

PARAKERATOSIS

*This Serious Disease, Frequently Reported
In North Dakota, Is Economic Hazard
For the Swine Producer*

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In the past two years, frequent inquiries have been received by staff members of the North Dakota Agricultural College, regarding a skin condition in hogs that resembles mange. Infrequently hogs brought to the Veterinary Diagnostic Laboratory have exhibited this condition. This disease has been seen in all sections of the United States where hogs are raised.

Symptomatology

The first sign of this condition is the presence of reddened areas (dermatitis) behind and at the base of the ears, on the inner side of the legs and along the abdomen. The skin becomes thickened,



FIGURE 1.—This animal shows the symptoms of parakeratosis. Note the crusty, rough and scabby skin around the hoof, inner legs and under line.

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forming pimple-like projections, which give the appearance of an infection of the hog mange mite. Serum begins to ooze from the involved areas (weeping) and crusts form.

Because of the weeping skin, dirt and other foreign materials tend to accumulate and the condition may spread. In many instances the skin of the entire body is involved. As the condition progresses, the skin becomes hard, rough, dry and extensive crust-like formations extend over the entire involved area. Hogs of all ages have been known to have this condition. It has been seen in suckling pigs, but usually occurs in the period following weaning up to weights of 85 to 95 pounds. Often the faster growing pigs show the first symptoms noted in the herd. Mild cases can occur which do not show any gross symptoms. These cases are costly to the swine producer because they go unrecognized and are not treated. Because of the reduced growth rate and the reduced feed efficiency of the affected pigs, feed costs may increase over 25 per cent with this disease. Pigs with this condition are more susceptible to swine diseases than are normal, healthy pigs. Severe cases may result in death.

What is Cause of Parakeratosis?

The exact cause of this condition is not known. It is generally thought to be nutritional, because no known infectious agent is involved and changes in feeding practices are often beneficial. Following the onset of parakeratosis, the hog mange mite may be

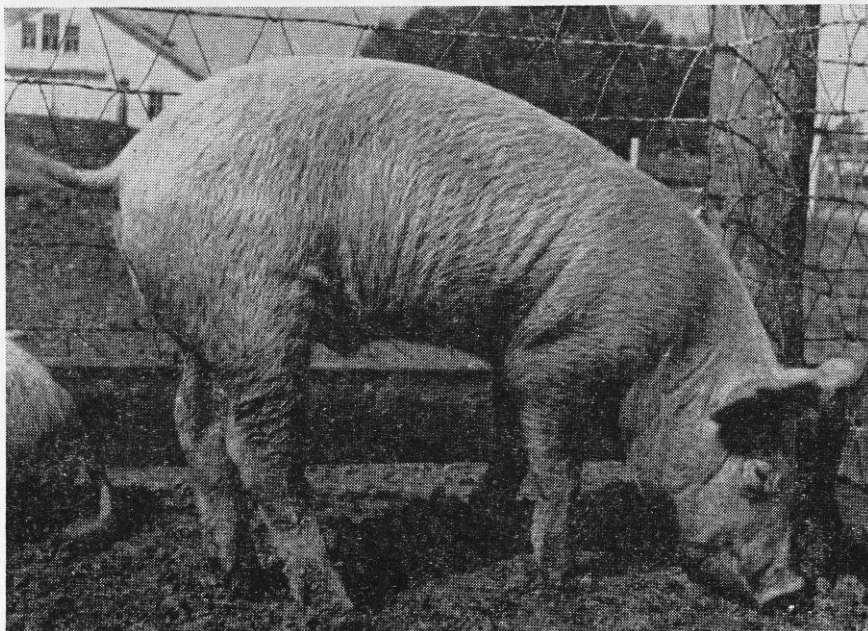


FIGURE 2.—Same animal as in Figure 1. The tucked-up, drawn-together stance of the body denotes an unthrifty animal.

isolated from the infected areas, but its presence is believed to be secondary due to the dermatitis and loss of normal skin continuity. It has been noted that excesses of certain minerals, notably calcium, in the ration aggravate the condition, probably due to a mineral imbalance.

Prevention and Treatment

Addition of the trace mineral, zinc, appears to be of value in prevention and treatment of parakeratosis. Zinc carbonate, zinc chloride or zinc sulfate can all be used as sources of zinc. Preliminary work at this station indicates that adding 0.4 pound of zinc sulfate (technical grade) per ton of feed aids in correcting the disease providing it has not progressed to the chronic stage. The addition of 0.2 pound of zinc sulfate per ton of feed appears to be of value in preventing the onset of the disease. These dosage levels should be considered only preliminary and are subject to revision with more research.

Sometimes affected pigs appear to recover spontaneously with no change in management or feeding. Changing the hogs from dry lot to lush green pasture sometimes hastens recovery. Sometimes a change in ration appears to be beneficial. These observations suggest that parakeratosis is not due to a simple zinc deficiency but is related to other nutrients. In any event, adding zinc to the ration is at present the most promising prevention and treatment known.

Swine producers should be on the alert for the first signs of this condition, as early diagnosis and treatment are of the utmost importance in order to avoid costly gains and even death losses.

TITLE OF 1955 U.S.D.A. YEARBOOK "WATER"

The U. S. Department of Agriculture has announced publication of its 1955 Yearbook, a 752-page volume devoted to drought, floods, and the normal sources and uses of water.

Entitled **WATER**, the book contains a wealth of information on all aspects of a subject that has become a major national concern—for industries, city people, foresters, conservationists, gardeners, and sportsmen, no less than for farmers, ranchers, and orchardists.

Its 95 chapters were written, mostly in non-technical style, by 149 specialists in the Department of Agriculture, state agricultural colleges and divisions, and private and federal organizations whose work pertains to water. The book has many drawings, maps and photographs.

Among the subjects treated are: The importance of water in history; the need for water of people, animals, and plants; weather cycles; "cloud seeding"; desalting sea water; water and erosion; the care of watersheds; water laws; floods and their prevention; water for forests and range lands; irrigation in the West and East and for specific crops; drainage; managing watersheds for better fishing; wetlands and waterfowl; farming in dry regions; use of waste water by industries; water for gardens and lawns; pure water for rural homes; sewage disposal; teaching and learning about conservation; and research regarding water.

The Yearbook of Agriculture is a congressional document prepared in the Department of Agriculture and published under direct congressional authorization. The yearbooks are distributed mainly by members of congress. It is also sold by the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at \$2.00 a copy. The Department of Agriculture has no copies for general distribution. Requests for copies should not be sent to the department or any of its employees.