Protein Requirements of Lactating Sows with Litters

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The potassium salts were super-imposed on this basal ration varying in amounts ranging from $\frac{3}{4}$ to 1 ounce per ewe daily during the pregnancy period.

IOWA STATE COLLEGE.

THE ROBBER CRAB, \textit{(BIRGUS LATRO)} WITH SPECIAL REFERENCE TO ITS RESPIRATORY SYSTEM

C. C. Nutting

\textit{(ABSTRACT)}

The general appearance anatomy and habits of this crab are described briefly. The main part of the paper is devoted to a description of the very remarkable respiratory system which is more highly modified for aerial respiration than any other decapod crustacean. The relation of this form to the hermit crabs is pointed out.

STATE UNIVERSITY OF IOWA.

PROTEIN REQUIREMENTS OF LACTATING SOWS WITH LITTERS

Q. W. Wallace AND John M. Evvard

\textit{(ABSTRACT)}

A number of experiments with lactating sows carried on various rations during the suckling period and continued until the pigs were 60 days old were conducted in the lactating sows with litter project at the Iowa Agricultural Experiment Station.

In brief, the experiments show the amounts of protein and carbohydrate equivalent consumed daily by sows and pigs and the protein requirements for the hundred pounds of gain, this being based on the net gain made. A number of different rations were fed in dry lot and the protein consumption and requirements computed. The nutritive ratio recommended generally for lactating sows is 1:5. In some of our experiments with sows allowed free choice of good feeds the ratio has been 1:1.4 or wider and in certain exceptional cases the ratio has been as narrow as 1:1.2.

The protein storage in the body of the young pig may be estimated on the basis of the protein content in the hundred pounds of gain made and the protein required, i. e., consumed, to make the hundred pounds of gain. Young pigs are estimated to put
about 14 pounds of protein into the hundred pounds of gain. In one of our experiments with young orphan pigs, 20 percent of the protein fed was stored in the body.

Lactating sows may gain or lose weight during the suckling period. When the nutritive ratio was 1:4 or narrower and the litters were large, particularly when milk products were fed, the losses in weight on the part of suckling sows have been greatly reduced and the weights of the pigs at weaning time have shown increases. It is interesting to note what percentage of the sow gain or loss is protein and carbohydrate equivalent.

IOWA STATE COLLEGE.

VITAMIN A AND LONGEVITY

J. H. HANSBROUGH, V. E. NELSON AND E. I. FULMER

(ABSTRACT)

Experiments have been conducted to determine if protein, minerals and vitamin A are of equal importance for prolongation of life. One group of rats was fed on white corn alone. White corn is known to be deficient in protein, vitamin A and minerals. Rats on the above diet lived an average of 72 days. A second group of rats received a diet consisting of white corn 88 per cent together with casein 12 per cent. They lived an average of 75 days. A third group of rats received white corn 98 per cent, and 5 per cent of salt mixture. They lived an average of 87 days. The fourth group of rats received white corn 95 per cent and 5 per cent of butterfat. All are alive at the end of 160 days. None of the animals grew. Distilled water was furnished ad. lib. to all of the animals.

THE PROTEIN REQUIREMENTS OF PRACTICALLY MATURE FATTENING CATTLE

C. C. CULBERTSON AND JOHN M. EVVARD

(ABSTRACT)

A number of tests have been carried on at the Iowa Agricultural Experiment Station with fattening two-year-old steers. These steers have been fed during the fall and winter months in dry lot, usually for 120 days.

Many different rations have been used with the basal check