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I. Acute Hypoglycemia in Newly Born Pigs. (So-called Baby Pig Disease).

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During the past 8 years sporadic outbreaks of an unidentified, highly fatal malady of newly-born pigs have come to the attention of the Illinois Agricultural Experiment Station. This, or an indistinguishable malady, has been arbitrarily referred to as baby pig disease.* In connection with different outbreaks on widely separated farms an increasing number of naturally affected pigs has been delivered to the laboratory for examination, while a limited number of affected herds has been inspected to observe methods of managing the pregnant sows. So far as could be determined the rations fed the pregnant sows appeared adequate. However, further information regarding the relation of feeding of the pregnant sow to the disease in newly-born litters is desirable.

Pigs that suffer from the disease referred to present a characteristic syndrome. In typical outbreaks newly-born pigs, though apparently normal at birth, suddenly develop symptoms. Pigs that immediately display similar or indistinguishable symptoms at birth are purposely excluded from consideration in this report. In the typical syndrome, apparently normal litters at approximately 24 to 48 hours of age show symptoms of shivering, dullness and inappetence. Affected pigs often emit a weak crying squeal. Coincident with the loss of appetite and weakness, the hair coat becomes rough and the affected pigs leave the nest and lapse into coma. Death of several or all pigs in the affected litters often occurs within 24 to 36 hours after the first symptoms are manifested. The extent of the loss has ranged from one to 22 litters, representing approximately 5 to 95% of the pigs farrowed in some herds.

At autopsy no gross pathologic lesions have been observed. Supplementing gross autopsy examination of typically affected pigs repeated efforts have been made to demonstrate in the tissues the presence of pathogenic agents such as bacteria, filtrable viruses, protozoa and toxins. The results proved negative. Failure to reproduce the disease experimentally or to demonstrate the presence of an in-

* Mimeographed release (Rev. 1940), College of Agriculture, Extension Service.

fectious agent prompted a chemical examination of the blood. Analyses for calcium, inorganic phosphorus, and ketone bodies revealed values within the normal range for these constituents. However, abnormal amounts of blood sugar have been consistently encountered.† The sugar level ranged from approximately 3 to 61 mg per 100 cc. In one series of 20 affected pigs from 7 different litters, an average of 26 mg of sugar per 100 cc of blood was found. The blood sugar level in normal pigs of the same age ranged from 99 to 131 mg per 100 cc with an average of 113 mg.

A possible prenatal influence on this pathologic condition in newly-born pigs is obviously suggested; but until the underlying cause or causes are established, the cryptogenic nature of the acute hypoglycemia is recognized. Contributory evidence in support of the possible primary significance of acute hypoglycemia has been observed in the therapeutic response in naturally affected pigs following repeated injections of glucose solution. Pigs in the early stage of the disease show improvement in 2 to 3 hours following dextrose therapy, while repeated injections of dextrose together with forced feeding of milk have demonstrated that the life of naturally affected pigs may be prolonged and that in some cases the treated pigs may recover. However, glucose therapy even if repeated appears ineffective in the terminal stages of the disease.

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Influence of Sucrose upon Production of Serologically Reactive Material by Certain Streptococci.

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This paper deals with the potential capacity of certain streptococci from man to produce material reactive with types 2 and 20 antipneumococcus and with antileuconostoc serums. The point of major interest is the influence of sucrose upon the production of the reactive material.

† The blood sugar was determined by the Shaffer-Hartmann-Somogyi method according to the technic of Koch. (Koch, F. C., *Practical Methods in Biochemistry*, Williams and Wilkins, Baltimore, 1934.)

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