NORTH DAKOTA - Influence of Forage Source On Growth Performance and Feeding Behavior

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Sixty-four steers (394±3.6 kg BW) were utilized to determine the effect of finishing diet forage source on growth performance and feeding behavior. Steers were allotted by BW to 3 pens (n = 21 or 22 steers/pen). Within each pen, steers were assigned randomly to 1 of 4 dietary treatments (n = 5 or 6 steers per treatment within pen; n = 16 per treatment) containing different forage sources: alfalfa hay, corn silage, wheat straw, and corn stover. Alfalfa hay was provided at 10% of the diet DM and the other forage sources were offered to provide the same percentage of NDF from forage. Intake and feeding behavior traits were calculated from data generated by the Insentec feeding system. A visit was defined as each time the Insentec system detected a steer at a feeder. Meal was defined as a distinct eating period, which may include short breaks, but which are separated by intervals of no longer than 7 minutes. Cattle were fed until approximately 650 kg BW and were marketed in two groups at 117 (n = 44) and 155 (n = 20) days. Data were analyzed as a completely randomized block design. Final BW, ADG, DMI, and G:F did not differ ($P \geq 0.12$) between treatments. Number of visits and meals per day did not differ ($P \geq 0.37$) between treatments. Eating time per visit was greatest ($P = 0.02$) for steers fed wheat straw, least for steers fed alfalfa hay or corn silage, with steers fed corn stover intermediate. Eating time per meal was greatest ($P = 0.05$) for steers fed wheat straw or corn stover, least for steers fed corn silage, with steers fed alfalfa hay intermediate. Eating rate (DMI/min) tended to be greatest ($P = 0.07$) for steers fed alfalfa hay, least for steers fed wheat straw, with steers fed corn silage or corn stover intermediate. These data indicate growth performance did not differ when different forage sources were fed at a similar NDF inclusion level in high-concentrate finishing diets. However, steers fed wheat straw or corn stover spent more time eating per meal to consume a similar amount of DM. Alternative forage sources may be used to achieve similar growth performance in finishing diets if fed at similar NDF inclusion levels, although it may impact feeding behavior.