

How Much Alfalfa Hay Can Dakota Gold DDGS Replace?

RESEARCH SUMMARY

Nutritionists and producers recognize that Dakota Gold provides an excellent source of protein, energy, and fiber which dairy cows can use to achieve optimal milk production. Research now shows that Dakota Gold can replace forages and still support optimal performance and health. This provides opportunities for producers to improve profitability when challenged with limited or poor forage resources.

BACKGROUND

Fiber comprises approximately 1/3 of the nutrients in Dakota Gold. Furthermore, the dairy cow can digest this fiber very rapidly, and as a result, she can capture more energy than other less digestible sources of fiber. However, since this fiber represents a non-forage fiber source, many nutritionists and producers question if this provides the same rumen benefits as forages.

In order to answer this question, researchers at the University of Nebraska – Lincoln fed lactating Jersey cows different diets in which Dakota Gold and straw replaced alfalfa hay. Inclusion of Dakota Gold went from 0 to 18.1% of the diet dry matter while alfalfa hay dropped from 18.2 to 0% of the diet (Appendix). As Dakota Gold inclusion increased, the researchers also increased inclusion of straw from 0 to 6.2%. All diets had similar predicted MP and ME allowable milk.

RESULTS

Cows consumed the same amount of feed across all treatments (average of 42.9 pounds of dry matter). However, researchers observed a quadratic trend for milk production as they fed more Dakota Gold (Figure 1, below left). Cows that received the intermediate amounts of Dakota Gold produced more energy corrected milk than cows receiving no Dakota Gold or the greater amount of Dakota Gold.

Researchers also observed a similar response in milk fat yield (Figure 2, below right).

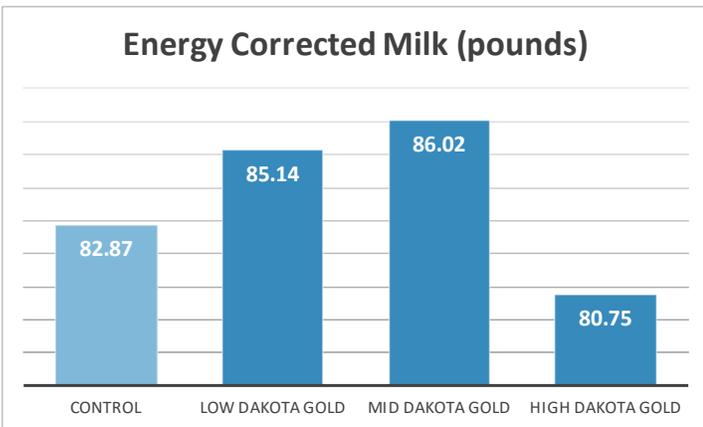


Figure 1. Milk production of Jersey cows fed Dakota Gold

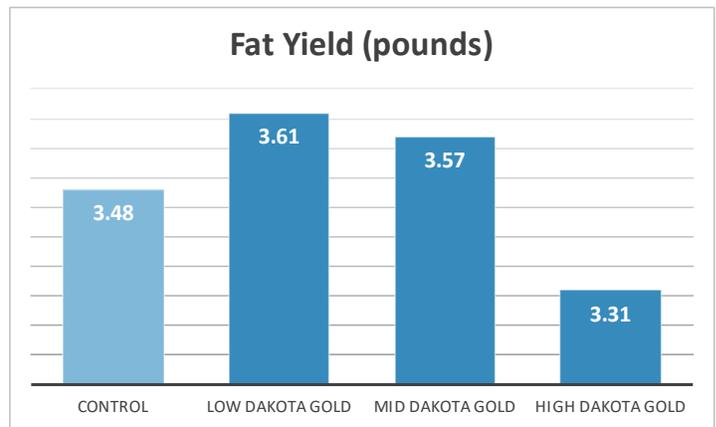
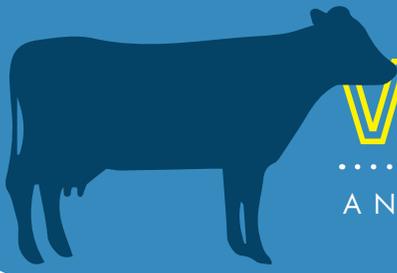


Figure 2. Milk fat yield of Jersey cows fed Dakota Gold

*These results are not a guarantee of nutritional value, as laboratory results are influenced by factors beyond the control of POET Nutrition.



WRINKLE

A NEW UNDERSTANDING IN NUTRITION

DISCUSSION AND CONCLUSION

The results demonstrate that although completely replacing alfalfa hay with Dakota Gold decreases performance, producers can replace alfalfa hay up to 12% of the diet dry matter and actually see improved performance compared with diets containing no Dakota Gold. This provides nutritionists with flexibility in formulation and gives them options when challenged with poor forages or lack of forages.

In addition to the greater flexibility, the diets containing Dakota Gold also provide diet cost savings. If we use typical prices for commodities and forages and an average price for milk, we see improved income over feed cost for cows fed the Dakota Gold diets (Figure 3).

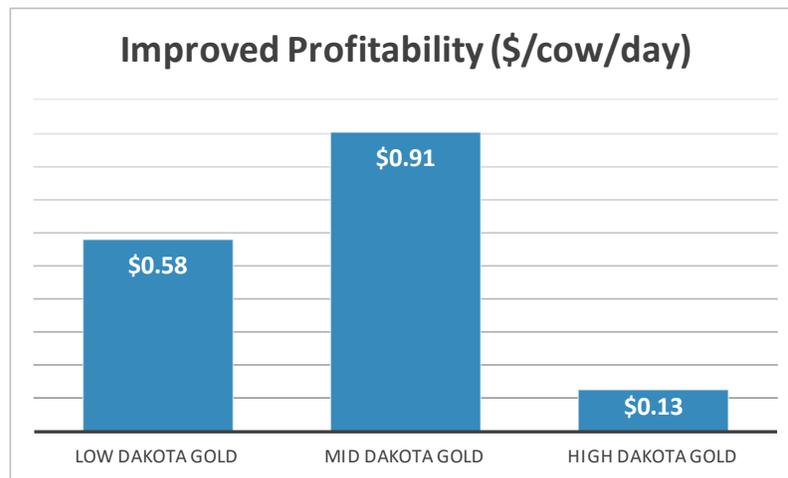
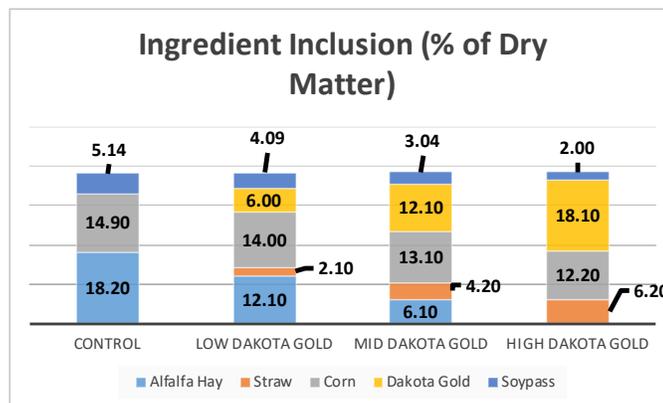


Figure 3. Improved profitability of cows fed Dakota Gold

This research demonstrates that in addition to providing a highly digestible source of fiber, Dakota Gold also provides a source of fiber which the lactating dairy cow can use to support milk production. The research also provides a great example of how producers can use Dakota Gold to reduce feed costs and improve profitability.

APPENDIX



Appendix. Ingredient inclusion on a percentage of dry matter

Source: Knoell, A. L., J. V. Judy, H. C. Wilson, K. J. Herrick, S.C. Fernando, and P. J. Kononoff. 2019. Energy utilization in lactating Jersey cows consuming a mixture of distillers dried grains with solubles and straw in replacement of alfalfa hay. J. Dairy Sci. 102(E-Suppl. 1):230. (Abstr.)