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Diseases Produced by Spore Forming Anaerobic Organisms

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DISEASES PRODUCED BY SPORE FORMING ANAEROBIC ORGANISMS

The organisms of the genus *Clostridium* produce spores which can live in soil or tissue for many years. The diseases caused by this group of organisms include botulism, blackleg, malignant edema and tetanus.

All of these diseases except botulism are characterized by growth of the organism in the tissue of the host animal.

Botulism is a condition produced by the animal or bird eating feed that contains the botulism toxin. This organism grows in grains or animal tissues under conditions of moisture and low oxygen supply, and temperatures between 75 and 85 degrees F. As the organisms grow the toxin is produced and causes paralysis if eaten in sufficient quantities. The pig is quite resistant to this toxin, but under certain conditions the paralysis develops. Nearly all animals showing signs of botulism die.

If the animal shows signs of botulism it can be treated with botulism antitoxin. However, there are several types of *Clostridium botulina* and each has a specific type of toxin and a specific antitoxin must be used to obtain satisfactory results. The necessity of the specific antitoxin and the cost of the antitoxin make it too expensive to treat pigs for botulism.

Blackleg

Blackleg is a disease caused by one or more of the *Clostridia*. These organisms enter the body either through puncture wounds or through the digestive tract. The organisms grow in the muscle and produce a swelling in which gas is present. If a leg is involved, there will be lameness. Other signs of the disease include loss of appetite and death after one to three days of illness.

Post mortem examination shows a darkening of the involved muscles. Gas is present in the muscles and in fresh tissue. The gas has the odor of rancid butter.

The diagnosis is usually made from the history and lesions. Often hogs infected with blackleg organisms have eaten cattle or sheep that have died from this disease.

Hogs are not often infected with blackleg, but the logical preventive treatment is the use of the bacterin. The mixed bacterin used against blackleg and malignant edema should be used in cases of either blackleg or malignant edema.

In the early stages of the disease the affected animals can be treated with any of the broad spectrum antibiotics.

Malignant Edema

Malignant edema is quite similar to blackleg and probably is much more commonly encountered than blackleg.

The specific diagnosis for these two diseases is relatively unimportant since the mixed bacterin is recommended for prevention and the same antibiotics are used in the treatment of both diseases.

Tetanus (Lockjaw)

Tetanus is a disease characterized by spasms of the muscles which become progressively worse until the animal dies.

Organisms of this disease gain entrance through injury such as castration, puncture wounds and the stump of the umbilical cord.

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of farrowing pens and areas where pigs are castrated. Castration should be done in pasture.

Vaccination can be used where tetanus becomes a problem. Usually there are only sporadic cases.

Since tetanus kills by the toxin acting on the brain and nervous system, medicinal agents are of no value.

Tetanus antitoxin can be used in early stages of the disease, but usually by the time the animal is observed it is too late for the antitoxin to have any beneficial action.

Emergency generators will provide heat, light and power in both natural and nuclear emergencies. They are good preparedness investments.

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The first signs usually are stiffness followed by spasms which may be brought on by a sudden noise such as clapping the hands.

Post mortem examination frequently reveals little or no pathology. Wounds infected with pus forming organisms are likely places for the tetanus organism.

The diagnosis of tetanus is usually based on the history, the signs and the death of all affected animals.

Prevention of tetanus includes proper sanitation

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RURAL CIVIL DEFENSE TIP

Emergency generators will provide heat, light and power in both natural and nuclear emergencies. They are good preparedness investments.

TABLE

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