

# Virginia Cooperative Extension



## Farm Business Management Update February – March 2011

**Farm Business Management Update** is a joint effort of the Agricultural and Applied Economics faculty and the area farm management agents. Subject matter areas include timely information on farm management, marketing, tax management, finance, credit, labor, agricultural law, agri-business, estate planning, 4-H and economic education, natural resources, and CRD. Please feel free to reproduce any article. However, please cite the title, author(s), date, and this Newsletter.

**Farm Business Management Update** is electronically accessible via the Virginia Cooperative Extension World Wide Web site (<http://pubs.ext.vt.edu/news/farm-business-management-update.html>). To see the articles listed in the reverse chronological order, select “News,” then select “Farm Business Management Update” listed under the heading “Periodicals.”

Gordon E. Groover  
Extension Economist, Farm Management and Farm Management Coordinator

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## **A Twelve-Month Calving Interval Could Capture Efficiencies on Dairy Farms**

**By Tom Stanley ([stanlevt@vt.edu](mailto:stanlevt@vt.edu)), Extension Agent, Farm Business Management, Northern District**

In a 2007 report by the USDA's Economic Research Service (ERS) entitled, "Profits, Costs, and the Changing Structure of Dairy Farming" (ERS Report No. 47, September 2007), agriculture economists found "... smaller dairy farms (less than 500 cows) mostly incur economic losses—the value of their production does not exceed full costs, including the costs of capital and time committed by their owners." Much of this shortfall identified by the authors could be attributed to lower labor efficiency on dairies with fewer than 500 cows, especially on the dairies with fewer than 200 cows where family labor is the mainstay of the farm labor force. How can our small family-run dairies improve labor efficiency?

For years, the answer most dairymen have looked to was more milk per cow. Unfortunately, the pursuit of high milk per cow has not always led to greater efficiency. Starting in the 1990's, some dairies found success in imitating the New Zealand model of seasonal grass-based dairying. Grass-based dairying is now a well-established sector of the U.S. dairy industry and most of the analysis of these systems has focused on the lower capital investment, paddock layout, and forages. Perhaps we have missed the point as to why grass-dairying has been successful. Perhaps the dairy industry needs to look at the labor efficiencies seasonal dairies are capturing and see if similar efficiencies could be captured in what we have come to term 'conventional' dairies that rely on conserved forages and total mixed rations.

Seasonal grass-based dairies demand the cows stay strictly on a 12-month calving interval, attempting to get a high percentage of the total herd to calve in a narrow window of time in the early spring. Having all the cows grouped tightly allows the seasonal dairy to focus its efforts on just one point of a 12-month cycle and manage animals in larger groups. Seasonal grass dairies typically milk significantly more cows per man and while this has often been attributed to the swing-parlor designs or lower milk yields per cow, the high cow-to-worker ratio is probably more a function of how the dairyman is better able to compartmentalize tasks. Instead of dealing with calf care, heat detection, breeding, and nutritional management 365 days of the year, critical tasks are conquered in specific blocks of time. When young calves need attention during that first three weeks of life, the dairyman does not have to be worried with heat detection or breeding. By breeding season, the calves are weaned. Perhaps most significantly, when cows are dried-off, all the cows are dried-off together and the dairyman experiences something unheard-of on conventional U.S. dairies: down-time with no milking! I suggest that an annual 45 to 60-day break in the daily grind of milking could make a very positive difference in the long-run performance and happiness of the small family-operated dairy.

What if our small family-run 'conventional' dairies transitioned their herds to a 12-month calving interval? What if the dairy that has the infrastructure to feed exclusively conserved forages calved in the early fall and dried-off the entire herd in July and August when summer temperatures typically depress milk yields anyway? Perhaps a 12-month calving interval could allow the small family dairy to capture efficiencies critical to its sustainability.

Some of the obstacles to this system include the potential costs associated with transitioning the herd to a calving season of 60 days or less and the interruption in cash flow a seasonal dairy experience. Furthermore, it is not known if milk production per cow would decline in the course of altering herd genetics to meet a 12-month calving interval and, if so, by how much? If these issues can be addressed, the question remains can the small family dairy take advantage of the labor efficiency gains either by effectively reducing the amount of hired labor, employing excess family labor elsewhere, or expand production to fully capture the gains in labor efficiency? To address all the challenges outlined here are beyond the scope of this one article but suffice it to say the dairy industry is already hard at work to improve reproductive efficiency, and we also have the experience of the grass-based seasonal dairies to provide some guidance on management of animals and cash flows.

There are many possible situations where a strict 12-month calving interval is not a good fit or is not achievable but the aforementioned 2007 ERS publication forecasts a continued steady decline in the number of dairy businesses operating with less than 200 cows due to the inefficiencies described in the report. It is my belief the benefits to labor efficiency and family lifestyle make the fall calving seasonal dairy an attractive option for small family-operated dairies and could be a path to being more competitive and economically sustainable.

## **The Management Calendar**

**By Gordon Groover ([groover@vt.edu](mailto:groover@vt.edu)), Extension Economist, Farm Management,  
Department of Agricultural and Applied Economics, Virginia Tech**

Listed below are the items that need to be included on the farm business managers' reading list and calendar for the next 2 months.

- **Taxes and related items:** Make sure your federal taxes are mailed by March 1 unless you pay estimated taxes, then the deadline is April 15. Virginia income tax returns must be postmarked by May 1.
  - Need to find out more information about federal taxes? The Farmers Tax Guide IRS Publication 225 is online and can be found at: [www.irs.gov/pub/irs-pdf/p225.pdf](http://www.irs.gov/pub/irs-pdf/p225.pdf).
  - A summary of changes and basic federal income tax information is published annually by George F. Patrick in the Department of Agricultural Economics at Purdue University. Look for the publication titled "Income Tax Management for Farmers" at <http://www.agecon.purdue.edu/extension/pubs/taxplan2010.pdf>
  - Rural Tax Education is on line at <http://ruraltax.org/>. Sixteen land grant universities have collaborated to provide an educational website for farmers and rural businesses. [RuralTax.org](http://ruraltax.org/) is a source for federal agricultural income tax information that is accurate and easy to understand.
    - Fact sheets on many agricultural income tax issues including examples
    - Topics incorporate both tax and farm management issues
    - Sample federal farm income tax return is available
    - Links to other useful information
    - Information is ready to use in Extension programming

- Decide how much you'll contribute to an IRA for 2010 and set goals for 2011. If you use a certified financial planner (CFP), consider his/her usefulness in helping plan for retirement, college, insurance coverage, and other items. Visit the web site for the CFP organization to get information on services and standards required for planners. You can search for a CFP in your area at <http://www.cfp.net/>.
- *New Opportunities for Flue-Cured Tobacco and Production Decisions*. This is the title of a paper from Blake Brown, Ph.D., Agricultural and Resource Economics. He provides growers with information to help address the question, "Should I grow additional tobacco for a new buyer in 2011?" Take a look at the paper at <http://www.ncsu.edu/project/tobaccoportal/wp-content/uploads/2011/01/fluecured-decisions.pdf>.
- Please consider reading this important paper from the Federal Reserve Bank of Kansas City titled, *Income and Farm Financial Stress* and authored by Federal Reserve Economist Brian C. Briggeman. Download the document at [www.kansascityfed.org/publicat/mse/MSE\\_0610.pdf?ealert=MSE0113](http://www.kansascityfed.org/publicat/mse/MSE_0610.pdf?ealert=MSE0113).
- *Farm Household Economics and Well-Being* is the title of a NEW USDA publication released in late 2010. This paper focuses on indicators of the economic well-being of farm households and family farms. Indicators of well-being include household income and wealth (from both farm and off-farm sources), and indicators of health insurance coverage. <http://www.ers.usda.gov/Briefing/WellBeing/>
- Get your farm's 2010 financial records closed out: Post all income and expenses paid during 2010 in your record book or accounting software. You still have time to conduct an end-of-the-year inventory of all the farm assets and liabilities to provide data for the farm's net worth statement.
- Need another copy of the Farm Record Book: Annual Expenses and Receipts Virginia Cooperative Extension publication 446-017? Contact your local extension office and ask for the form 446-016 or print the order form at [www.ext.vt.edu/pubs/agecon/446-016/446-016.pdf](http://www.ext.vt.edu/pubs/agecon/446-016/446-016.pdf). The price is \$12.00.
- Using your 2010 records to develop an itemized list of income and expenses. The categories found on the IRS Schedule F can serve as a starting point for estimating net income for the farm business. Compare your results to previous years, looking for both weaknesses and strengths.
- Seek assistance from Virginia Cooperative Extension's farm business management agents, lenders, or your accountant to develop a detailed financial analysis of your farm business, including the major 21 financial ratios. These ratios and a detailed financial analysis can be generated by using the Center for Farm Financial Management ([www.cffm.umn.edu/](http://www.cffm.umn.edu/)) program FINAN ([www.cffm.umn.edu/FINPACK/default.aspx](http://www.cffm.umn.edu/FINPACK/default.aspx)). FINAN and other computer programs can be purchased annually for approximately \$100 or the whole analysis and planning package of three computer programs for \$395. Details are at [www.cffm.umn.edu/FINPACK/default.aspx](http://www.cffm.umn.edu/FINPACK/default.aspx).
- Using last year's financial and production records, finalize your balance sheet, cash flow and income statements for 2010 and your projected budget for 2011. If you use Quicken® or QuickBooks® make use of the budget section to create a 2011 budget based on 2010 records. 2010 budget entries can all be modified to reflect anticipated changes in 2011.

- Take your 2010 financial records and 2011 projected whole-farm budgets and cash flow statements to your lender to discuss line-of-credit needs and plans for 2011. Using the FINPACK ([www.cffm.umn.edu/FINPACK/default.aspx](http://www.cffm.umn.edu/FINPACK/default.aspx)) programs or your Quicken® or QuickBooks® can help with this process.
- Grain and livestock producers should have their marketing strategies/plans in place for 2011 marketing year. Be sure to check with your local Farm Service Agency for changes in government programs and signup deadlines.
- The end of February and March 15 are the cutoff dates for signing up for most crop insurance policies in Virginia and dates depend on insurance product and where you live. Details on crop insurance and closing dates are best discussed with a local crop insurance agent. You can locate a local agent by visiting the following web site <http://www3.rma.usda.gov/apps/agents/>.
- Interested in finding a listing of all types of agricultural software? Then the best place to look is our neighbor to the north, Alberta Agriculture and Rural Development. They have the most comprehensive listing of computer software designed for farm and agribusiness on the web <http://www.agric.gov.ab.ca/app68/agsoft>.

**Fertilizer Price Update** (Reprinted with permission: The Economic and Policy Update, Vol. 11, No. 1, January 26, 2011. <http://www.ca.uky.edu/agecon/index.php?p=209>)

**By Greg Halich, Assistant Extension Professor, University of Kentucky**

Fertilizer is the single biggest input cost for grain farmers and one of the largest for livestock farmers. There has been unprecedented volatility in fertilizer prices during the last few years. In late 2008 / early 2009, retail prices hit all time highs. Prices then dropped dramatically in late 2009 and early 2010. However, retail prices have increased substantially since mid-summer and early fall 2010. The following are estimated increases in retail prices:

DAP - increased over \$150/ton since July  
 Anhydrous - increased over \$200/ton since July  
 Potash - increased almost \$100/ton since September

An important question that many producers have been asking is where are fertilizer prices headed, especially when they are ready to plant this spring? Since there are no futures markets for fertilizer products, it is hard for the market to answer this question far in advance. We can however, look at wholesale prices to help answer this question. Wholesale prices are quoted at port entry, and normally take weeks before these products make it to the retail level. Thus retail price trends tend to lag wholesale prices for fertilizer to some degree.

Wholesale fertilizer prices for the various products have leveled off in the last 1-2 months. Given this, we would expect retail prices to finally be leveling off and it does appear that retail prices have stabilized in the last few weeks. Table 1 and Table 2 show fertilizer prices in the Midwest. Table 1 shows prices for Iowa, Indiana, Illinois, and Ohio (fairly representative of Kentucky) using a subset of a weekly survey conducted by DTN Online. Table 2 shows Illinois prices surveyed by the USDA. Both are highly consistent and provide useful information on fertilizer price trends

Average retail prices are roughly: \$760/ton for anhydrous; \$490/ton for urea; \$670/ton for DAP; \$570/ton for potash. More importantly, these prices are largely unchanged from the previous surveys in both cases (see the “Change” column for the USDA survey). So it appears, at least for the moment, that retail fertilizer prices have finally leveled off. This does not mean that these prices will remain constant. Much could happen in the fertilizer market in the next few months. Of special concern are the historically high commodity prices for corn, soybeans, and wheat coming into the planting season. If these prices continue, expect grain farmers to use more fertilizer this spring, especially nitrogen for corn and spring wheat (unless farmers believe in a linear-plateau production response). This of course will increase demand for these products and increase price.

**Table 1: Fertilizer Prices from Midwest Retailers (Per Ton)  
January 12, 2011**

	POTASH	UREA	MAP	DAP	ANHYD	10-34-0	UAN32	UAN28
	Per Ton							
Max	\$600	\$595	\$735	\$708	\$825	\$650	\$411	\$385
Median	\$568	\$488	\$690	\$665	\$740	\$620	\$411	\$351
Min	\$480	\$460	\$675	\$610	\$650	\$585	\$245	\$320
	Per Unit							
Max	\$0.50	\$0.65	\$0.61	\$0.59	\$0.50	\$0.82	\$0.64	\$0.69
Median	\$0.47	\$0.53	\$0.57	\$0.55	\$0.45	\$0.78	\$0.64	\$0.63
Min	\$0.40	\$0.50	\$0.55	\$0.49	\$0.40	\$0.73	\$0.38	\$0.57

*Raw Data Source: DTN weekly summary of Midwestern fertilizer prices with a selected subset for Iowa, Indiana, Illinois, and Ohio (most representative of Kentucky). N subtracted out of MAP and DAP assuming Median Anhydrous Prices.*

**Table 2: Illinois Production Cost Report (Bi-weekly) USDA-IL Dept of Ag Market News 1-20-11**

Product	Range	Average	Change
Anhydrous Ammonia	\$770-810	\$780	Up \$2
Urea 46-0-0	\$475-525	\$491	-
Liquid Nitrogen	\$315-350	\$338	Up \$2
DAP	\$640-710	\$670	Down \$2
MAP	\$685-730	\$708	Up \$7
Potash	\$535-598	\$567	Up \$1
Farm Diesel (per gal)	\$2.91-3.15	\$3.03	-

*Note: Production costs items state wide, cash prices bulk, FOB distributor, per ton unless otherwise stated.*



## **Act Soon to Hold Down Fertilizer Costs**

**By Peter Callan ([peter.callan@vt.edu](mailto:peter.callan@vt.edu)), Extension Agent, Farm Business Management, Northern District**

During the past several months, fertilizer prices have risen significantly. Many people believe that whenever there are significant rises in grain prices, the fertilizer companies raise prices in order to get a larger share of the farmers' profits.

Many remember that in 2008 corn prices rose to more than \$6 per bushel due to the greater demand for corn in ethanol production. Then fertilizer prices rose to all time highs. Conversely, fertilizer prices dropped in 2009 because of the decline in corn prices. With corn prices projected to be \$5 per bushel or higher during the year, many dairymen are questioning if there is a "good" time to purchase fertilizer as prices seem to be rising weekly.

We conducted an analysis of the relationship between increases in corn and nitrogen prices for the period January 2007 through October 2010. We used monthly prices provided by USDA's National Agricultural Statistics Service. It showed that there was a nearly perfect positive correlation between the price of corn at a given time and the price of nitrogen two months later based on monthly prices for the past three years. Consequently, there is a high probability that if corn prices are trending upward, nitrogen prices will start to move up two months later. After two years of depressed milk prices and negative cash flows, many dairymen are searching for a strategy to minimize the impact of higher fertilizer prices. Your first step in developing a strategy is to schedule a visit with your farm loan officer.

### **You are Partners**

Your lender is your business partner. In late January or early February, you should schedule a visit with your loan officer to complete an updated balance sheet and cash flow budget for the year. Prior to the visit, you need to analyze current soil tests to calculate the pounds of fertilizer and lime that you will need to purchase during the year. Then you can develop a budget for crop inputs using current prices for herbicides, seed, and fertilizer. My suggestion would be to request a line of credit from your lender to purchase crop inputs.

A line of credit (LOC) is a bank loan which is paid back within one year. The LOC is used to purchase inputs (seed, fertilizer, fuel, and so forth) which will be used to grow a crop. A LOC is a valuable tool that can save you significant costs in the purchase of inputs. First, it enables you to purchase inputs during the winter and early spring before seasonal prices go up during planting season.

Second, a line of credit will have an annual interest rate of 5 to 7 percent compared to 1.5 to 2 percent per month (18 to 24 percent annual interest rate) that may be charged by the supplier. In addition, making cash payments will enable you to receive 2 to 3 percent cash discount. Cash payment puts you in a stronger bargaining position when negotiating prices. Remember the old adage "money talks and people walk."

There is one word of caution: Fertilizer prices are affected by a number of factors besides grain prices.

Fertilizer prices can change overnight due to changes in the world economy. A crisis in the Middle East can push up fuel prices due to a disruption in oil production. A depressed world economy can cause a reduction in fertilizer purchases and prices due to lesser demand.

Conversely, during the past several months, China has boosted corn purchases which have supported higher corn prices. Thus, it is expected that demand for fertilizer will build up in 2011 because growers will plant additional acres of corn since it has the highest profit potential compared to alternative crops such as soybeans and wheat.

Based on current market trends, it appears that people who purchase fertilizer during January and February will pay less for it than if they wait until planting season.

Lenders want their customers to be successful. By working together, you and your lender can develop a repayment schedule for a line of credit which can be used to pay for fertilizer purchased during the winter months. This should generate significant savings in fertilizer costs in 2011.

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## Calendar of Events

### February

- 4 & 10      North American Farmers' Direct Marketing Association 26th Annual Convention. Baltimore, MD. See the following web site for details:  
[www.nafdma.com/NAFDMA2011/2011Welcome/](http://www.nafdma.com/NAFDMA2011/2011Welcome/) or call (413) 529-0386.
- 7 & 14      Farm Transition Workshop. A 2-day series starting at 9:00 AM and ending at 3:30 PM. Location: VFW Hall, 73 Washington Avenue, Warsaw, VA. Contact: Kelly Liddington by phone at (804) 333-3420 or by e-mail at [klidding@vt.edu](mailto:klidding@vt.edu).

### March

- 16 & 17      3rd Annual Agricultural Trade Conference. Sheraton Waterside, Norfolk, VA. Visit the following web site for details as they become available:  
[www.vafarmbureau.org/Agriculture/trade\\_conf](http://www.vafarmbureau.org/Agriculture/trade_conf)
- 24      An Evening with Farmer Philosopher Fred Kirschenmann. 7:00 PM, Fralin Auditorium, Virginia Tech campus, Blacksburg, VA. Contact Matt Benson by e-mail at [mcbenson@vt.edu](mailto:mcbenson@vt.edu).
- 9      Conservation Easement Workshop for Working Lands (10:00 a.m. to 3:00 p.m.). Virginia Horse Center 487 Maury River Rd 487 Maury River Rd., Lexington. Contact: Kimberly Fortune by phone 804.786.3501 or e-mail [Kimberly.Fortune@vdacs.virginia.gov](mailto:Kimberly.Fortune@vdacs.virginia.gov). Web [www.vdacs.virginia.gov/preservation/workshop.shtml](http://www.vdacs.virginia.gov/preservation/workshop.shtml)