completion, and it is intended to hatch out a full complement of chickens during the coming season in order that it may be fully equipped with birds for next season's requirements. Sittings of eggs will also be available for sale; also stock for breeding purposes, particularly male birds for mating.

I append hereunder the report of the Chief Poultry Instructor, who has always manifested a keen and practical interest in everything that pertains to the good of the industry:—

A matter for chief concern relative to the poultry industry is conveyed in the census returns taken during April last (1926). These show that there were, including fowls, ducks, geese, and turkeys, 3,781,145 head in the Dominion, as against 3,991,009 in 1921, indicating a decrease of 209,864 birds. Fowls decreased numerically from 3,491,567 in 1921 to 3,308,384, a decrease of 183,183; ducks declined from 379,988 to 352,030, and geese from 46,234 to 43,879. Turkeys, on the contrary, increased in number from 73,220 in 1921 to 76,852 in 1926. The heavy culling of stock and the curtailment of hatching operations which took place during 1924 and 1925 owing to the food-shortage and the high prices charged for it were almost solely responsible for the reduction of stock during the census period.

During the year high prices have generally ruled for fresh eggs and table poultry, whilst food-prices have been somewhat easier. Consequently the average producer has had a good year. By this, together with the prospects of a greater and cheaper food-supply, producers have generally been encouraged to increase their flocks during the recent hatching season. As a result, it is safe to assume that the reduction of stock which took place during the census period has been caught up, possibly exceeded. Whilst the census returns show a decrease in stock, it is pleasing to note that the householders keeping fowls, irrespective of other poultry, increased by 11,102.

The most gratifying feature conveyed in the returns is the increased number of people keeping large flocks, or, in other words, sufficient to provide the whole or greater part of a livelihood. In 1921 ninety-six people kept flocks ranging from 500 to 900 and forty-one kept 1,000 and over, whilst in 1926 there were 148 and sixty-six respectively. With the advanced knowledge now available relative to the breeding and management of large flocks, an extension of large plants may be looked forward to with confidence. Notwithstanding the severe test with which the industry has been faced, it is gratifying to be able to report that 3,293 cases of eggs containing thirty dozen each were exported to the London market during the year. These were sold at a f.o.b. price, and consequently no official report has been received regarding them. Cabled reports, however, go to show that the line realized 10s. a case more than Australian or South African eggs. Favourable comment has also been cabled relative to the quality of the eggs and the methods