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MINERAL INTAKE FROM MILK AND PASTURE IN NURSING FOALS

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A nursing foal should consume sufficient minerals to avoid incidence of developmental orthopedic disease (DOD). The quantity of minerals obtained from milk and pasture, and whether they are sufficient for a foal's mineral requirement, are not well known. For this reason it is difficult to decide when to provide foals with creep feed and its appropriate composition. The objective of this study was to measure the amount of mineral intake from milk and pasture and to examine the appropriate nutritional management of a nursing foal. Eight Thoroughbred mares and foals were used for the study of milk consumption and mineral intake from milk. The amount of daily milk consumption was measured by the weight-suck-weight method at 3 days, 1 week, 3, 7, 10 and 17 weeks of age. Milk samples were taken by hand at the same time and the amount of Ca, P, Mg, Zn and Cu intake from milk was measured. Milk consumption of foals at 3 days, 1 week, 3, 7, 10 and 17 weeks of age was 19.0, 19.4, 16.5, 16.2, 13.0 and 11.4 kg/day, respectively. This shows that the amount of daily milk consumption decreased with age after the foal reached 3 weeks of age. From 3 days to 17 weeks of age, Ca, P, Mg, Zn and Cu intake from milk decreased 20.3 to 6.9 mg, 16.3 to 5.0 mg, 1.9 to 0.3 g, 64.1 to 25.9 mg and 12.3 to 3.6 mg, respectively. Daily pasture consumption of five foals was estimated by use of an indicator (lignin) method. All feces excreted in a day were collected and lignin in feces and pasture was analyzed. Daily Ca, P, Mg, Zn and Cu intake from pasture increased from 3 days to 17 weeks of age. The mineral intakes at the age of 17 weeks were 10.9 mg, 8.42 mg, 3.6 g, 52.8 mg and 15.4 mg, respectively. In relation to NRC (1989) recommendations for Ca, P, Mg, Zn and Cu, mineral intake from milk and pasture was inadequate between 1 and 3 weeks of age. These results indicate that it would be desirable to begin creep feeding a nursing foal as soon as it becomes old enough to consume feed.

