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# EFFECT OF DIFFERENT CEREAL GRAIN ON EQUINE DIET DIGESTIBILITY

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Diets were based on hay silage alone or hay silage with 33% oats, naked oats, barley, wheat or corn on a dry matter basis. Dietary treatments were assigned to horses in a 6 x 6 balanced Latin square design. Six mature Finnhorses were fed three times a day to meet Finnish nutrient requirements for light work. A preliminary feeding period of 23 days was followed by a 5-day collection period. Representative feces samples were taken twice a day during the collection period. Lignin was used as an indirect marker for the estimation of apparent digestibility. The mean dry matter (DM) and organic matter (OM) digestibilities of hay silage were 0.580 g/kg$^{-1}$ and 0.594 g/kg$^{-1}$, respectively. Including cereals in the equine diet increased the apparent digestibilities of nutrients, but the effect was different for various grains. Inclusion of naked oats, wheat or corn to the diet had the greatest improvement in digestibility with organic matter digestibilities being 0.728 g/kg$^{-1}$, 0.728 g/kg$^{-1}$ and 0.726 g/kg$^{-1}$, respectively. Inclusion of barley in a hay silage diet improved OM digestibility eleven percent and that of oats six percent. Differences in protein digestibilities were somewhat smaller, but the order of the grains was similar. Barley had better crude protein digestibility than corn. The diet containing naked oats had the highest digestibility of crude protein, 0.812 g/kg$^{-1}$. Naked oats seemed to be comparable to wheat based on diet digestibilities. Therefore, hulling of oats might be a recommended way to improve nutritive value of oats. Furthermore, according to recent studies the digestibility of starch in oats is better than in corn because of the physical structure of oat starch. More research is being conducted to compare digestibilities of different varieties of oats.


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