

After 10 days, a decrease in the stiffness and in the skin troubles was noted in pig 107, and rapid growth was resumed. At the end of 5 weeks the stiffness had disappeared and the skin was nearly normal. During the last three weeks the pig gained over 2 lbs. a day, compared to 1 lb. at the close of the 90-day period. Pig 122 showed the first definite evidence of recovery after 3 weeks, when it was able to stand momentarily if placed on its feet. It could get up by itself and take several steps at 4 weeks. At 7 weeks, lost weight had been recovered, the skin was nearly normal, the pain appeared to be entirely gone, and the animal was able to get around rather freely, though stiffness was still present.

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The pathological tissue changes resulting from feeding cottonseed meal.

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Twelve pigs were fed a ration of cornmeal 60 per cent., wheat middlings 10 per cent., molasses 5 per cent. and cottonseed meal 10 per cent. which was gradually increased to 25 per cent. They also received a mineral mixture of salt and lime. Six of these died from 8 to 13 weeks after the experiment was begun, the rest were at that time changed to a ration free from cottonseed meal and are still alive.

The most constant tissue changes were ascites, hydrothorax, hydropericardium, a distension of the sheath, anasarca, oedema of the perirenal fat and congestion of the thyroid glands with a marked diminution of colloid material. In those that died first, there were marked subpleural and interlobular pulmonary oedema. The oedematous liquid was slightly reddened and gelatinized on standing.

A Holstein cow has been fed cottonseed meal for 10 weeks beginning with 6 quarts and gradually increased to 10 quarts daily comprising the entire grain ration, with hay for roughage.

She does not show any ill effects as yet. Two adults, a boy 5 years old, and two dogs, fed milk of this cow the first week of the experiment, developed diarrhea. Two dogs fed the milk the second week did not show any ill effects. A two-day-old calf began sucking this cow 15 days after the experiment was started. He gained weight steadily and showed no apparent ill effects. The calf was killed by bleeding from carotid at the age of 5 weeks. Autopsy showed oedema of the perirenal fat and of the omentum. In the peritoneal cavity, there was about 600 c.c. reddish liquid that gelatinized on standing, similarly to the ascitic liquid found in the pigs. All the other organs appeared normal.

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A comparison of the alkaline tide in urine with the results of fractional gastric analysis.

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The fact that the acidity of the urine decreases after meals is well known, and this decrease has been commonly attributed to the secretion of hydrochloric acid by the stomach during the process of digestion, but there are comparatively few experiments recorded in which direct comparison between urine studies and analyses of the acid content of the stomach by the newer methods have been made. In the series of cases presented determinations of hydrogen-ion concentration, titratable acidity, ammonia, and in some instances, total nitrogen, were made on urine collected at two-hour intervals through the day from patients who had been studied for hyperacidity or anacidity of the stomach by the usual method of fractional gastric analysis. Those cases which showed free hydrochloric acid in the stomach showed the "alkaline tide" in the morning, and usually in the afternoon as well, while the cases which did not show hydrochloric acid, with one possible exception, did not show the tide.

The depth and duration of the alkaline tide did not correspond with the relative amounts of hydrochloric acid found in the gas-