is unknown and no treatment is available. It does not appear to be hereditary, and any pigs which can be reared should be saved. There appears to be no reason why they should not be used for breeding. The usual tendency is for the trouble to disappear gradually after the first few days.

Losses of whole litters sometimes occur after a day or two during which they appear to be getting along well; quite suddenly the piglets start to shiver and then lapse into a coma, death taking place in a few hours. The cause in such cases is usually ascribed to shortage of sugar in the blood, possibly resulting from a form of acidosis in the sow. Early administration of glucose by mouth or injection into the belly cavity gives a certain measure of success.

"Snuffles" or piglet influenza is not uncommon. It may occur at any stage of the pig's life and the only way of dealing with it is by good nursing, a warm bed, and nutritious food. It is caused by a virus closely related to the virus of human influenza. Pigs affected develop a temperature, run at eyes and nose, and may develop a husky cough. They lose appetite and whatever food is offered must be nutritious and appetising. It may be worth while using whole milk in the creep for this purpose.

The disease is highly infectious, and isolation is necessary to prevent spread. This, together with good nursing and nutritious food, is the essential in dealing with the trouble. Care must be exercised to ensure that pigs which have apparently recovered are not exposed to chills, or pneumonia or pleurisy may become a complication.

Piglets may show rupture in various sites. The usual ones in both sexes are near the navel and under the flank; in addition, it occurs in the scrotum of males. Rupture near the navel or under the flank requires a fairly difficult operation to correct and, to enable the pig to be taken to porker weight, it is usually sufficient to ensure that it is not fed on too bulky a ration and is not allowed to become constipated. A scrotal rupture can be corrected by an experienced operator when castration is carried out.

Rupture, like the rig or cryptorchid condition and rose or whorl on the coat of the pig, is an inherited fault and is a sign that both parents are carrying the factor which determines the development of the fault. Neither should therefore be used as a parent of any animal required for breeding.

Castration

There is no reason why losses should result from castration or abscesses, which cause loss when the pig is slaughtered, develop, provided a few simple rules are observed. The first is to castrate early; from a fortnight to a month old is usually the right stage, a little variation being desirable to allow for weather and other conditions at the time. For instance, if pigs are running out it is best to wait for dry weather; in hot weather select the cool part of the day.

It is best to have an assistant to hold the pig securely, though with a properly-constructed castrating "trough" it is possible to carry out the operation successfully single handed.

Preparation for the operation is important. The knife, of proper design for castrating, should be sharp. It should be sterilised by being boiled and then placed in strong disinfectant for 5 minutes. The skin of the scrotum and the operator's hands should be thoroughly washed and disinfected.

A bold cut should be made over the lowest part of the scrotum while the testicle is held tightly into this end of the pouch (this is, naturally, the top of the pouch, as the pig lies on its back). In this way the testicle should come quickly and cleanly through the cut. It is then grasped by the hand, and the cord, which is held taut, is scraped along its length close to the skin with the sharp edge of the knife. In this way the blood vessels are not severed by a sharp cut and bleeding is restricted to a minimum. The other testicle is removed in the same way. With young pigs no further dressing of the wound should be necessary. Certainly no strong or irritant disinfectant should be used; acriflavine or iodoform powder is suitable. The pig should be set down on its feet when released and not simply allowed to sit down on the ground. The pen in which the newly-castrated pigs are kept shoud be clean and dry.

Three distinct types of infection may invade castration wounds if methods have been faulty. These result in either (a) simple abscesses, (b) necrotic ulcers, or (c) schirrous cord. Though the aim must be to prevent these complications developing, they should not be neglected if they occur.

Abscesses must be lanced at the lowest point when "ripe," and after the pus is expelled the cavity must be carefully irrigated with a reliable antiseptic. Irrigation may have to be repeated and drainage facilitated for several days to ensure that the abscess heals and does not simply close and form again.

Necrotic ulcers will be described in the section on necrosis in the second part of this article.

Schirrous cord, which is more difficult to detect, is a fibrous thickening of the stump of the severed cord. If slight, it may pass unnoticed until the pig is dressed at the works. In serious cases it may develop to the size of a man's fist, and, travelling inward, may cause peritonitis. Unless the pig can be kept in isolated, clean, "hospital" conditions, it is probably best not to attempt surgical correction, but if a careful watch is kept and the infection noticed at an early stage, a method of curing the condition exists in the administration of 10 grains daily of potassium iodide until signs of iodine poisoning begin to show. After an interval of a week or so this treatment can be continued for a further period if necessary.

Rickets

Pronounced cases of rickets are evident through the curved, misshapen limb bones which result. Stiff, enlarged, "coarse" joints may be the result of a mild form of the trouble, which arises through lack of assimilation of calcium, either because of its absence from the feed or the lack of vitamin D, which is necessary for the assimilation of the mineral. The body can manufacture its own vitamin D by exposure to sunlight, and therefore it is chiefly in housed pigs that the trouble occurs. In countries where grain feeding is used extensively the trouble is much more prevalent than in New Zealand, where calcium-rich dairy by-products form the basic feed supply. The danger of rickets is greater during autumn and winter when little or no dairy by-products are available and the alternative foods are not rich in calcium. At the same time pigs are frequently kept indoors to a greater extent at that time of the year.

If rickets appear in suckers which are kept indoors during winter, affected pigs should be given ½ to 1 teaspoon of cod-liver oil, or other vitamin-rich fish-liver oil. Up to 1 or 2 tablespoons per day may be required by older pigs, which must be kept indoors. In addition, when dairy by-products are in short supply, finely-ground limestone should be supplied. If home-grown corn, cereal, and root crops are being used, the most convenient form in which to supply the necessary calcium is to mix 3cwt. of finely-ground limestone, 1cwt. of common salt, and 1cwt. of superphosphate, and supply this either as a 3 per cent. mixture in the cereal meal used or as a lick in a separate box.

It must be remembered that with whey feeding acidity develops fairly rapidly and requires to be checked; 1lb. of finely-ground limestone should be stirred into each 40-gallon drum of whey.

Investigation into Spread of Chukor

THE assistance of farmers and residents of rural districts is sought by the Department of Zoology of the University of Otago in an investigation it is carrying out into the distribution and spread of the chukor, a game bird which was introduced into New Zealand from India about 20 years ago.

The points on which the Department of Zoology requires information are:—

1. Where the birds are found at present.

2. The year in which they appeared in those places.

3. Information about their early distribution.

Any information which might be helpful in this investigation should be sent to the Department of Zoology, University of Otago, Otago Museum, Dunedin.

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