

Valuing Alfalfa for Dairy Cattle from A Nutrient Perspective

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Dairy producers purchase feed to meet protein, energy, and fiber requirements for their cows and alfalfa is a viable feed to contribute to all three nutrient needs. Currently nutrient values for metabolizable protein, net energy for lactation (NEL) and for effective fiber by geographic region are published by Nutritionists William Wiess, Ph.D., Normand St-Pierre, and graduate student Alex Tebbe, From The Ohio State University. Dr. Wiess has also determined a method of correcting the value of forages based on how fiber influences feed intake on the value of milk produced. Dairy alfalfa is currently sold on a Relative Feed Value (RFV) basis which only uses neutral detergent fiber (NDF) and acid detergent fiber (ADF) to determine quality which does not reflect protein content or adequately describe energy in the hay. Nutrient values were calculated using values for nutrients for Northwest United States published on January 1, 2018 to determine the value of alfalfa produced in an alfalfa variety trial for 32 varieties in the Pacific Northwest. This research suggests protein, energy and fiber in fairly equal in value to dairy animals and that leaving value of any one of these three nutrients out would not give an accurate estimation of hay value. Our research from the variety trial conducted at Othello, WA determined that RFV overestimated or underestimated the protein value as much as \$5.30 / Ton or \$42.40 / acre for first cutting. Alfalfa varieties metabolizable protein value ranged from 74.46 to 86.51 \$/ton, NEL value from 63.62 to 71.28 \$/ton, effective fiber value from 84.08 to 72.71 \$/ton and discount for excessive fiber from 40.38 to 6.65 \$/ton for a difference of 12.05, 7.66, 11.37, 33.73 \$/ton in protein value, energy value, fiber value, and milk production value adjustment for fiber, respectively. The estimated total dollar value of alfalfa varieties for hay ranged from 181.79 to 223.85 \$/ton based on variety selected. Using this method instead of RFV would provide better estimates of alfalfa value to the dairy cow in ways that will assist nutritionist, dairy farmers, and researchers and the forage and dairy industry in general.