GUEST COLUMN

Reduce Dairy Ration Costs – Feed More High-Quality Alfalfa

Gary Nowaczyk, CROPLAN by WinField United

With milk prices remaining flat and soybean meal approaching $500/ton, many farmers are exploring ways to reduce ration costs without sacrificing milk production. One approach can be to replace a portion of the corn silage in rations with more high-quality alfalfa, allowing farmers to reduce the amount of soybean meal they need to purchase.

A few years ago, alfalfa accounted for about half of a cow's ration. But, herds expanding in size faster than their land base have shifted to more corn silage, accounting for up to 70-80% of their forage rations, says Purina Technical Support Dairy Nutritionist Stuart Rymph. A reason for the shift – corn silage is easy to grow and requires a single harvest, making it desirable to manage.

"Corn silage yields well and has an exceptional Net Energy Lactation of 0.72-0.74, but it is lower in crude protein, requiring more soybean meal or urea to be added to meet protein requirements," Rymph notes. "Most often, it is more cost effective to grow necessary feed requirements on farm rather than purchasing them – alfalfa produces the most protein content per acre of any forage crop."

U.S. Dairy Forage Research Center research has shown dairy diets produce the most milk when 25% of the forage is alfalfa and 25% is corn silage, with the remaining 50% a high-quality forage available on farm. So, when it makes sense economically, farmers can increase alfalfa in their forage ration by a fairly significant amount without impacting milk output. Minerals may need to be adjusted based on the increase or decrease of the forage source.

Rymph says utilizing alfalfa haylage with a net Relative Forage Quality (RFQ) of 180 provides the protein and energy a herd needs to excel, while depending less on soybean meal. Crude protein in alfalfa breaks down easily, but neutral detergent fiber (NDF) breaks down more slowly than corn. High RFQ alfalfa has higher NDF digestibility, allowing it to digest and clear the rumen fast enough to allow for the high intakes needed to support high milk production. "In addition to its high protein content, one of the biggest benefits of alfalfa hay and haylage is it forms a thicker, more robust mat in the rumen, allowing for more efficient digestion and better production," Rymph explains. "This mat keeps the smaller feed particles around longer (grain), so they can be fully broken down. Corn silage particles may not interlock as extensively in the mat – allowing finer particles to fall through and wash out of the rumen quicker."

HarvXtra® Alfalfa Makes Higher Quality *and* Higher Yield Potential a Reality. A challenge with alfalfa is there has often been a consistency issue from field-to-field and cutting to cutting. Good weed control, cutting at the right stage, and raking and bailing at the right time are important factors when harvesting for quality; each can be impacted by workloads and untimely rains.

Fortunately, there is an opportunity to reduce inconsistency issues by planting high-quality reduced-lignin alfalfa, providing an expanded harvest window. The reduced-lignin alfalfa trait alters the amount of stem lignin, allowing for a higher starting forage quality. As the plant matures, quality decreases, but starting at a higher percent provides a longer harvest window to obtain the desired forage quality. Changing how alfalfa plants produce lignin (indigestible fiber binding other cell wall components) can lead to higher forage digestibility.

Dr. Dan Undersander, University of Wisconsin Forage Professor Emeritus, says in addition to choosing a reduced-lignin alfalfa variety, select one with excellent stand persistence, strong winter hardiness, and high disease resistance. Utilizing Roundup Ready® alfalfa provides excellent weed control, helping limit plant stress and providing high forage quality potential.

"The ability to retain standing forage quality longer provides more harvest flexibility," Undersander explains. "Harvest can be delayed, obtaining similar quality as conventional alfalfa harvested on a 28-day schedule, but with enhanced yield potential of harvesting at 35-day intervals. Many farmers prefer these higher yields per harvest with the goal of reducing cuttings per season. If you focus on achieving even higher RFQ, you can still cut it at the same time you'd typically harvest conventional alfalfa."

"Another way to help ensure good forage quality throughout the life of your Roundup Ready® alfalfa stand is to make a glyphosate application in the fall of your stand's second year to eliminate winter annuals," adds Randy Welch, National Alfalfa Agronomist and Wisconsin Forage Specialist with CROPLAN by WinField United. "This will prevent weeds from reducing forage yield and quality the following season."

When managing reduced-lignin alfalfa for higher yield potential, an added benefit of making fewer cuttings is it results in better stand health. When alfalfa is harvested at >30-day intervals, it allows the plant to retain higher carbohydrate and nutrient levels. This results in a stronger root system, stronger crown buds, and better overall plant health for following cuttings. Improved stand health can lead to a more productive stand and higher stand persistence.

Since lodging can be an issue with any variety, especially if first cutting is delayed, Undersander suggests harvesting reduced-lignin alfalfa at the same time as a conventional stand for first cutting (~28"), usually around May 25-30 in the Midwest.

Timely Final Harvest Improves Stand Persistence. In order to give alfalfa time to build proper nutrient levels to aid in carbohydrate storage needed for winter hardiness, Undersander encourages scheduling last cutting so stands receive ≥500 growing degree days before experiencing a killing frost of ≤25˚F. This usually falls around September 1 for the Midwest. "This allows alfalfa to rebuild its carbohydrate reserves to survive the winter with minimal stress," Undersander says. "The closer you cut to the first frost, the less chance you give the plant to build those reserves."

For information on how HarvXtra® alfalfa technology and other CROPLAN alfalfa varieties can help you maximize RFQ and yield potential, contact your local WinField United retailer. Your local Purina retailer can assist you in adding more high-quality alfalfa, formulating the right diet for your operation.