Wilmer Martin grew up on a dairy farm in Lancaster County, PA, but didn't dairy on his own until he relocated to Colby, WI about seven years ago. Possibly this respite from active dairying spurred his "thinking outside the box." Two outside-the-box things that Wilmer did, at about the same time, were adding cool season European grasses to his alfalfa and using wide-swathing as a ways to reach a goal of better quality haylage A third thing was to raise a warm-season grass (BMR Gene Six Sorghum-Sudan). Each strategy promotes quality in somewhat related ways. The cool season grasses, in this case, Lofa Festulolium, provide higher sugar levels including both 5-carbon and 6-carbon sugars and a more digestible neutral detergent fiber (NDF). The wide-swathing allows a greater retention of that high sugar level since the 6-carbon sugars respire away overnight when left in the field. The sorghum-sudan silage is also very high in both 5- and 6-carbon sugar and digestible NDF. One other addition to his forage choices was using Masters Choice (MC) as his corn silage choice.

After realizing the quality level of his haylage and sorghum, Wilmer with the supervision of his nutritionist John Feiten of Midwest Nutrition in Spencer, WI, corn grain was removed from his TMR mix. When he got down to zero pounds added corn, obviously, that was as far as he could go. What he noticed after doing this for a while was that he was able to maintain 70 pounds of milk, a higher butterfat test and have healthier cows that bred back with fewer services!

It is not that Wilmer is feeding no corn, but only the amount contained in the corn silage. How much corn is in his TMR? By calculation and assuming that corn is 70% starch and the corn silage (by test) is 34.34% starch, the corn in the 19.5 #'s of DM corn silage is only 9.57#. The dietary starch is 16.3%.

John has maintained these levels for several years now and a one proof of the highly digestible starch of the MC corn silage came when he ran out of his own corn silage and fed some of his neighbor's. When the dust cleared, Wilmer had to add 3#'s of corn to his TMR per cow per day to maintain 70#'s of milk even though the other corn silage was 7% higher in starch than the Masters Choice (41% to 34%). Along with the added corn to maintain 70#'s of milk, the dietary starch levels far exceeded the recommended less than 25% when feeding MC corn silage.

One other important note about this diet is the efficiency of it. There are 1.2#'s of mineral and buffer, 0.9 #'s of protein, 19.5#'s of corn silage, 16.1#'s of grass/alfalfa haylage and 4.6#'s of sorghum-sudan silage. This totals about 42.5#'s dry matter intake (DMI) and 1.65 milk efficiency. Obviously, when more of the feed is turned into milk, less becomes manure or carbon emission. The total purchased ingredients in this diet are 2.1#'s!

Wilmer tried the wide-swathing haylage harvesting technique without all the proper equipment. Last year his 65% (of the mower width) swathing dried very fast just due to the extremely hot and dry weather. In 2011, this width made it difficult to get all the haylage harvested in one day. This past winter (2012), Wilmer got to hear Tom Kilcer at the Byron Seed Winter

Seminars. Tom is the lead researcher on wide-swathing. Wilmer is now looking into either building or buying a wider mower without conditioning rolls. In wide-swathing, conditioning rolls are left as wide apart as possible since the initial rapid drying phase (down to 35 to 30% DM) goes faster on unconditioned hay. Obviously, hay crop that is designated for dry baled hay must be conditioned. Advantages of wide swathing include less dry matter loss (more haylage when sugars don't respire away) higher energy haylage, less proteolysis (less breakdown of complex protein into NPN) and lower clostridium production (meaning better fermentation and almost never energy-robbing butyric acid formation) and better lactic to acetic fermentation profiles. More info can be obtained about wide-swathing by contacting your Byron Dealer and we will connect you with this information.

The biggest factor though is the width of the swath. The swaths must be laid out to at least 85% (95% is better) of the width mowed. Even though you will drive on some of the hay (hard to get adjusted to!!) it will have no detrimental effect and the sugar level of the haylage will be much higher when chopped in the same day. The routine is mow in the early am and be chopping at least by 2:00pm. One thing that Wilmer learned is that you don't rake the hay until right in front of the chopper. This is because the rapid drying phase will stop when the hay is rolled up. Another warning is that when grass and alfalfa are grown together, 3" residue heights become necessary to maintain grass regrowth. This higher cutting height actually improves total yearly haylage yield.

Wilmer obviously could further supplement his cows with purchased corn and protein to push production up to 80 or 90#'s. This ration is 95% forage and 5% concentrate and with his cow's performance and herd health, he does not see any reason to go further. How did the 2012 drought affect the ration? Haylage production was off last year and about 8#'s less is being fed. The ration this fall is a bit more protein and corn silage. It now weighs in at 85% forage, 19.5% starch and 14% protein, but still the same milk production.

Thinking outside the box has helped Wilmer improve his forage quality. Part of the out of the box thinking is recognizing that the most important aspect of this "quality is high digestibility not high protein.