SCIENTIFIC PROCEEDINGS.

ABSTRACTS OF COMMUNICATIONS.

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28 (845)

The influence of epinephrin on carbohydrate metabolism.

By GRAHAM LUSK.

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It has been stated that epinephrin stimulates the activity of the thyroid and thereby increases protein metabolism; that it inhibits the activity of the pancreas thereby reducing the internal secretion of that gland with resulting diabetes (school of von Noorden). Hari, working with curarized dogs, finds a higher respiratory quotient after administering epinephrin than before the dose had been given. Wilenko, using rabbits under the influence of urethan, finds that epinephrin injections are without influence on the respiratory quotients, and that when carbohydrate is administered at the same time, the respiratory quotient indicates that the combustion of sugar is largely suppressed. Falta has lately administered epinephrin to human beings and has noted a rise in the respiratory quotient.

In the experiments now reported it was found that in the case of a dog which received 50 grams of glucose per os and, at the same time, received 1 milligram of epinephrin per kilogram subcutaneously, the respiratory quotient rose to unity, remained at that level during five hours in spite of the fact that during this period about 10 grams of glucose were eliminated in the urine. The protein metabolism was unaffected. Therefore, adrenalin does not inhibit the pancreas causing diminished carbohydrate oxidation,

nor does it stimulate the thyroid causing increased protein metabolism.

29 (846)

An experimental study of heredity in bovine tuberculosis.

By HARLOW BROOKS, M.D.

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This study was conducted on what is probably the most valuable herd of Holstein Fresian cattle in the world. It has now extended over about ten years, hence several successive generations of stock have been studied under precisely similar conditions. The experiments have been supervised and verified by officers from the U. S. Department of Agriculture and the data are matters of official record in the register published by the Holstein Fresian Association. I am permitted to summarize and publish the results of the experiments by Mr. J. W. Dimick, the proprietor of Woodcrest Farm, where the problem is under study.

The number of animals comprised in the study is 425. The animals were originally selected because of their desirability from the standpoint of breeders and milkers or because of their "type" and entirely independent of their being or not being tuberculous.

The tuberculous animals greatly outnumbered the non-tuberculous and in most instances several generations of tuberculosis on both sides is known to have existed. 300 tuberculous animals were studied. The existence of tuberculosis was determined by the administration of treble the official dose of tuberculin, repeated in non-reacting animals three times at intervals of six months. All animals reacting to either test were removed at once to the tuberculous farm, the administration of which is entirely separate from that of the non-reacting herd. Little or no possibility of the transmission of infection from the tuberculous group to the healthy one exists.

With few exceptions tuberculous cows are bred to tuberculous bulls, the selection in any case is made for purposes of "type" and no account of the infection is taken in so far as breeding is concerned.