

Risk management – now and forevermore

Luciana Jonkman and Matt Budine for *Progressive Dairyman*

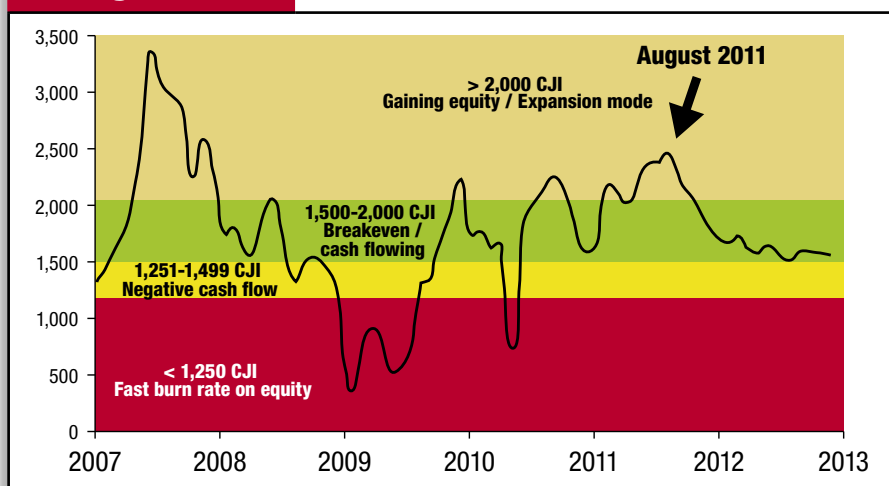
In light of the most recent crash in the stock market and exaggerated volatility, there is no better time than the present to start developing or fine-tuning your risk management plan.

Since 1994, we have experienced a consistent three-year cycle in milk pricing. We are in what the experts are calling year three of that three-year cycle. In addition to the consistent three-year cycles, we are also in the 12th month of a bull market on milk price. Historically, bull markets for milk price never go beyond 18 months. Thus, 2012 is predictably the time for the market to change. The bottom line is that the next six months may be critical to take action.

Today the top 20 percent of dairy producers are gaining equity, and some are even expanding. Obviously with cash flowing, these producers are paying down debt and perhaps buying more land for forage production. That means 80 percent of dairy producers across the country are not doing all or any of these things. Milk price and risk management have allowed the top producers to make these strides. However, what goes up must also come down. We are not economists, we are nutrition and management consultants; however, everyone knows the milk price will turn and we will be back to economic crunch time. Today is the day, if you haven't already begun, to address your risk and start managing it.

Figure 1

Cow Jones Index



Cow Jones Index as of August 2, 2011. You can see that now is the perfect time to manage the inevitable risk of lower margins ahead.

My colleague, Matt Budine, works closely with the firm's clients across North America on risk management. To do a better job of predicting profit, he has developed a tool called the Cow Jones Index (Figure 1.) This index shows the relative profitability of a modern dairy farm. The profit is calculated with true actual costs and true actual income. The diets used to determine feed cost are real diets from dairies producing 75-plus pounds of milk, which is well above the national average milk production.

In using the Cow Jones Index on farms in a practical way, Matt is able to incorporate the CME market information and on-farm actual data to illustrate what profit margin will exist for given periods of time. In the development of this tool, the predictions aligned with what actually happened on-farm, so we took the tool to other farms and reproduced predictions with great accuracy. Now we can use it going forward to predict profit and manage future risk. The

tool is also regularly used for "what-if" scenarios. Riding out the waves of price volatility, both on the income and expense side, is not a means to successful long-term business; managing your risk is the only means to successful long-term business.

Risk management

There are many facets to risk management on a modern dairy, such as labor quality, quantity and cost; insurance coverage and cost; debt level and cost; milk quality and quantity; farm biosecurity and much more. We are going to focus in on what we think you will agree are the two most influential categories of risk dairy producers face on a daily basis: milk income and feed expenses.

In regard to milk income, the risk management options are more straightforward than those on the feed expense side. With milk, you can go on the open market or through a broker and purchase a "put" or floor milk price for a given period and a



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All indications are that the same level of support will open up again starting in October 2012, and the program is expected to sell out within

one or two months. This program is a sort of “crop insurance” for your profit – it’s an income-over-feed-cost or gross margin insurance designed especially for dairymen. It combines your milk income risk with feed expense risk and insures a margin. Up to 50 percent of the cost of participating in this program at the highest level is supported by USDA–

Managing feed expense, on the other hand, is twofold: off-farm and on-farm. Today's Western dairy produces just a fraction of their forage needs and almost none of their concentrate or grain needs. In

With respect to off-farm feeds, this is typically farmer to farmer or localized contracting for a given crop, such as corn silage or alfalfa hay.

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Off-farm grain or concentrate feed risk management can be and most often is handled through a local grain handler or mill who will sell a given tonnage for a given price over a given period of time (similar to forward contracting milk). However, what we have learned and begun to use in helping clients manage this off-farm feed expense risk is what is called “feed equivalents.”

Feed equivalents is the term used to quantify the complete diet equivalent tons of corn and soybean meal you will essentially need to feed your herd. To calculate your

feed equivalents you would plug each ingredient into the equivalents calculator, which has assigned a given factor of corn and soybean meal to each of your feeds (Table 1, page 89). Once you have calculated your herd's monthly corn and soybean meal equivalent needs through the use of the calculator, your feed expense can be managed similar to your milk price, using a broker or personally exercising market options such as buying and selling puts and/or calls on the open market.

Feed equivalents are designed to narrow every ingredient in your

ration down to corn and soybean meal, because these two commodities set the standards for the price you pay for protein (soybean meal) or energy (corn). Using feed equivalents on their own is an advanced way of managing feed risk and should be well thought out and planned prior to any action being taken in the market. Off-farm feed risk management over the last five years has dramatically changed. More dairy producers than ever are utilizing tools and techniques to even out volatility.

Global market factors have increased the overall market volatility

dairymen face today. The U.S. dairy farmer can reduce their volatility by adjusting the management practices of their farming or forage production. These global factors make our commodity prices far more volatile than the farming costs to produce them. Thus, on-farm feed production, both quality and quantity, will be a substantial driver in your feed expense risk management now and forevermore.

Land is king

On-farm feed production is where dairymen can, for all intents and purposes, determine the quality of their crop and at the same time reduce the need for off-farm feed purchases. Dairy producers are typically growing a portion or all of their silages, hays, high-moisture shelled corn and a few other grains to a lesser extent. The dominant driver of risk management is land. Land is king. Our experience shows that when a producer has the land base that provides 100 percent of their forage needs and some portion of their concentrate needs, they are setting themselves up for financial success and much lower feed expense risk. The farming enterprise effectively can hedge the dairy enterprise and, in the long run, this is the best option for managing the dairy enterprise risk. Farmers have never been shy in using technology when it comes to improving yield; now we are seeing more emphasis on quality versus quantity. Rightfully so, with starch, protein and fiber costs in our rations at historical highs, quality plays a huge role in the eventual off-farm feed expenses. Thus, improving on-farm feed quality is critical.

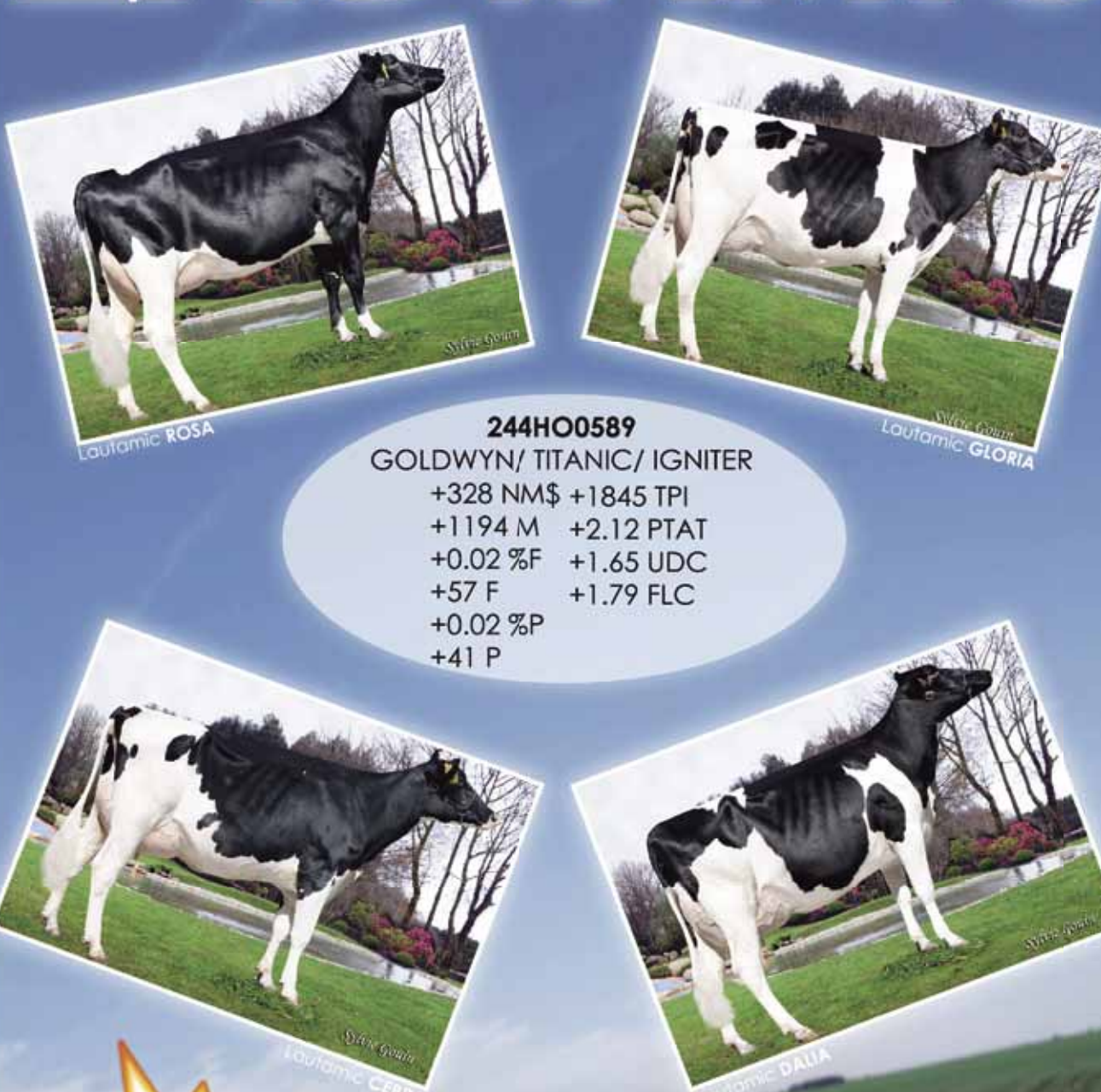
The predominant tools we use with dairies focus on how to best utilize the land they have. Together with the agronomy professionals that work with our clients, we stress the importance of producing the highest-quality feeds possible. In most cases, high-quality corn silage will reduce the need for off-farm corn purchases by 35 to 45 percent. Furthermore, when land is properly utilized we can see opportunities to grow variable crops, such as high-moisture corn, which can additionally offset corn grain purchases and lower feed cost, in essence reducing feed expense risk.

Table 2 shows the value of several stages of corn harvest. This table drives home the importance of quality corn silage and just how valuable high-moisture corn can be to a dairyman. What we have seen in recent years is, by having land both rented and owned, and utilizing it optimally, you may dramatically reduce your feed risk exposure.


Take action

We have focused up until this point on why there is a need to manage risk, the true risk that you face and tools used in managing risk, and now it's time to take action. How do you start purposefully managing


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Table 2

The value of corn silage and shell corn

Ratio												
	100:0	90:10	80:20	70:30	60:40	50:50	40:60	30:70	20:80	10:90	0:100	
Nutrient	Dry matter basis											Nutrient
Dry matter	26.00	28.00	30.20	33.90	36.00	40.00	44.70	50.80	58.80	69.90	85.60	Dry matter
Protein	9.00	8.94	8.88	8.82	8.76	8.70	8.64	8.58	8.52	8.46	8.40	Protein
NEL 3x	60.00	63.49	66.98	70.47	73.96	77.45	80.94	84.43	87.92	91.41	94.90	NEL 3x
ADF	32.00	39.10	26.20	23.30	20.40	17.50	14.59	11.69	8.79	5.89	3.00	ADF
NDF	52.00	47.68	43.30	39.04	34.72	30.40	26.08	21.76	17.44	13.12	8.80	NDF
Starch	15.00	20.75	26.50	32.25	38.00	43.75	49.50	55.25	61.00	66.75	72.50	Starch
NFC	30.30	35.05	39.80	44.55	49.30	54.05	58.58	63.55	68.30	73.05	75.00	NFC
	Poor Silage											
		Average silage										
			Excellent Silage									
						Corn Snaplage						
									Hi-moisture ear corn			
											Shell corn	
As-fed value	\$42.00	\$50.72	\$60.62	\$74.69	\$86.37	\$103.80	\$124.76	\$151.74	\$187.15	\$236.18	\$306.00	As-fed value
Price ton value/Ton of dry matter												
Corn silage	\$42.00	\$161.54										
Rolled corn	\$306.00	\$357.48	Prepared by Progressive Dairy Solutions, Inc.									

Prepared by Progressive Dairy Solutions, Inc.

You can see that with the market price of rolled corn and corn silage, improving quality pays. The “as-fed value” indicates that if you moved from average silage to excellent silage quality, you would gain more than \$35 per ton in feed value, essentially reducing off-farm feed needs.

your risk? How do you take the first step, or how do you bring your risk management skills to a higher level if you are beyond the first steps?

In all cases, the first step is to understand your position, your level of risk and what you are in need of managing. If you don't know where you


are, it's hard to determine how to get to where you want to go. In this first step, put your cost on paper alongside your expenses and create a budget. Do a budget for the next four quarters once you know your position as of today. Be aware that as you move further away from present day, you are less


knowledgeable of true expenses and true income. You will start to grasp just how much risk you have to manage. Once you understand your current position, you can proceed to step two. In step two you should drill down to identify your risk tolerance. In most cases you have a low

- tolerance for risk if you:
1. have high debt based on a debt-to-asset ratio
 2. your management style is to be risk-

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averse (you avoid risks when given the obvious option)

3. you are unconsciously incompetent, meaning you just don't have a clue what your true risk is.

In general, you have a high risk tolerance if you:

1. are 100 percent open on the milk and feed markets
2. have a high level of equity on-farm
3. study the markets and understand

the volatility and are choosing to stay on the open market.

If you are the sole decision-maker of the business, you are ready for step three. If there are multiple decision-makers, then each of you need to go through steps one and two so that when you come to step three, you are of one mind.

Step three is where you decide the minimum profit level you are willing to accept. This is a tough one to come to grips with. As a general rule, it's not customary to simply decide what profit you are "willing to accept." However, today is one of the few times

in the last five years when you can actually lock in more than breakeven margins (see Cow Jones Index) versus just locking in minimum losses (as encouraged by several banks in the recent past). Step three is where you determine the minimum profit per cwt you must have in order to trigger or set in motion your risk management plan.

Step four is the final step before action. In this step you should evaluate the tools that will best suit you and all other decision-makers involved. Use your level of risk tolerance and the cost of managing risk to determine the tool

you will use. We feel it is expensive to lock in August's forward price of \$17 for Class III for all of 2012. Putting some protection on at \$14 or \$15 costs significantly less.

Using your budget along with known and unknown feed expenses over 2012, you can now start to develop your strategy for complete risk management of milk income and feed expenses. Don't forget that while you may not have any concentrates locked in or contracted, you most likely have forage prices to some degree locked in for 2012. Forage is a big portion of your feed expense risk management equation.

Richard Brock of the Brock Report laid out his recommendations for developing a purchasing strategy at our recent client meeting:

- ◆ Establish goals – monthly, quarterly, yearly
- ◆ Decision-making environment – don't second-guess yourself or others if the decision has been made and all agreed. Speak up if you don't agree.
- ◆ Identify your beliefs – how open-minded are you about the tools available
- ◆ Develop a price outlook – short-term (six month) and long-term (12 month)
- ◆ Consider cost of production and profit margin – know your breakeven and budget
- ◆ Understand your risk-bearing ability – risk tolerance
- ◆ Avoid emotional purchase decisions – don't be greedy when your strike price hits; don't hope for it to go higher in the case of milk – it usually will not – don't decide to take action out of fear when your strike price has come and gone; don't let your ego get in the way.

Risk management is no longer the latest buzzword; it's a must-do management practice. When times are good is when risk management is done, based on fact and reality. If you wait until you are forced to manage your risk (i.e., your banker mandates it), you may be making emotional and irrational decisions based on fear. Fear-based decisions rarely if ever benefit long-term business success.

Engage professionals you trust to help in the risk management of your business; educate yourself and utilize tools that will help you make wise decisions. Focus on feed and milk risk management in the beginning, then move to other aspects of risk in your business. Also, optimize the assets you have – cows and land. Quality forage production will win over high-yield forage production in today's modern dairy farm. Take action to determine the future viability of the business you love. **PD**

More Options To Fit Your Needs.

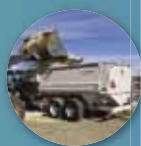


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