

MUN Technology Can Help Profits

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Generally, he found that milk production decreased as MUN levels increased and that production increased as MUN decreased.

The question then, is how to use MUN values and production levels.

MUN values and production levels surely have a common link. The link, George believes, is made by looking at what ration components tend to have the largest impact on MUN values.

The ration components are protein and carbohydrates. More specifically, we must look at what happens in the rumen itself.

Chart two looks at rations fed over the same time period as the previous production records.

George decided to look at components and values that can actually be measured in a feed analytical lab, which include percent CP, percent soluble protein, and percent starch, to look at the ration.

George believes that the amount of soluble protein, and starch together in the rumen must be in balance to enhance optimum utilization of both. He decided to translate these values into grams of soluble protein and pounds of starch provided to the cows.

As these two components are broken down in the rumen; the

ratio of grams soluble protein to pounds starch was developed to see what effect that relationship had on MUN levels and production.

The September 12, 1995 figures represent what was fed to achieve production and MUN figures on 10/4/95. The 10/10/95 is the ration that generated 11/3/95 production and so on down the chart.

George found it interesting that as this ratio went up, MUN went up and production went down. This told him that increasing MUN values meant that we were wasting protein. Graph B shows this relationship.

Increasing the ratio of soluble protein to starch will increase MUN values, and when that happens, milk production goes down.

Finally, he felt confident in the way MUN values were affected by soluble protein and starch in our rations. He decided that this relationship could produce acceptable MUN values and enhance production.

After the October 1996 test that saw a sharp rise in MUN value, and a drop in production, the ration was changed to keep the ratio of grams soluble protein to pounds starch between 75 and 85. This can be accomplished by altering percent CP, percent soluble protein, percent starch, or a

combination of the three.

The four months that followed had a steady increase in production that coincided with a leveling of acceptable MUN values, and the soluble protein to starch ratio between what 75 and 85.

Dairymen always want to know how this all can affect their pocketbooks. "On our farm, using MUN has made a lot of money," George said.

To illustrate this we look at the following calculations:

PROTEIN SAVINGS

9/12/95 17.2%CP
1/7/95 16.3%CP
9%CP

160 cows x 50 lbs. dry matter intake x 365 days = 2,920,000 lbs. dry matter
2,920,000 lbs. dry matter x .9%CP = 26,280 lbs. CP
26,280 lbs. CP/48.9%CP (Soybean dry matter) = 53,742 lbs. Soybean
53,742 lbs./2000 = 26.87 x \$300/T = \$8,061
\$8,061/160 cows = \$50.38 per cow

MILK PRODUCTION INCREASE

2/4/97 73.1
10/4/95 63.4
9.7 lbs.

Chart 2

DATE	MILK LBS.	FAT%	PROTEIN%	M.U.N	150 DAY ADJUSTED AVERAGE
10-4-95	63.4	3.5	3.2	13.6	64.4
11-3-95	59.8	3.8	3.2	15.6	66.3
12-6-95	57.1	3.9	3.2	16.4	63.1
1-3-96	60.5	3.8	3.1	15.9	64.4
2-2-96	61.1	3.8	3.1	12.3	64.1
3-1-96	59.2	3.9	3.1	14.1	63.7
4-3-96	65.3	3.8	3.2	15	63.4
5-3-96	65	3.5	3.1	13.7	62.5
6-4-96	72.1	3.4	3.1	13.9	61.9
7-4-96	64.5	3.6	3	15.6	64.1
8-1-96	68.8	3.5	3.1	16.7	63.2
9-4-96	67.3	3.3	3.1	12.9	63.7
10-4-96	66.6	3.1	3.3	17.5	65.1
11-1-96	70.4	3.3	3.2	11.4	67.7
12-4-96	68.8	3.8	3.2	12.2	67.3
1-3-97	70.2	3.7	3.1	13.8	67.8
2-4-97	73.1	3.7	3.2	14	69

160 cows x 9.7 lbs. x 365 days = 566,480
566,480/100 = 5,664.8cwt
5,664.8cwt x \$13/cwt = (\$73,642.40 + 8,061) = \$81,703.40

TOTAL ADDITIONAL GROSS DOLLARS

\$81,703.40/160 cows = \$510.65/cow

COST OF MUN TESTING

160 cows x \$.15 per cow per month x 12 = \$288
\$288/160 = \$1.80 per cow

"Wow! These results even amazed me. I have to tell you in all honesty that this is a true account of what MUN technology did on our farm," George said.

"I am sure that not every farm has this potential for increased earnings, but I also believe that some have more."

George also believes MUN can and should be used by anyone interested in doing a better job feeding their herd.

One must remember, that not all feeding systems are the same and you must tailor programs and technology to make it work on your farm.

One other thing that he said he would like to emphasize is that the relationship of soluble protein to starch or nonstructural carbohydrate is what is important, not the crude protein. Some farms with high hay feeding may need higher crude protein to balance out the starch supply.

"MUN analysis was the beginning of the gains we made on our

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