

SUPPLEMENT STRATEGIES

For a competitive edge.

CRYSTALYX
A regular series on cost-effective supplementation strategies, sponsored by CRYSTALYX Brand Supplements. Go with the brand you know.



STRATEGY: MATCH SUPPLEMENT TO FORAGE QUALITY

Stretching the efficiency of winter forages starts with testing them to know their content. That's particularly true when growing season conditions are variable.

"It's really one of the cheapest things you can do in a cow/calf operation," says Kansas State University specialist Twig Marston. Forage tests cost from \$12 to \$20, and "you may be able to save \$20 to \$30 per cow in supplementation costs."

By knowing the content of key nutrients like crude protein and neutral detergent fiber, your extension specialist or feed company representative can better help you establish winter-feeding strategies based around those forages. Sources for testing are available at most local extension offices.

Stretch the value of low-quality forage

Today's low-cost producer has been bluntly advised: Get out of hay production. As that economic reality drives more producers to graze cattle into late fall and winter, they find low-quality, dormant forages are often nutritionally deficient.

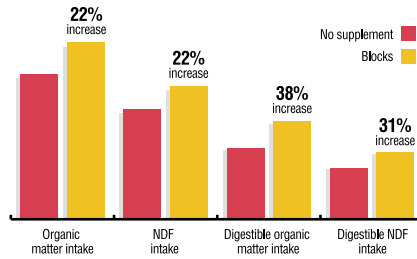
Now, recently reported research from Kansas State University finds that supplementing those low-quality forages with cooked molasses blocks, also known as low-moisture blocks, can stretch their efficiency by increasing both intake and digestion.

The researchers fitted 12 steers with devices to sample their rumen contents and manure output, and then put them on ad lib diets of prairie hay containing 5.9% crude protein and 69.4% neutral detergent fiber (NDF). The steers were fed either no supplement or one of three cooked blocks that differed only in their base molasses ingredient.

Steers fed any of the cooked molasses blocks consumed on average 22% more forage organic matter and neutral detergent fiber than the unsupplemented ones. Even better: Use of

Intake and Digestion Improvements

Effects of block supplements on intake and digestion



Source: Greenwood RH, Titgemeyer EC, Drouillard JS. "Effects of base ingredient in cooked molasses blocks on intake and digestion of prairie hay by beef steers." *Journal of Animal Science* 2000, 78:167-172.

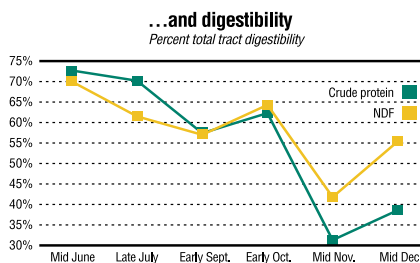
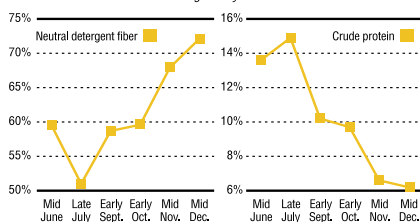
blocks increased digestible organic matter intake by 38% and digestible neutral detergent fiber intake by 31%.

The researchers attributed the increase in digestibility to the ruminally degradable protein provided by the cooked supplement blocks. That form of protein feeds the rumen microbes a steady supply of necessary ammonia, to increase fermentation of the low-quality forages. Better rumen fermentation extracts more usable energy from the more-bulky forage, overcoming the natural limitation in which animals, in effect, fill up before they can eat enough to meet their requirements.

HOW LOW DOES IT GO?

North Dakota research similarly analyzed rumen and manure samples from animals as they grazed throughout the season. By measuring quality of the forage not as it lay on the ground, but inside the animal's rumen, they got a better picture of just how low the amount of crude protein and NDF actually eaten and digested falls during winter.

Season's effect on forage quality...



Source: Johnson JA, et al. "Influence of Season on Dietary Composition, Intake, and Digestion by Beef Steers Grazing Mixed-Grass Prairies in the Northern Great Plains." *Journal of Animal Science* 1998, 76:1682-1690.

Coming next in

Supplementing thin, first-calf heifers with undegraded intake proteins can cause a re-partitioning of nutrient use to favor weight gain—without sacrificing calf pay weights.



GO WITH THE BRAND YOU KNOW®

CRYSTALYX® Brand BGF-30 supplies a combination of plant and animal protein sources, plus non-protein nitrogen for a



BGF-30

balance of both rumen-degradable and bypass protein. That balance helps fuel the rumen's forage-digestion process to help get more energy production from low-quality late season grazing and stored forages. You will note that crude protein and NDF values for both the North Dakota and Kansas State Journal articles were nearly identical, thus showing the efficacy of CRYSTALYX® supplements.

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