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Extension Animal Science Horse Information Series

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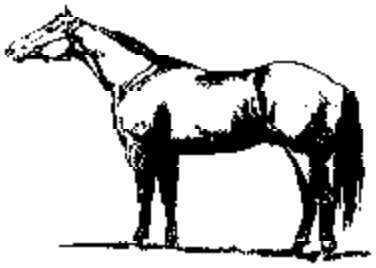

MORE CALCIUM FOR YOUNG, TRAINING HORSES

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We have all heard of the benefits of drinking two glasses of milk daily for calcium. But, experts indicate that Americans are not getting enough calcium.

Well, recent research from Texas A & M University also indicates that young horses entering race training may need extra calcium.

Earlier research with racing-age horses had shown a substantial decrease in mineral content of the third metacarpal (cannon bone) during the first two months of training. After that time, there was an increase until the end of the study.

In another study, a lack of dietary calcium was observed in young horses entering race training, even though they were fed a recommended level according to the National Research Council (NRC).

In the latest study, 12 two-year-old horses were divided into two groups. One group of control animals were fed the NRC recommended level of calcium. The others were fed 123 percent of NRC recommended calcium.

After adjustment to a ration of 65 percent concentrate and 35 percent hay, the horses were conditioned and race trained in four 28-day periods.

Bone density never decreased below its value on day one in the mineral-added group. A dramatic increase was noted from day 70 to the end of the study. Control horses had a bone density similar to or lower than day one throughout most of the study.

Retention of calcium was greater at days 28, 56 and 84 for the higher mineral-fed horses, indicating they made use of the extra 7 grams of daily calcium above the control horses. It was presumed that the extra retained calcium was used for increased bone mineralization.

Data indicated that both groups became more efficient in bone synthesis in the latter part of the study.

The researchers concluded that the calcium requirement for young horses in race training is about 0.4 percent compared to the 0.32 percent recommended by NRC.

Phosphorus added to the diets resulted in no benefit in the higher mineral group. There is not an increased phosphorus need except in maintaining a proper calcium-to-phosphorus ratio.

It was concluded that the NRC recommendations for calcium in young horses, especially those entering race training, are too low. The extra calcium fed resulted in greater calcium retention in the early stages of training, which may have aided bone remodeling. An increase in

available calcium should result in minimizing a reduction in bone density during initial training and be associated with an increase in bone strength.

Does the same thing occur in the early training of young horses other than race training? Until further research, we don't know. But, increasing total dietary calcium to 0.4 percent from 0.32 percent, should not be detrimental if the phosphorus level is also balanced.

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