

phate. Poorest performance was observed with the group receiving the diet containing 0.20 percent phosphorus from soft phosphate. The rate of egg production on this diet was less than that observed from feeding the basal diet containing no supplemental phosphorus.

A considerable reduction in the amount of feed required to produce a dozen eggs was observed when the basal diet was supplemented with 0.05 percent phosphorus from defluorinated phosphate (Table 4). When higher levels of supplemental phosphorus were added, no further improvement was observed in feed utilization. A portion of this improvement in feed utilization could be attributed to the higher rate of egg production of the hens receiving the diet supplemented with phosphorus since an improved rate of lay will result in improved feed utilization. When the diet was supplemented with phosphorus from soft phosphate the utilization of feed was not as good as from diets containing similar levels of phosphate from defluorinated phosphate.

Mortality for the various experimental lots during the 11 month laying period ranged from 2.8 to 16.7 percent. No significant differences were detected in mortality between the various groups.

A COMPARISON OF VARIOUS LEVELS OF PHOSPHORUS FOR HENS IN CAGES

EXPERIMENT 4 (1959-60)

Procedure.—Forty-eight groups, each containing 5 commercial egg production type pullets (Hy-line 934A) maintained in individual cages, were used in this experiment. The growing program was the same as followed in Experiment 2. The pullets were placed in individual cages at 21 weeks of age at which time the experiment was begun.

The composition of the basal diet is shown in Table 1. This basal diet was modified by the addition of different levels of phosphorus from defluorinated phosphate to form 5 other experimental treatments as shown in Table 4. When these levels of defluorinated phosphate were added to the basal diet, adjustments were made in the amount of ground limestone in order to maintain the calcium content of the diet at 2.3 percent. The level of animal fat was adjusted in order to maintain the energy content of the diets at 945 Calories of productive energy per pound of feed.