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H W. Leipold

R Scarsi

D Schoneweis

See next page for additional authors

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Myoclonia congenita (trembling piglets)

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H W. Leipold, R Scarsi, D Schoneweis, R Milleret, and R Phillips

Myoclonia Congenita (Trembling Piglets)

H. W. Leipold,¹ R. Scarsi,¹ D. Schoneweis,²
R. Milleret,³ and R. Phillips³

An epidemiologic survey was conducted on ten swine farms in Kansas and two in Nebraska (1878 piglets in 251 litters) to determine the incidence, clinical signs, and cause of myoclonia congenita. The percentage of litters with myoclonia congenita was 37.45%, ranging from 4.35% to 100%. Morbidity rate was 37.5%, which is lower than rates in previous surveys in the United States. Mortality rate in all pigs was 17.73% while the fatality rate of affected pigs was 47.2%.

Generalized tremor was the principal clinical sign observed on ten of the farms, which agrees with previous observations. Spraddle-legged piglets were seen on eight of the farms. All farmers interviewed had recently purchased boars, and affected litters were the first sired by the recently purchased boars. Six Duroc boars siring affected litters on three farms were purchased from the same breeder. Stillborn piglets and malformed piglets were problems on seven and eight farms, respectively.

A more localized tremor involving only head and neck in lateral and vertical, uninterrupted movements was seen in piglets on two farms. In

experimental transmission of this condition by breeding trial, one litter which exhibited the localized tremors was produced. The principal transtructural findings were deficient myelin in the white matter of thalamus, pons and spinal cord with occasional degenerated oligodendrocytes.

Samples from field cases of localized tremors in Chester White pigs as well as from the transmission studies all were negative for viruses after several passages in tissue culture. Inoculating pregnant gilts with tissue from localized trembling piglets produced no affected offspring.

The localized trembling condition is considered to be genetic, and most likely transmitted by a recessive gene. Piglets exhibiting generalized trembling (shaker pigs) apparently result from a prenatal viral infection and the condition is usually not seen in subsequent farrowings. Leipold has previously shown that inoculating pregnant gilts with tissue from pigs with generalized tremors (shaker pigs) will produce affected offspring.

¹Dept. of Pathology.

²Dept. of Surgery & Medicine.

³KSU Diagnostic Laboratory.