

rate of egg production can be explained by the excessive mortality of birds in this pen. No explanation can be given for this high rate in mortality; however, since pullets were allowed to remain in the pen until they died it would partially explain the lowered rate of egg production. When the level of supplemental phosphorus was increased to 0.09 percent, the rate of egg production was not increased. However, when the level of supplemental phosphorus from defluorinated phosphate was increased to 0.35 percent of the diet, an improvement in rate of egg production was observed. When the level of supplemental phosphorus was increased to 0.35 percent from soft phosphate, a reduction in rate of egg production was obtained. Rate of egg production from this group was 2.3 percent less than obtained from feeding the basal diet.

Considerable differences were observed among the groups of hens in the amount of feed required to produce a dozen eggs (Table 3). However, it is felt that these differences in feed utilization were primarily due to the differences in rate of egg production of the hens and not due to difference in the composition of the feed.

Mortality for the various experimental lots during the 10 month laying period ranged from 6.4 percent to 17.9 percent (Table 3). Due to the variation between replicates, these differences were not found to be significant. The over-all mortality for the entire group was approximately one percent per month which was considered to be normal except for high mortality with the group receiving 0.03 percent supplemental phosphorus from the dicalcium phosphate.

Specific gravity of eggs from hens receiving the diet containing the high level of soft phosphate was significantly lower than that of eggs from hens receiving any of the other experimental diets (Table 3). No significant differences in specific gravity were detected between the other 9 experimental groups.

Body weight of the hens at the termination of the experiment is shown in Table 3. Although no significant differences in body weight were found among groups of hens on the various diets, some trends were evident. Body weight of the hens receiving 0.35 percent supplemental phosphorus from soft phosphate was 109 grams lighter than any other group of hens. The other 2 groups of hens receiving diets containing 0.35 percent phosphorus from defluorinated phosphorus and defluorinated phosphorus plus fish meal were the heaviest birds in the test.