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# Selenium Supplementation of Layer Diets Based on Milo and Soybean Meal

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Previous studies with corn-soy diets have shown laying hens to have improved feed efficiency when the diets were supplemented with up to 2 ppm selenium. In some cases, egg production was improved, but in most instances feed intake was simply reduced without causing a decrease in egg numbers. A study was therefore conducted with a milo-soy diet to further evaluate this treatment.

Graded levels of selenium up to 1 ppm were fed to laying hens receiving a milo-soy basal diet over a 9-month period. This diet was calculated to contain 15.2% protein and 3056 Calories of Metabolizable Energy per kg and would have contained about 0.4 ppm selenium. Four replicates of 12 hens in 12-inch cages and four replicates of 12 hens in 16-inch cages were fed each treatment. Hen-day egg production, feed conversion and egg size are shown in Table 1.

These results confirm previous studies showing increased production with selenium supplementation. The improvement has occurred even though this diet as well as those previously used were theoretically adequate in selenium content. However, in the present study feed efficiency was not significantly improved for the hens that had shown an improvement in production. A further study would be desirable to check on these observations. However, these results suggest that a 0.50 to 0.75 ppm level of selenium supplementation would appear to be optimum.

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[1]Assistant Professor and Professor, Poultry Research and Extension; and Professor, Station Biochemistry, respectively.

Table 1. Response of Laying Hens on a Milo-Soy Diet to Supplements of Selenium

| Treatment | Hen-day[1] production | Feed per standard dozen | Egg weight |
|---|---|---|---|
| ppm Se | % | kg | gm |
| None | 73.0ab[2] | 1.42a[2] | 58.0a[2] |
| 0.25 | 72.4a | 1.48b | 57.7a |
| 0.50 | 76.8c | 1.39a | 57.7a |
| 0.75 | 75.1bc | 1.39a | 58.4b |
| 1.00 | 71.0a | 1.47b | 57.9a |

[1]Ninety-six DeKalb 161 pullets over a 9-month period on each treatment.
[2]Data followed by unlike letters are statistically different at the 0.05 level of significance.