

## EFFECT OF DIETARY AVAILABLE CALCIUM AND PHOSPHORUS ON THE PERFORMANCE AND EGG QUALITY OF LAYING HENS

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**Summary.** The effect of different amount of monocalcium phosphate on productivity and egg quality of laying hens was investigated. Sixty laying hens were divided randomly into 3 groups (Groups 1-3) each of 20 hens. Group 1 (controls) were fed with diet supplemented with 0.6% of monocalcium phosphate, where amount of available phosphorus (P) was 0.40%. In Groups 2 and 3 (experimental) the diet was supplemented with 1.60% and 2.60% of monocalcium phosphate and with available amount of P – 0.60% and 0.80%, respectively. The results showed that different amount of monocalcium phosphate, when the ratio of calcium (Ca) and P was 4.5–9:1, had no impact on feed conversion ratio, but have significant influence on the egg laying intensity. After 6 weeks of feeding, when ratio of Ca and P was 4.5:1, laying intensity of hens dropped to 14.6%. Further, the highest laying intensity (82.3%) was registered, when the ratio of Ca and P was 6:1. The eggshell weight, thickness and density were comparable and equally good, when available P in the hens diet was 0.4% or 0.6% and the ratio of Ca and P was 9:1 and 6:1, respectively. During the first 2 weeks of the experiment, when the ratio of Ca and P was 4.5:1 and available P was 0.8%, the eggshell parameters were improved compared to controls (Group 1). However, after 6 weeks of feeding the density, weight and thickness of eggshell in Groups 2 and 3 were statistically significantly lower compared to controls in Group 1 ( $P < 0.05$ ).

**Keywords:** laying hens, Ca : P ratio, productivity, eggs.