Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

Journal of the Department of Agriculture, Western Australia, Series 3

Volume 7
Number 6 *November-December, 1958*

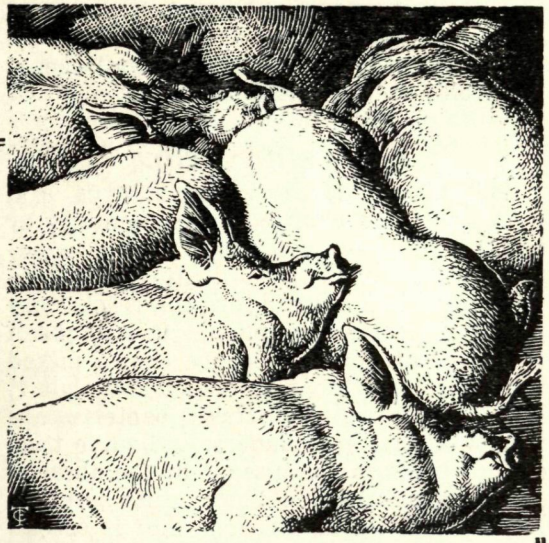
Article 4

11-1958

Infectious pneumonia of pigs

C. R. Toop

INFECTIOUS PNEUMONIA OF PIGS



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

COUGHING is so common among pigs that it seems almost to be regarded as a normal condition. Some pig-raisers will tell you that it is caused by worms, or that their pigs have been eating dry feed or running in dusty yards, but there are many who do not realise that it is a symptom of a highly infectious disease that is making heavy inroads into their profits.

Infectious pneumonia as this disease is called seems always to have been widespread in the pig population of Western Australia, and more than 30 years ago, an attempt was made to eradicate it by the quarantine of affected premises and the sale of the pigs for slaughter.

The cause of the disease and the manner of its spread had not, however, at that time been determined, and had it been known that an infection which could be carried for a long period by the apparently healthy pigs purchased as replacements was responsible, it would have been appreciated that a policy of eradication based on quarantine and slaughter was bound to end in failure.

ACUTE AND CHRONIC FORMS

Infectious pneumonia occurs both as an acute and a chronic disease, but the chronic form is by far the more common. The acute disease is most often seen in young pigs, particularly weaners and slips which show symptoms of listlessness, high fever, laboured respiration and coughing. The mortality rate may be high and death may occur within a few days of the onset of the symptoms. Animals that survive are slow to recover and often remain stunted and unthrifty.

In the chronic form of the disease, the predominant symptom and often the only symptom observed, is a dry spasmodic cough which can usually be provoked by forced exercise. Some affected pigs are "bad doers" and fail to thrive, but more often than not—apart from coughing—they show no apparent abnormality. However, even in these cases—and they are the majority—growth is retarded and a longer period and more food are required to bring the pigs to marketable weights. At post-mortem examination, the principal changes are found in the thorax or chest cavity. The affected lungs contain more or less extensive pneumonic areas which are firm and solid in consistency and dark red or sometimes greyish in colour, and are clearly demarcated from

the healthy lung tissue which is pink and spongy. Some cases show evidence of pleurisy, and the lungs are firmly adherent to the chest wall.

A VIRUS INFECTION

This disease is caused by a virus, and it has been transmitted experimentally by workers in Great Britain by the introduction of bacteria-free filtrates prepared from pneumonic lungs into the respiratory passages of healthy pigs. It had been thought until quite recently, that a mixed bacterial infection was responsible, but it is now known that these bacteria are merely secondary invaders, and while they cannot produce the disease in the absence of the virus, they do increase its severity.

The infection is airborne and is spread in the droplets of moisture expelled by diseased pigs when coughing.

Infectious pneumonia may be introduced into a piggery by the purchase of infected breeding stock or of infected store pigs, and once established, it is likely to persist indefinitely.

Recovered pigs although apparently healthy, continue to harbour the virus for long periods, and this is illustrated by the large number of pigs showing pneumonic areas in their lungs when slaughtered at bacon factories. Breeding sows with these lesions remain carriers of infection which they in turn, transmit to their litters, and store pigs may transmit and perpetuate the disease in a piggery in the same manner.

BAD MANAGEMENT FAVOURS DEVELOPMENT

Conditions which lower the resistence of young pigs to infection favour the development of the disease. Exposure to wet insanitary conditions, cold draughty quarters and poor feeding, all have this effect, and because of it, infectious pneumonia is more often a serious problem in piggeries where management is unsatisfactory and feeding is inadequate.

TRIALS DEMONSTRATE LOSSES

The economic loss resulting from the disease was clearly demonstrated in some trials conducted in England a few years ago, in which growth rates and the efficiency of food utilisation were investigated. In one of these, 16 eight-weeks-old weaners were paired into two even groups and kept under identical conditions of management, housing and feeding until they reached a liveweight of 200 lb. One group was artificially infected with the virus of infectious pneumonia, while the second served as a normal healthy control.

Growth rates in the healthy group were remarkably even. They gained 1.29 lb. per day and consumed 3.39 lb. of food per 1 lb. liveweight gain. By contrast, the infected group grew irregularly. They gained only 1.1 lb. per day but required 4.25 lb. of food for each 1 lb. of liveweight gain. The efficiency of food utilisation was thus 25 per cent, better in the pneumonia-free group.

In a further and more comprehensive series of trials, it was revealed that growth rates in infected pigs were reduced by 16 per cent., and the efficiency of food conversion by 22 per cent. Based on these findings and the observation that about 50 per cent. of the pigs slaughtered at abattoirs showed pneumonic areas in their lungs, it was estimated that the cost of infectious pneumonia to the pig industry of Great Britain was £15,000,000 per year. These figures illustrate the serious nature of the disease and stress the need for its control and eventual eradication.

CONTROL

The control of infectious pneumonia resolves itself into a question of efficient management with the emphasis on housing and feeding.

Sties and shelters need not be elaborate, but they should be warm, well-ventilated and free of draughts, and the floors should be above ground level so as to avoid dampness and cold. The ration fed should be adequate both in quantity and quality, and should not be lacking in protein, minerals and vitamins. Vitamin A is important and in the absence of greenfeed, the diet should be supplemented with a shark liver oil preparation.

By increasing the resistance of the pigs, these measures will minimise the effects of the disease, but they will not prevent the spread of infection or eliminate losses. This can only be achieved by total eradication.

COULD BE ERADICATED

Recent research in Great Britain has shown that infectious pneumonia can be eradicated and that a herd once freed of the disease, will remain free provided the infection is not re-introduced.

Breeding sows must be segregated and their litters reared in complete isolation in buffered enclosures. Any litters that develop symptoms of coughing are rejected, and together with the sow are sold for slaughter. Litters which remain healthy and show no evidence of coughing are carried to baconers when the barrows are slaughtered and their lungs carefully examined. If no evidence of pneumonia is detected, it may be safely assumed that the gilts are free of infection and they may be retained as breeding sows and will form the nucleus of a pneumonia-free herd. Their progeny will replace the balance of the pigs on the property which must be disposed of to the best advantage for slaughter.

Infectious pneumonia is so prevalent in Western Australia that its eradication and the replacement of the present affected herds by healthy stock, would present the greatest difficulty, and it could only be regarded as a long-range project. However, the advantages to be gained from increased growth rates and greater efficiency of food conversion are so obvious that it deserves the closest consideration.

The establishment of a few pneumonia-free herds to begin with, would provide a source of healthy breeding stock, not only for the new breeder entering the industry, but also for the established pig-raiser who had decided upon a policy of eradication, and once under way, it might be expected that the movement would grow and expand.

(From an A.B.C. Country Hour broadcast.)

FOX SCALP BONUS ABOLISHED

The Minister for Agriculture (Mr. L. F. Kelly) advises that he has approved of a recommendation that the bonus of 4s. at present being paid on fox scalps should be abolished in Western Australia after December 31, 1958, for a trial period of three years. The expenditure saved (about £10,000 a year) will be used to obtain poisoning units and to organise drives against foxes in agricultural areas. The experiment was suggested by the Protection Board over two years ago and was supported at the time by the Farmers' Union of W.A. The support of the Road Board Association of W.A. has now been given.

It has been evident for several years that the bonus payments—which have ranged from £2 to 2s. 6d.—have had little or no control over foxes and 50,000 scalps were received in 12 months a few years ago.

To show the advantages of organised poisoning, the Protection Board arranged demonstration drives in various parts of the agricultural areas. They were supported by two poisoning units which operated on unoccupied land as well as assisting in organisation and instruction on baiting methods.

The success and popularity of the drives and the poisoning units has been amply revealed by the many requests for further or extended operations, as the demonstrations have convincingly shown that lamb killing can be almost eliminated by poison baiting.

Four more units are being ordered immediately to assist in operations during the coming summer.

Mr. Kelly said that relatively few fox scalps are received from pastoral areas which therefore are not greatly affected by the decision. Baiting drives already conducted or assisted by the Protection Board to destroy wild dogs in the pastoral regions are known to have a considerable controlling effect on foxes.