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INFECTIOUS PNEUMONIA OF PIGS

A SOURCE OF SERIOUS LOSS TO THE PIG INDUSTRY

By C. R. TOOP, B.V.Sc., Chief Veterinary Surgeon

INFECTIOUS pneumonia is by far the most common disease of pigs in Western Australia and is a source of serious loss to the pig industry. It has a wide distribution, and evidence of its existence in one form or another may be found in a large proportion of piggeries throughout the State. It is largely confined to young pigs and is most frequently observed in weaners and slips. For the most part it occurs as a chronic disease with symptoms of coughing, unthriftiness and retarded growth, but it may occasionally assume an acute form accompanied by serious mortality.

The disease results from an infection which invades the lung tissues and is most likely to occur when the resistance of the animals has been lowered by exposure to unfavourable conditions, associated with faulty management and improper feeding. Attention to management and feeding provides the most effective means of controlling the disease.

CAUSE

Recent investigations in Great Britain have shown that infectious pneumonia is caused by a virus usually associated with a secondary bacterial infection, and there can be little doubt that the diseases occurring in Australia and Great Britain are identical and that the same infective agent is responsible.

The disease is spread by contact between healthy and diseased animals. It may be introduced into a piggery by the purchase of infected stores, or of infected breeding stock, and once established it is likely to persist indefinitely. Recovered animals, although apparently healthy, may continue to harbour the infection, and this is illustrated by the large number of pigs showing pneumonic areas in their lungs when subsequently submitted to post-mortem examination at meatworks and bacon factories. Breeding sows affected in this manner remain carriers of infection which they in turn transmit to their litters, and the infection may be perpetuated by stores in a similar manner.

Conditions which lower the resistance of young pigs to infection favour the development of the disease. Exposure to wet insanitary conditions, the use of cold, damp, draughty shelters, and faulty nutrition, resulting from the feeding of a ration inadequate in quantity or lacking in essential nutrients, are important in this respect and for this reason, infectious pneumonia is usually most prevalent in piggeries where management and feeding are unsatisfactory.

SYMPTOMS

Infectious pneumonia is almost essentially a disease of young pigs, which may become affected from within a week or two of birth until they reach the age of three to four months. Weaners are especially susceptible. Older pigs are much more resistant to infection and the

disease is rarely a serious problem in pigs after they have reached the porker stage.

The disease usually occurs in the chronic form, but acute outbreaks accompanied by considerable mortality are sometimes encountered. Animals affected by the acute form of the disease become dull and listless, are disinclined to feed and lose condition rapidly. The temperature is high and a red rash may appear on the under surface of the body. The respiration becomes rapid and laboured, and this is accompanied by the development of a dry, spasmodic cough. A mucopurulent discharge from the eyes and nose which upon drying may gum the lids together is frequently observed. The affected animals lie down almost continuously. When forced to rise they stand with the back arched and walk with an unsteady, staggering gait. Death frequently occurs within a week to ten days from the onset of symptoms.

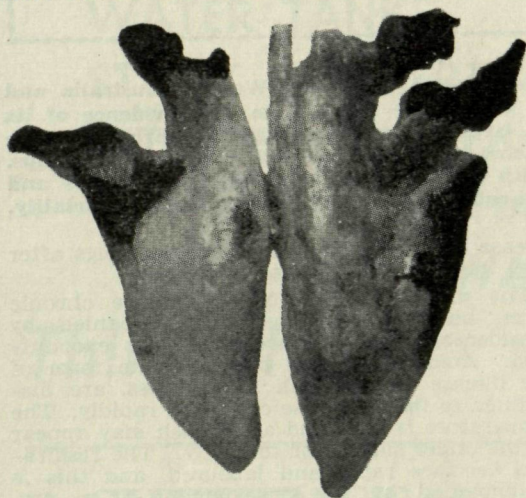
The outstanding symptoms in the chronic form of the disease are coughing and unthriftiness. The chronic disease is sometimes a sequel to the acute form, but more often the condition is chronic from the onset. The affected animals develop a sharp, dry, spasmodic cough, which is particularly noticeable after exertion and may be provoked by driving them a short distance. The respiration is laboured and sometimes jerky. Such animals are poor in condition, stunted and unthrifty in appearance, and their growth and development are seriously retarded.

Frequently the disease occurs in a much milder form, the only observable symptom being the presence of spasmodic cough which is not accompanied by any loss of appetite or condition. Even in these slightly affected animals, however, growth is somewhat retarded and a longer period of time is required to bring them to marketable weight. Affected animals usually recover upon reaching the porker stage and thereafter make satisfactory progress. In some cases, however, the cough may persist until they are removed from the property as baconers.

POST-MORTEM APPEARANCES

At post-mortem examination the principal abnormalities are found in the thorax or chest cavity. The affected lungs contain more or less

extensive pneumonic areas which are dark red in colour and firm and solid in consistency, contrasting sharply with the healthy lung tissue which is spongy and elastic and pale pink in colour. A portion of the affected lung tissue, if placed in water, will sink to the bottom, whereas healthy lung tissue will float. In the more chronic cases the affected portions of the



Lungs of a pig which suffered from infectious pneumonia. The dark portions are the red pneumonic areas in which the lung tissue has become solid.

lung are pale or greyish in colour and, when incised, the cut surface may be observed to be studded with small yellow necrotic (composed of dead tissue) areas. In some cases there is evidence of pleurisy, the lungs being firmly adherent to the chest wall.

CONTROL

The control of the disease largely resolves itself into a question of efficient management. Since exposure to unfavourable conditions associated with faulty management and improper feeding predisposes to the disease and is responsible for a large proportion of the outbreaks which occur, these matters should receive careful consideration and faults which are found to exist should be corrected. In this connection it is significant that infectious pneumonia, despite its widespread distribution, is rarely a serious problem on well-conducted piggeries.

In the application of control measures the following matters should receive attention:—

Housing.—Young pigs should be provided with dry, warm, comfortable quarters. Sties and shelters should be closely boarded to exclude draughts, provision at the same time being made for adequate ventilation. Floors should be above ground level to prevent dampness, and a bedding of straw or similar material should be provided. Where floors are constructed of concrete, wooden sleeping platforms should be supplied. It should be recognised that the exposure of young pigs, particularly suckers and weaners, to damp cold conditions is an important predisposing factor in the development of

infectious pneumonia, and that the protection of the young animals from these unfavourable influences represents a valuable control measure.

Sanitation.—The piggery should be constructed on a dry, well-drained site, low-lying areas being avoided. Sties, shelters and yards should be maintained in a clean, hygienic condition, litter and droppings being regularly gathered up and removed. Young pigs should be given free range and allowed to run in small paddocks where they can obtain access to green feed, in preference to being confined to sties and small yards which may become boggy and insanitary, particularly during winter. Provided adequate shelters are provided, pigs carried on the free range system remain healthier and more thrifty than those confined in sties or yards.

Feeding.—The diet should be adequate both in quantity and quality. A balanced ration which will provide a sufficiency of proteins, minerals and vitamins should be fed. The ration available will usually consist of grain and this will be utilised to the greatest advantage if crushed or ground. A protein supplement such as skim milk or meatmeal must be added to the grain ration. According to their size, skim milk at the rate of a half to one gallon per head daily will provide the animals with their protein requirements, but even if less than this amount is available its addition to the ration will still prove of decided advantage.

When it is necessary to rely upon meatmeal as a source of protein this should form not less than 10 per cent. of the ration. In addition, when wheat is being fed, a mineral supplement is necessary and this may be provided by the addition of ground limestone or slaked lime at the rate of one pound per 100 pounds of grain. Finally, green feed which will provide the animals with their vitamin A requirements, thus increasing their resistance to infection, should always be made freely available. Where it cannot be provided, a vitamin A rich supplement in the form of one of the shark liver oil preparations now on the market should be incorporated in the ration.

Young pigs should be encouraged to feed at an early age. By the provision of a creep, or small enclosure, to which the young pigs can gain access through a small entrance, but from which the sow is excluded, they will commence to feed when about three weeks old, and are able to fend for themselves when subsequently weaned at the age of eight to ten weeks. This will obviate the severe check which young pigs commonly suffer at the time of weaning and which renders them particularly vulnerable to infection.

Careful attention to the details outlined above will maintain the resistance of the animals at a high level enabling them to withstand infection, and this will provide the most effective means of controlling the disease.

PREVENTION

Precautions should at all times be taken to prevent the introduction of infection from an outside source. Pig raisers should endeavour to breed their own requirements, and the in-

production of boars and breeding sows which may be carriers of infection, from properties upon which the disease is known to exist, must at all times be avoided.

Should the purchase of stores become necessary, a careful inspection should be made and any consignment in which there is evidence of coughing, laboured respiration or unthriftiness, should be rejected. Newly purchased pigs should be isolated for a period of three weeks before being allowed to come into contact with other pigs on the property.

When an outbreak of infectious pneumonia occurs on a piggery, the affected pigs should be removed to separate quarters and held in strict isolation until they can be sold for slaughter. Severely affected animals which are stunted and

unthrifty should be slaughtered without delay since their growth and development is so retarded that they are never likely to become a profitable proposition. Faults in management and feeding should at the same time be corrected.

TREATMENT

For the treatment of affected pigs the administration of sodium sulphamezathine 33.1/3 per cent. solution may be recommended. This should be given by subcutaneous injection in a dosage of 3 c.c. per 15 lb. live weight on the first day of treatment, followed by 3 c.c. per 20lb. for the next four days. The response will depend on the nature of the secondary bacterial infection but in a considerable proportion of cases it is highly satisfactory.

SCHOOLS FOR FARMERS

Muresk Winter Courses Resumed

THE short instructional courses for farmers which were a popular feature of the Muresk Agricultural College in pre-war years will be recommenced during July next.

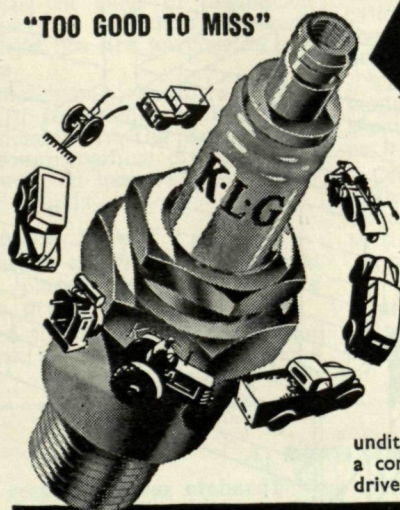
Two three-day courses have been arranged, one on sheep and wool extending from the evening of July 21, to the afternoon of July 24, and another dealing with pig husbandry lasting from the evening of July 28 to the afternoon of July 31. Farmers desiring to enroll in these courses should obtain an application form from the Principal of the Muresk Agricultural College, Muresk, W.A., or from the Department of Agriculture, St. George's Terrace, Perth. The cost

of each course will be £2, and students will be expected to supply their own sheets, blankets, pillow-slips and towels.

Officers of the Department of Agriculture and members of the college staff will give lectures and practical demonstrations during the courses. Practical work in the sheep and wool course will include such subjects as skinning and care of skins, complete handling of wool in the shed, the culling of sheep, crutching and mulesing, tailing and marking of lambs and sheep inoculation.

The itinerary for the pig husbandry course includes lectures and demonstrations on suitable pig premises, the points of the pig, carcass appraisal, dipping, de-tusking, tattooing and the production of baconers.

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