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Using oral E. Coli milk vaccine to control colibacillosis

Abstract

Colibacillosis is still a costly disease to swine producers in spite of new antibiotics and other products and procedures used to prevent or treat the disease. A recent aid in controlling the disease is the oral E. coli milk vaccine developed by Dr. Irvin Kohler. It consists of isolating a pathogenic E. coli from the herd and feeding the organism to pregnant sows to stimulate colostral antibodies. It is a giant step forward from the earlier recommendation of the late Dr. Howard Dunne who suggested taking the bedding and feces from the farrowing house and feeding it to pregnant sows to elevate the antibody content of the colostrum.; Swine Day, Manhattan, KS, November 9, 1978

Keywords

Swine day, 1978; Kansas Agricultural Experiment Station contribution; no. 79-105-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 342; Swine; Oral E. coli milk vaccine; Colibacillosis

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Colibacillosis is still a costly disease to swine producers in spite of new antibiotics and other products and procedures used to prevent or treat the disease. A recent aid in controlling the disease is the oral E. coli milk vaccine developed by Dr. Irvin Kohler. It consists of isolating a pathogenic E. coli from the herd and feeding the organism to pregnant sows to stimulate colostral antibodies. It is a giant step forward from the earlier recommendation of the late Dr. Howard Dunne who suggested taking the bedding and feces from the farrowing house and feeding it to pregnant sows to elevate the antibody content of the colostrum. Advantages of oral vaccine include:

1. Stimulates antibodies against the E. coli serotype on the farm. (Do not use a serotype on any farm except where isolated.)
2. Oral vaccine apparently stimulates more IgA and IgM antibodies than the parenteral injection of a bacterin does.
3. Less chance of spreading other diseases such as Salmonellosis from feeding feces of sows to other sows.

The procedure requires the isolation of the pathogenic E. coli from the herd and the subsequent feeding of large populations of the organisms to sows in late gestation. The production of the oral vaccine should only be attempted by persons with a

knowledge of microbiology; and, it is recommended that a veterinarian be consulted to set up the program which can be readily adapted to most swine operations. The oral E. coli vaccine has effectively reduced the colibacillosis problem on many swine operations.

Research recently conducted at Kansas State indicates that non-fat dry milk can be reconstituted with chlorinated tap water with no deleterious effects upon the E. coli population and the use of milk previously inoculated and incubated is not a satisfactory substitute for inoculated BHI broth. It is recommended that the temperature be held at 37-38 C (98-100 F); however, a lower temperature will still result in growth of the E. coli. The use of milk as a preinoculation media resulted in lowered populations of E. coli in the oral vaccine.