Margin Protection Program for Dairy Producers (MPP-Dairy) – what does the program mean for producers in New Mexico

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Now, that most of the interpretive issues related to the language of the new farm bill seem to have been resolved, the speculation game has started: how will the program affect milk prices? What influence does participation level have? All kinds of what-if scenarios are being discussed at meetings FSA and CES are having with producers all across the country. The problem is without a crystal ball; all we can do is project forward past scenarios. One thing is clear: we haven’t fixed any of the market forces which have created the ever increasing boom-bust cycles in the dairy industry, and all we have seen in the past 10 years are higher highs and lower lows, both in terms of feed prices as well as milk prices. It is therefore that discussing either one in the absence of the other is fairly useless. It doesn’t say anything about the state of the industry, only about one of the pieces affecting profitability. It is therefore that discussions going forward really should focus on the margin between the two rather than either one alone.

So margin management is the new buzzword, as in risk management, and the Margin Protection Program (MPP) has become the new risk management tool in a dairy owner’s toolbox. In order to evaluate the performance of that tool, all we really can do today, is look back and apply the tool to data we have from the past (feed prices and milk prices) and see what it would have done. When would MPP historically have reached payment thresholds at what enrollment levels?

Source: Dr. A. Novakovic, Cornell University. Available at http://dairy.wisc.edu/MPP/PowerPoint/
As can be seen from the above graph, the margin thresholds at either $8, $6 or $4 were reached at several times during the 14 year period preceding the implementation of the MPP program, but most profoundly in both 2009 and 2012: undoubtedly the two worst years in dairy industry history.

One can also perform scenario analysis how the program would have faired if: one had fairly good information about the future, some information or no information as to what level of protection to purchase: catastrophic or CAT level protection (at $4.00/cwt), all in-all out scenarios if you had knowledge about the coming year being either a good or a bad year, or a “I don’t know what’s going to happen, but I can’t afford to take any risks” scenario. Truth is, this is exactly what one would have to do prior to making any decision. As an owner/manager of a dairy, the question to ask oneself is: “given the financial status of my operation, what level of risk am I willing to take, or can my operation afford to take?”

Depending on the answer to that question, the level in which to participate in the Margin Protection Program becomes much simpler. In one of our classes, the parallel was drawn between MPP and car insurance: if you had knowledge about when you would have a car accident, you would buy the maximum level of protection for precisely that time period, and no more. However since we don’t know when, in case of the dairy industry a 2009 or a 2012 will occur, it seems intuitive to buy coverage that one is comfortable with, given ones risk assessment. Having said that, since the sign up period for every year is in September, one has some knowledge about what the crop situation looks like going into the next year, certainly more than prior to planting for that year, while on the other hand there are clear signals through forecasts what milkprices are going to be.

As a matter of fact, if we compare how one year’s forecast faired against the actual outcomes in terms of the resulting margin, it is fairly safe to say that in years without a large amount of volatility or uncertainty, the NASS predictions of margins and actual margins end up tracking fairly close, but it is in the years with high levels of uncertainty about the marketplace due to drivers such economic uncertainty or instability, extreme or extended drought, excellent crop results, etc. that the forecast may accurately predict the direction of the market, but may underestimate the volatility and extend of the actual high or actual low. Case in point, I believe it was fairly obvious towards the end of 2008, that 2009 was going to be a down year, we just didn’t know how far and how long the down was going to last. Knowledge about the likely trend of the market for the next year should for general risk management purposes be sufficient for a management decision regarding buying a certain level of coverage under MPP.

At the Margin Protection Program Calculator page of National Milk Producers Federation one can look back and see the results of “what-if” scenarios over the last years ([http://www.futurefordairy.com/mpp-calculator](http://www.futurefordairy.com/mpp-calculator)). Let’s look at a typical NM dairy with 3,000 cows with 83% of the herd milking (2,500 cows in the barn) at 24,000 lbs/yr. or 60M lbs milk marketed/yr (Production History for 2011, 2012 and 2013). For 2005 for example, MPP would have resulted in only premium payments from $4.00 through $8.00 premium/cwt.
In 2009 on the other hand, the picture looks quite different. Net payments at all coverage levels.

What the 2009 scenario shows is that at Catastrophic level ($4.00/cwt) the payment for the year 2009 would have been $228,348, minus the premium payment of $100, the benefit for 2009 at CAT level would have been $228,248. At $6.50/cwt premium the benefit (payment minus premium) would have been $1,035,017. At a max premium of $8.00/cwt the benefit would have been $1,159,617.
Let’s put this in perspective for a minute. Do you remember the payments under the old MILC program? Did they come anywhere near these payments? Granted, producers didn’t pay premiums for MILC. However, I heard many stories about dairies in 2009 loosing in the neighborhood of $300K/mo. That is $3.6M per year. What would a producer’s banker say if the operation was covered at $6.50/cwt and would recover roughly 1/3 of the losses for 2009 through program benefits? All right, so fortunately not all years are like 2009 or 2012!

What would the program have done historically under different MPP management scenarios? At CAT ($4.00/cwt), at MAX (8.00/cwt), at knowing then what we know today (All-In/All-Out) or some advanced knowledge about where the markets may end up being (Advanced Strategy), or consistently at a level where the premiums are not that high and payouts seem to make a difference (the “sweet spot” at $6.50/cwt). We can run the same program on the website listed above for the previous 10 years and see what the outcome would have been given the feed prices and milkprices for those actual years.

**CAT - Catastrophic coverage ($4.00/cwt)**

If we had always bought catastrophic coverage for the previous 10 years leading up to September 2014, MPP would have paid a net payment of $375,673. More importantly it would have paid a premium in only two of 10 years: 2009 and 2012, all the other years we would have paid the $100 premium. This is not the worst strategy but one has to realize for MPP margins (all milk price minus calculated feed price dip below $4.00, it is very likely that the actual on farm margins are already significantly less than the $4.00). In other words, the $4.00/cwt premium may just be too little too late.

**MAX – Maximum coverage ($8.00/cwt)**

Over the last 10 years with (only) 2 out of 10 years being negative years, it seems obvious that the premiums for $8.00 coverage are so steep that the net outcome of the program would have been a payment of almost $2.5M in premiums or 41cts/cwt over the duration of the program. In 3 of the 10 years there would have been a payment but not enough to cover the total premiums paid. In order for the payments to cover the $8.00 premium payments, an additional 24 months of 2009 kind of dairy disaster scenarios would have had to happen during this timespan.
All-In/Out – Max or Min coverage if you know what the year is going to be (either $8.00 or $4.00/cwt)
Let’s say for a minute I could go back to the future, and I know ahead of time that the year is either going to be really good, or I know the year is going to be really bad. If the year is going to be bad, I am going all in at $8.00/cwt, and in positive years I just buy minimum coverage at $4.00/cwt so I can get the bump in my production history for only $100. This scenario should theoretically maximize my payments from the program in bad years, while minimizing my premium payments in good years. It’s almost as if you know in what years you are going to have a car accident and maximize your coverage then, while minimizing it in the other years without an accident. The outcome is in this case would have been a program payment of $1.6M which given a $300k/month loss over 18 months in 2009 and 2012 would cover about one third of the actual losses over a 10 year time span. This is as good as it gets! A bank would really like this coverage at the bottom end.

Advanced – I have some knowledge about the year ahead and buy premium accordingly
This scenario is probably the one nearest to a real world situation: in September of each year we know a little about what the year ahead is going to be. On the feed side, at the end of September, we know what the crop situation is shaping up to be: the forage situation (are we in a drought and how has that impacted hay and forage supplies), and the grain supply situation worldwide and in the US. We also have a good view of what the future market for milk prices are going to be (the trend being up or down), and we could lock in these milk futures for the year to come. What we don’t know is the magnitude of how good (2014) or how bad (2009) the year actually may end up being. So in this scenario we picked a premium level we believe would represent the risk there is being in the dairy industry that year. We will not maximize the payments as in the previous scenario, but we will also not see the bottom drop out while being unprotected. In that scenario we would have received a $1.0M payment through the program, or payments in three of the 10 years.

Sweet spot – a premium level that may maximize payments while minimizing premium payments
This scenario recognizes the significant premium increase between $6.50 and higher protection levels and looks at what this scenario would have done. The mindset of the producer is that he doesn’t know what the market is going to be, recognizes that given his financial situation (new operation, high debt load), he is not in a situation to take much risk and doesn’t want to gamble on the year to come, and always locks in at $6.50/cwt. In this scenario the program would have paid about $740K, about 40% of the maximum obtainable funds under an All In/All Out scenario or 80% of an Advanced scenario. The real interesting part under this scenario is that in “marginally” bad years (like 2013) as compared to really bad years (like 2009 and 2012), this scenario actually would have paid more due to the lower premium levels at $6.50 vs. higher premium levels (say at $8.00).

In retrospect
If the past 10 years (30 bad months and 90 okay to good months) are an indicator for the next 10 years, and given that nobody has a crystal ball, it seems that making an educated guess in September of each year about next year’s margins (maybe combined with protecting milk prices on a futures market), would have resulted in a significant MPP payment in years of steep losses. It would have put a bottom in the bucket so to speak. It is hard to say how this in turn would have, or could have changed the decision-making process of those producers that decided to, or were forced to exit the business and its consequential result on feed or milk prices. We will need to see what the next 10 years will be.

Premiums per hundredweight
Calculated in pennies per hundredweight, it shows clearly which scenario over the last 10 years would have been the most expensive: covering at $8.00/cwt would have cost a producer about 41cts/cwt of milk produced. All the other scenarios would have paid more in benefits then what they would have cost in
premiums: anywhere from 6cts/cwt in the $4.00/cwt coverage to almost 27cts/cwt in the crystal ball scenario. In the most realistic advanced scenario, MPP would have paid 18cts/cwt produced over the 10 previous years.

Having said that, this doesn’t mean that MPP is a way to make money: remember that under MPP, payments will only trigger when margins reach below an average of $8/cwt for a two-consecutive-month period, which for most producers likely is going to be a loss situation, because those kind of margins may not cover the other costs per cwt (MPP only considers feed costs determined in a formula which does not consider regional feed price fluctuations or delivery costs).

It is very likely that when margins approach payment levels at $8, actual producer margin levels for individual producers in all actuality are already much lower depending on actual local conditions, feed prices, milk prices, PPD’s, etc. Interesting will be to monitor what MPP margins vs. actual margins are going to be over the duration of the program: not that it matters as far as payments are concerned, or decisions regarding level of coverage, but how the program mimics actual margins of producers across the country. It is interesting to realize that still the only tool a producer has to offset a negative margin scenario, even beyond coverage through MPP is to produce more milk per unit of input! Efficiency remains the name of the game!

At the calculator page of National Milk you can actually see what your specific scenario would be by electing a future year (on the “show margin” page), the spreadsheet will allow you to put in your numbers or the numbers your think may be next year’s and see what the resulting payments would be.

A question that remains going forward: how much more milk do NM producers have to produce compared to producers in more favorable areas closer to feed, or with lower regulatory compliance costs, or situated in an area with higher (Class I milk prices), closer to market?

**IMPORTANT: MPP Tool box for producers:**

NMPF Tool Box for Margin Protection Program: [http://www.futurefordairy.com](http://www.futurefordairy.com)

NMPF Online Calculator: [http://www.futurefordairy.com/mpp-calculator](http://www.futurefordairy.com/mpp-calculator) (also downloadable as an excel file)

FSA MPP Decision Tool: [http://www.fsa.usda.gov/FSA/pages/content/farmBill/fb_MPPDTool.jsp](http://www.fsa.usda.gov/FSA/pages/content/farmBill/fb_MPPDTool.jsp)


DMAP MPP toolbox including power points and decision tools: [http://dairymarkets.org/MPP](http://dairymarkets.org/MPP)

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