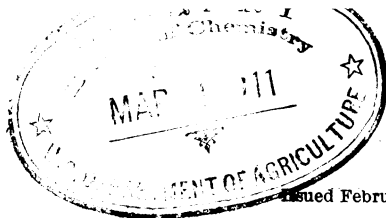


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A. D. MELVIN, CHIEF OF BUREAU.

A NOTE ON THE FEEDING VALUE OF COCONUT AND PEANUT MEALS FOR HORSES.

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AND

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During the early part of 1910 a short test was made at the Morgan Horse Farm of the Bureau of Animal Industry, near Middlebury, Vt., to observe the effect of substituting for oats in feeding horses a mixture of two parts coconut meal and one part peanut meal, by weight. Ten Morgan yearlings and four heavy work horses were used.

Three yearlings (Lot I) were fed as a check lot on the usual ration, which included a variety of grain feed, as well as whole oats, ground oats, and hay. Three yearlings (Lot II) were fed the same ration, except that the coconut meal and peanut meal replaced one-half the oats and no old-process linseed meal was fed. Four yearlings (Lot III) were fed the same ration as Lot I, except that all the oats were replaced by the mixture and no old-process linseed meal was fed. Two work horses (Lot IV) were fed as a check lot on the usual ration of oats (whole and ground), corn, bran, and hay, and two others (Lot V) were fed the same ration as Lot IV except that the coconut and peanut meal mixture replaced the ground oats, which amounted to about one-half the oats fed.

On account of the excessive contract prices for oats during the last fiscal year a considerable saving in the cost of the ration was expected. Whole oats cost the farm \$43.75 per ton delivered at the farm, and coconut and peanut meal \$28 per ton, delivered at the railroad station, 2 miles from the farm.

The yearlings were started on one-fourth pound per day each of the mixture, an equal amount of other feed being replaced. The work horses received one-half pound per head daily at first. None of the horses took to the coconut and peanut meal ration eagerly, and the work horse team so fed was off feed during the first three weeks. Aside from these instances, no difficulty whatever was experienced, and the horses were reported in good condition.

The test began on February 7, 1910, and closed on May 31, 1910. Weights were taken on three days at the beginning and end, namely, February 5, 6, and 7 and May 30 and 31 and June 1, the average of these weights being taken as the true weights at the beginning and close.

The yearlings on coconut meal and peanut meal showed somewhat larger and cheaper gains, those having all their oats replaced giving the best returns. Lot I averaged 468 pounds at the beginning and 576 pounds at the end, showing an average daily gain of 0.95 pound. Lot II averaged 471 pounds at the start and 594 pounds at the close, making an average daily gain of 1.08 pounds. Lot III averaged 492 pounds at the beginning and 623 pounds at the close, making an average daily gain of 1.15 pounds. The condition of the yearlings was good during the entire test. The cost of feed per 100 pounds gain was as follows: Lot I, \$15.33; Lot II, \$13.39; Lot III, \$12.02. Lot III ate quite a little more feed than the others.

Results were fairly satisfactory with the work horses. Both teams worked 898.5 hours during the test. Lot IV, on the ordinary ration, gained 60 pounds in weight during this time, and Lot V, on the coconut-meal and peanut-meal ration, gained 20 pounds. There was a little saving in cost of feed, that of Lot IV costing \$81.17 and that of Lot V costing \$77.10, the cost per 100 working hours being \$9.03 and \$8.58, respectively.

This test seems to indicate that at the prices paid for feed at the time coconut and peanut meal, in the proportion of 2 pounds to 1, can replace oats in the ration of young horses and may be found advantageous for work horses after they have become accustomed to it.

Approved.

JAMES WILSON,

Secretary of Agriculture.

WASHINGTON, D. C., *January 12, 1911.*

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