duction with birds maintained in cages; however, a high rate of mortality was obtained on this feed (Tables 4, 5, 6). It was felt that the rate of egg production in these experiments was not a true indication of the adequacy of phosphorus in the diet since mortality greatly influenced this, as it is suspected that birds with the higher requirements died in the early part of the experiment. Therefore, the adequacy of the phosphorus did not have an opportunity to express itself as indicated by lowered rate of egg production for this group. It should also be pointed out that the greatest depression in rate of egg production for those birds maintained in cages came after they had been in production for 6 months. Length of test may account for a portion of the variation in phosphorus requirement previously reported for the laying hen.

Dicalcium phosphate and defluorinated phosphate may be satisfactorily used to furnish levels as high as 0.35 percent supplemental phosphorus for the laying hen when the diet contains at least 2.25 percent calcium (Tables 2, 3, and 4). These experiments also indicate that soft phosphate may be satisfactorily used to furnish low levels of supplemental phosphorus at this level of calcium. Feeding of high levels of soft phosphate at a calcium level of 2.25 percent or less resulted in lowering the rate of egg production, and increasing the amount of feed required to produce a dozen eggs. This reduction of performance of hens with the high levels of soft phosphate could not be explained on the basis of the low availability of phosphorus in the soft phosphate since a higher rate of production was obtained with the diets containing a lower level of phosphorus. It is assumed that these hens receiving the high levels of soft phosphate were suffering from a calcium deficiency, since comparable levels of soft phosphate gave good performance when the level of calcium was increased to 3.75 percent (Table 6). The results from Experiment 6 agree with the results of Baruah *et al.* (1960) who reported that two-thirds of the phosphorus in the laying mash could be supplied by soft phosphate. That calcium availability is a factor to be considered when evaluating soft phosphate as a source of phosphorus for poultry agrees with the report of Watts and Miner (1959), who found that calcium is less available in soft phosphate than in dicalcium phosphate. Therefore, the decreased performance obtained with the diets containing high levels of soft phosphate in Experiments 2, 3, and 4 may be attributed to a deficiency of calcium rather than