

Providing animals a choice of foods can improve feed efficiency and health.

Cattle in feedlots are typically fed total mixed ration (TMR). However, feeding animals a TMR may lead to inefficiencies in feed conversion, reduced gains and increased illness.

Providing animals, a choice of foods can increase intake, improve feed efficiency and decrease costs compared to feeding a TMR.

For example, dairy cows offered strips of clover and grass produced 11% more milk and sheep ate 25% more forage than those grazing a mixture of grass and clover.

Feed costs were reduced by 19% in cattle fed a choice of grains, hay and silage rather than a TMR of those ingredients.

Offering sheep and goats a dietary choice resulted in increased average daily gain (ADG), improved feed efficiency and reduced illness. Dairy goats given a choice of foods increased intake of dry matter, energy and protein, increased milk yield and decreased weight loss compared to goats fed a TMR.

Animals offered a choice of foods avoid over-ingesting nitrogen (N), which reduces concentrations of N in animal waste.

Dairy cows offered a choice of two rations selected a diet of 18% crude protein (CP) but produced the same amount of milk as cows fed a 19.7% CP diet.

Sheep also select diets that meet their protein needs and avoid eating too much protein when given a choice of foods.

Offering livestock, a choice of foods likely allows them to select a diet that meets their individual needs.

Lambs selected for uniformity in age, sex, and breed still vary in their food preferences. Genetic variation among individuals can cause physiological (e.g., rates of nutrient uptake) and morphological (e.g., size of digestive tract) differences that may affect intake and preference.

Variations in food intake and growth rate of cattle are often higher within a breed than between breeds. The variations in food intake and growth rate of cattle are often higher within a breed than between breeds.

Differences in fatty acid synthesis, absorption, and breakdown result in varying degrees of fatness of livestock.

Animals with larger hearts and kidneys have higher metabolic rates and higher intakes. Level of production also affects nutrient requirements.

Lastly, choice provides animals with variety. Animals prefer variety to monotony. Herbivores often select a variety of foods that vary in nutrients, even though one food seems to best meet their needs.