

ISABELLA COUNTY DAIRY

ISABELLA COUNTY MSUE, MIKE MCFADDEN, EXTENSION EDUCATOR, OCTOBER 2010

MONTHLY COW SUMMARY

MONTHLY COW SUMMARY	NAME	ACTUAL 305					MATURE EQUIVALENT		
		MILK	FAT	% FAT	PROT	% PROT	MILK	FAT	PROT
NEYER FARMS INC	1678	42570	1427	3.4	1397	3.3	43938	1498	1430
NEYER FARMS INC	333	40857	1167	2.9	1190	2.9	43372	1242	1247
PASCH DAIRY	BUBBA	40127	1222	3	1053	2.6	35199	1100	949
PASCH DAIRY	MOE	39952	1225	3.1	1102	2.8	38901	1203	1067
NEYER FARMS INC	5479	39041	1361	3.5	1225	3.1	35616	1262	1133
JOHN KOCH	165	38785	1566	4	1026	2.6	40724	1613	1063
PASCH DAIRY	OMAN	38650	1282	3.3	1071	2.8	35260	1200	1001
PASCH DAIRY	AUGUST	36028	1116	3.1	1058	2.9	36028	1136	1056
HOUSE FARMS	627	35925	1232	3.4	1010	2.8	37529	1289	1032
NEYER FARMS INC	5137	35471	1104	3.1	1096	3.1	31941	1016	1011
PASCH DAIRY	SABLE	35368	1159	3.3	978	2.8	40421	1340	1104
BERNARD BRECHT & SONS	00DOLLY	35146	1286	3.7	1004	2.9	35849	1286	1014
PASCH DAIRY	MAGNAM	34419	951	2.8	931	2.7	31400	890	870
JUDGE DAIRY FARM	544	34095	1183	3.5	940	2.8	37142	1261	1004
PASCH DAIRY	MATCHES	33831	1002	3	917	2.7	38060	1149	1032
PASCH DAIRY	BLITZ	33747	1066	3.2	897	2.7	33852	1088	898
PASCH DAIRY	MAN	33713	863	2.6	1049	3.1	33122	855	1024
HOUSE FARMS	628	33462	1094	3.3	862	2.6	36045	1212	935
BERNARD BRECHT & SONS	DOREY	32797	1045	3.2	916	2.8	34765	1087	956
PASCH DAIRY	WARRIOR	32782	1103	3.4	962	2.9	30194	1033	896

Animal Agriculture & the Environment Team

Runoff potential from frozen and snow-covered soils

Courtesy of UW-Discovery Farms

MSU Extension often shares relevant information from our colleagues in other states. This month we feature an article from our neighbors across the big lake. The University of Wisconsin (UW) Extension Discovery Farms program conducts on-farm research on privately owned farms in Wisconsin to identify practices that contribute to both positive and negative environmental impacts. Staff members work with producers to implement practices that reduce loss. Under the direction of an industry-led steering committee, the program takes a real-world approach to finding the most economical solutions to agriculture's environmental challenges. For more information on the UW-Discovery Farms Program, check out our website at www.uwdiscoveryfarms.org

The UW-Discovery Farms program has collected surface-water-runoff samples from more than 25 locations around Wisconsin since 2003. Data from surface-water-runoff samples provide valuable information on precipitation amounts, the volume and depth of water leaving the fields as runoff, the time period in which runoff occurred, and the nutrient and sediment content of the runoff water. These data give the Discovery Farms program the unique opportunity to educate farmers and agricultural professionals about critical runoff time periods, especially when the soil is frozen and/or snow covered.

Staff members determined from data collected at surface-water monitoring sites around the state that the frozen-ground period in Wisconsin lasts, on average, from November 29 to April 1. Seven years of data at more than 25 sites show that 46 percent of annual runoff occurred while the soil was not frozen, and 54 percent occurred during frozen-ground conditions. Runoff during non-frozen time periods is triggered by very intense rain storms or rain on soil that is at or near saturation. While annual runoff across all sites was nearly evenly distributed between the frozen and non-frozen periods, several individual sites recorded 100 percent of the total annual runoff during the frozen-ground period. Because annual runoff can be concentrated heavily during the frozen-ground period, farmers must focus on the causes and timing of runoff to make better management decisions.

Causes of runoff during frozen-ground periods

On a no-till operation in southwestern Wisconsin, approximately 40 percent of all runoff that occurred during frozen-ground conditions resulted from rain or rain on snow. The other 60 percent of frozen-ground events were caused by snowmelt from warm air temperatures, solar radiation or a combination of both. Data from this farm also show that the average amount of rain on frozen ground necessary to create a runoff event is 0.45 inches, but runoff has been generated from as little as 0.08 inches.

When does runoff occur?

A significant amount of the total annual runoff events occur while the ground is frozen. However, does that mean winter spreading of manure should be banned at the first sign of frost? Not necessarily.

Runoff potential from frozen and snow-covered soils cont.

The combined data from edge-of-field sites (84 site years) show that the majority of annual runoff occurs from February to June, and the months of February, March, May and June make up 81 percent of the average annual runoff. During each of the other eight months of the year, less than 5 percent of the annual runoff volume occurs. The data show that 34 percent of the total annual volume occurred during March, a common month for snowmelt and rain on snow. The amount of runoff that occurs in a month is only half of the equation. The other important piece of information is how often a runoff event has been recorded in a given month in the past. The month with the highest frequency of runoff (over all 84 site years) is March, at 100 percent. At least once each year at every site researchers have monitored, there has been a runoff event in March, and in some cases more than one event. Table 1 shows that January through July all have an elevated runoff frequency value (more than 40 percent). August through December have fairly low runoff frequencies and a very low percentage of the annual runoff.

So what does this mean about the winter spreading question? Runoff is more likely in February and March than in late fall and early winter (November, December and January). However, if winter manure spreading is banned, the risk for runoff in April, May and June is similar to or greater than that of January and February, because spring rain and little plant canopy leaves soils saturated and vulnerable to runoff. Every month of the frozen-ground period does not carry the same risk that March does for nutrient runoff, so managing manure and manure storage around critical time periods can be a useful tool for farmers when they are making decisions about when to spread and where to spread. This research has determined that farmers can spread manure in November, December or even January as long as conditions are right.

What about nutrient loss during frozen-ground periods?

It is helpful to know when and how runoff occurs, but it is also important to consider nutrients and even sediment lost to surface water while the soil is frozen. UW-Discovery Farms data show that a shorter time interval between a manure application and a runoff event equals a greater potential for nutrient losses.

The data show that the majority of nitrogen loss throughout the entire year occurs during times when the soil is frozen. The majority of the nitrogen lost during this time period is in the organic nitrogen form, and ammonium also makes up a fairly large fraction.

So what should I do to minimize my risk of nutrient loss while spreading manure in the winter?

Wintertime manure management is a challenge, because wintertime runoff can comprise a significant amount of annual surface-water runoff and nutrient losses, and coincidentally, periods that are easiest in terms of available time for producers to apply manure sometimes coincide with the periods that have the highest risk for runoff!

But, there are some strategies that could help minimize risk when spreading manure during the winter. First, work with your crop consultant or local Extension or conservation personnel to outline some fields on your farm that could be classified as “low risk during high-risk time periods.” Fields on this list could fall into several categories, such as those with low slopes or with low soil-test values, those that are a long distance from surface water and those that dry out quickly. It is also a good idea to work with your local resource personnel to create a list of options when field spreading is not desirable, such as designating a temporary stacking area or creating another short-term storage option. Even covering small sections of a field instead of the entire field could lower your risk for nutrient loss.

Animal Agriculture & the Environment Team

Cover crops and manure: Two are better than one

By Natalie Rector

Cereal rye and manure, when combined, provide benefits to each other, resulting in greater overall benefits to livestock producers, their bottom line and the environment.

Research at the National Soil Tilth Laboratory in Ames, Iowa, focuses on identifying the benefits of rye when manure is applied in the fall. Manure helps decompose rye rapidly, releasing some of the nutrients in the rye tissue to the future corn crop. Capturing these manure nutrients with rye and keeping them in the root zone will lower the amount of commercial fertilizer required for crop growth. The exact quantity of nitrogen released by the cover crop and manure may vary from year to year in this system, making it important to base nutrient-management decisions on soil tests. The researchers have used the late-spring soil nitrate test to determine how much nitrogen the corn crop requires for maximum yield and profitability.

The research at the Iowa lab during the last three growing seasons used a 70-percent rye and 30-percent oat cover crop. Injecting swine slurry in the fall resulted in several important findings:

- 1) Rye reaches its capacity to accumulate nitrogen in the top growth when about 200 pounds of manure nitrogen is applied per acre.
- 2) Rye and manure does not lower corn yield.
- 3) Nitrogen captured by rye is not all released the following growing season but will likely be released over several years.

Manure and rye: Mutually beneficial

Cover crops provide many benefits to soil. They cover the soil to reduce erosion, add organic matter and capture nutrients that may otherwise be lost by leaching or runoff. A rye cover crop reduces the loss of nitrate in tile drains by as much as 60 percent. Actively growing roots and top growth capture manure-derived nutrients and recycle them for future crops. Rye helps stabilize manure and wastewater nutrients applied in the fall, winter or spring in plant tissue. In turn, nitrogen from the manure speeds decomposition of the rye residue and the eventual release of nitrogen and other nutrients to the following crop.

Additional options with rye

Cereal rye is a versatile cover crop for livestock-based cropping systems beyond its ability to recycle manure nutrients. It can provide excellent pasture in fall and spring when perennial pastures are least productive and vulnerable to traffic and winter injury. When green chopped in the boot stage, rye can produce one to two tons of dry matter per acre, preferably for the non-lactating herd. Allowing a few acres to mature will provide seed for next season. After grain harvest, there is straw for bedding and the stubble provides a midseason site for manure applications.

Establishing rye this fall

Rye can be established using multiple methods that include drilling, broadcasting and aerial seeding in standing corn and before leaf drop in soybeans. Rye can be broadcast alone or with dry fertilizers, can be added to manure tanks for slurry seeding or drilled (which provides the most consistent stands). Rye can germinate at temperatures as low as 34 degrees, which provides a large window of opportunity to plant in the fall after corn grain or soybeans. It begins growing in the spring at temperatures as low as 38 degrees.

Additional resources on manure management and specific recommendation for seeding rye this fall can be found at www.animalagteam.msu.edu.

This article originally appeared in Michigan Farmer magazine. You can reach Natalie Rector at rector@msu.edu.

SUPPLY, DEMAND, INVENTORIES

Dairy Market Update, September 2010

Craig Thomas

Michigan State University Extension



Milk Production: Nationally, Aug milk production was *up* 2.7% vs. Aug 2009, and *up* 2.8% in the Top 23 States. Both increased above trend (trend 1995-2009 +1.5%). August marked the fourth time in the past five months that milk production was at or above trend increase. Production in key western states was up in Aug vs. Aug 2009: CA (+4.9%), AZ (+3.9%), ID (+7.8%), NM (+0.6%), and WA (+7.4%). Milk production for Aug in Midwest/Eastern dairy states was mostly up vs. Aug 2009: WI (+0.5%), MN (-0.8%), PA (+3.0%), and NY (+4.8%). August production in Michigan was up vs. Aug 2009 (+2.5%).

Cow numbers fell nationally Jul→Aug by 9,000 hd; the first month-to-month decline since Nov→Dec 2009. However, cow numbers are still +53,000 since Dec 2009. Top 23 states cow numbers in Aug were down by only 10,000 vs. Aug 2009. Nationally cow numbers in Aug were 9.135 M down only 24,000 vs. Aug 2009. Cow numbers are now +139,000 vs. the last time cow numbers were below 9.0 million (Feb 2005). In Aug Top 23 States cow numbers were up, or even, in 12 of the states vs. Aug 2009. August cow numbers in Michigan were at 359,000, +4,000 hd vs. Aug 2009. Cow numbers in key western states (AZ, CA, ID, NM, and WA) are now +10,000 hd vs. last year. In Aug cow numbers in the Top 23 States east of the Mississippi River were even vs. Aug 2009.

Nationally cull cow prices in Aug rose 27.9% above last year's level (\$45.50/cwt, 8/2009 vs. \$58.20/cwt, 8/2010) Michigan's cull cow price rose 23.4%; \$47.00/cwt, 8/2009 vs. \$58.00/cwt, 8/2010). The USDA's Jul report also showed that milk cow prices remained relatively stable over the past year rising only \$40/cow vs. Jul 2009 (\$1,280/hd, Jul 2009 vs. 1,320/hd, Jul 2010)(*USDA Dairy Market News*, 8/6/10). The same USDA report showed a \$50/hd decrease in Michigan dairy cow prices Jul 2009 vs. Jul 2010 (\$1,450/hd vs. \$1,400/hd). The most recent (9/27/10) *Dairy Profit Weekly* reports *top* prices for springers and/or fresh cows of \$1,500-\$1,700/hd with the highest top for bred heifers at \$1,500/hd. The Jul 2010 *USDA Cattle Report* indicated milk cow replacements (>500 lbs.) were up 2.5% (+100,000 hd) vs. Jul 2009 at 4.05 M head, the most since 1994. In Jul there were 44.5 replacements for every 100 dairy cows, up from 42.9 per 100 last year.

August's USDA dairy cow slaughter figures showed the cull rate above the long term trend for the seventh time in the past eight months. However, number of cows slaughtered (federally inspected plants) in Aug was -8,000 hd vs. Aug 2009. Number of cows slaughtered in 2009 were up sharply as a result of rounds #6, #7, #8, and #9 of the CWT herd retirement program and the depressed dairy economy. We finished 2009 with 224,400 more dairy cows slaughtered (federally inspected plants) vs. 2008. The cull rate (calculated using monthly dairy cows slaughtered vs. milk cow inventory) for 2009 was above the 1999-2009 annual average of 28.0% at 30.6%. The cull rate Jan-Aug 2010 was 30.1% vs. the 1999-2010 Jan-Aug average of 27.6%. So far in 2010 USDA figures indicate U.S. dairy cow slaughter is *down* 95,800 head vs. 2009 (as of week ending 9/4/10), but up 131,500 vs. Jan-Aug 2008.

In Aug milk per cow in Michigan increased vs. Aug 2009 (+1.3%; +25 lbs/cow). The U.S. trend (1999-2009) increase in milk per cow is +1.5%/year (+281 lbs/cow). Milk per cow in Aug vs. Aug 2009 was up nationally (+2.9%; +50 lbs/cow) and up in the Top 23 States (+2.8%; +51 lb/cow). August marked the thirteenth time in the past fourteen months milk per cow increased above trend. So far in 2010 (Jan-Aug) milk per cow has increased 2.9% (+396 lbs) vs. last year.

The Aug milk:feed price ratio rose to 2.36 (Jul, 2.32). August's all-milk price rose vs. Jul (+\$0.60/cwt) to \$16.60/cwt. Feed price changes (vs. Jul) were: corn, +\$0.16/bu (\$3.65/bu); soybeans, +\$0.31/bu (\$10.10/bu); and alfalfa hay, - \$1.00/ton (\$116/ton). The cost of 100 lbs. of the USDA's blended dairy feed rose 5.1% vs. Aug 2009 (\$6.71/cwt up to \$7.05/cwt). Aug's feed price was up vs. Jul (+\$0.17/cwt). August income over feed costs (calculated using 65 lbs. milk and 50 lbs. as fed ration) was higher (+61.0%) than Aug 2009 (\$7.27/cwt vs. \$4.51/cwt), and rose \$0.31/cwt from Jul. August marked the thirty third consecutive month the milk:feed ratio has been below 3.00 and only the thirteenth month in the past twenty nine it has been above 2.0.

Where are milk prices headed?

Dairy fundamentals are strong, but not without concerns for the future. Cheese, butter, and Class III prices have all strengthened over the past month. However, the improvement of Class III futures prices has been limited to near months. For example, Sep-Dec 2010 futures prices, on average, have improved \$0.59/cwt since late Aug while 2011 futures prices, on average, have declined \$0.04/cwt. This indicates the market has much less confidence in strong milk prices next year. Cheese inventories still run ~4-9% above 2009 levels, but butter inventories are very short.

Dairy product commercial disappearance remains above trend for the year (+2.5%), although Jul was not a banner month. Many in the industry are concerned that high cheese and butter prices may reduce dairy product sales in the all-important Thanksgiving/Christmas sales season. Much of the strengthening in total commercial disappearance is due to our once again booming export market: trade surpluses for eleven of the past twelve months; Jul exports at \$317 M, +65% vs. Jul 2009; and total exports +41% in value (through Jul) vs. FY-09. Exports so far in CY-10 have accounted for 11.9% of total U.S. milk solids production. The USD continues its weaker trend (U.S. dollar index -11.0% since 6/7/10) making U.S. dairy exports more competitive. Maintenance of our strong export market is essential to help absorb our expanding milk output. But, the export market is now in doubt as Mexico as our most important dairy export destination has slapped 20-25% tariffs on several categories of U.S. dairy exports. The dispute has arisen over a controversy concerning cross-border Mexican truck access to U.S. markets. Also, consumer confidence in Sep fell to 48.5, down from 53.2 in Aug. This was the lowest number since Feb. The director of the Consumer Confidence Board of Research, Lynn Franco said, "Overall, consumers' confidence in the state of the economy remains quite grim with few expecting conditions to improve in the near term." So, the demand side of the price equation has much doubt swirling about it both from domestic demand and from the export side. This certainly explains the stagnation of Class III futures prices in 2011 despite stronger cheese and butter prices this past month.

It is very disconcerting that milk production continues to grow well-above trend. Cow numbers declined by 9,000 hd nationwide in Aug, but this is a disappointment considering over 34,000 hd were removed by round #10 of the CWT herd retirement program. U.S. cow numbers have increased 53,000 hd since Dec and milk per cow continues to grow at about double the trend rate (~+3%). Growing cow numbers and increasing milk per cow are both indicative of the resolve of U.S. dairy producers to make more milk when even slim margins are available. Also, plenty of heifers are available, despite CWT herd retirements, to keep the U.S. dairy herd growing into 2011.

Feed prices are mostly increasing. Since June CME futures for corn are up ~45% (\$3.50/bu to \$5.10/bu) and soybean meal futures are up ~23% (\$255/ton to \$313/ton). 2010's growing season provided abundant supplies of affordable forages and whole cottonseed (2010 harvest +53.5% vs. 2009). Many predict if corn and soybean meal prices continue strengthening it will reduce national milk output by reducing milk per cow and increasing culling. I don't think that scenario is on the immediate horizon. It is a well-established historical fact that in times of declining margins producers keep the "pedal to the metal" until IOFC's decline to very low levels and stay there for quite some time. So, I still believe we can expect ~2.0% or higher growth in U.S. milk output well into 2011. The "freight train" (milk production) has momentum and it will take many months of low margins to significantly slow it down.

Cheese prices have increased since the Aug (8/30/10) report, blocks are up (+\$0.0550/lb), barrels are up (+\$0.0700/lb) and the CME block/barrel average is up (+\$0.0625/lb). Since my last report the average Class III futures price for 2010 has increased (+\$0.2267/cwt) and 2011 has increased (+\$0.0017/cwt). As of 9/28/10 Class III prices for the first and second half of 2010 averaged \$13.58/cwt (even vs. Aug) and \$15.40/cwt (+\$0.53/cwt vs. Aug), respectively; and \$14.37 for 2011 (even vs. Aug). These Class III prices would produce USDA Michigan mailbox prices for the first and second half of 2010 of \$14.33/cwt and \$16.21/cwt, respectively. The USDA Michigan mailbox price average for 2011 is \$15.15/cwt. Butter has increased (+\$0.0550/lb) since the last report. Class III prices remain well-behind the highs seen on 12/15/09. Since then the declines are: 2010, -\$1.2042/cwt; and 2011, -\$1.4992/cwt.

Dairy markets are entering the all-important fall sales season. Milk volumes and components are making their usual recovery as wholesalers prepare for the Thanksgiving and Christmas dairy product sales season. More standardized cream is available as fluid milk needs for schools rises. Mozzarella demand is moderate and overall food service and restaurant traffic is improving, albeit at very slow rates. Many in the industry are worried that high cheese and butter prices will thwart a robust holiday sales season. Thus, I expect the dairy markets (cheese, butter, and Class III) to hold their current strength until wholesalers are satisfied they have adequate product in their pipelines for the fall holiday sales season. Over the past thirteen years (1997-2009) Class III prices Sep→Nov have increased five of the years and declined in eight of the years. The average gain in the five years was \$0.92/cwt and the average decline in the eight years was -\$2.32/cwt. So, what will 2010 bring? Fall gains or fall losses? If cow numbers and milk per cow continue to grow look for weakening milk prices by Dec. How much prices fall will depend on the strength/weakness of this year's holiday sales season. If the combination of low consumer confidence and relatively high cheese and butter prices conspire to produce a flat holiday sales season look for the front months to quickly erode from \$14.50-\$15.00 down to the \$13.50 area.

The latest USDA *Milk Supply and Demand Estimates* report (Sep) increased forecasted 2010 milk output to 192.7 billion pounds (+1.8% vs. 2009) on the basis that "Producers continue to add cows to the herd and inventories are forecasted to increase into mid-2011."



The rate of growth in milk per cow is also increased from last month. Fat basis export forecasts for 2010 are raised on strong sales of butterfat and cheese, but 2011 exports are lowered.” Forecasted fat basis commercial disappearance for 2010 increased to 189.9 billion pounds (+1.2% vs. 2009). The 2010 USDA predictions for average Class III prices increased 35¢ on both ends of the range to \$14.50-\$14.70 (2011: \$14.40 to \$15.40); Class IV up 40¢ on both ends of the range to \$14.90-\$15.20 (2011: \$14.25-\$15.35), and the “All Milk” price increased 35¢ on both ends of the range to \$16.25-\$16.45 (2011: \$15.85-\$16.85). Forecasted wholesale dairy product prices for 2010 were: cheese up 3¢ on the both ends of the range to \$1.530-\$1.550 (2011: \$1.530-\$1.630); butter up 8¢ on both ends of the range to \$1.690-\$1.730 (2011: \$1.485-\$1.615); NFDm up 1/2¢ on the both ends of the range to \$1.150-\$1.170 (2011: \$1.175-\$1.245); and dry whey remained steady at \$0.360-\$0.380 (2011: \$0.355+\$0.385).

The latest average CME Class III futures prices (9/28/10) are \$14.49 (2010), \$14.71 (next 12 mos.), and \$14.37 (2011). These Class III prices would produce potential average “USDA” mailbox prices (Michigan) of \$15.27 (2010), \$15.50 (next 12 mos.), and \$15.15 (2011)(Figure 10). Remember, the USDA’s definition of “mailbox price” deducts “all marketing costs” to arrive at their price. To estimate your gross pay price you should use your own farm’s historical basis.

Have you heard about the Milk and Grain Marketing Meetings?

Fred Hinkley from Ogemaw County, visits with the Isabella County Milk and Grain Producers to explain what the stock market is doing with the prices of the products you are producing!

Fred will give his outlook for grain and milk prices and provide marketing strategies designed to address the grain and milk price volatility in a global market place.

Location: Isabella County Building
Room 320, 3rd Floor
200 N Main St., Mt. Pleasant
989-772-0911 .302

Time: 10:00 AM - 12:00 PM

Date(s): October 27, 2010
November 30, 2010
December 21, 2010
January 26, 2011
February 23, 2011
March 30, 2011

TOP 15 HERD

	#				TEST
	OF COWS	MILK	FAT	PROT	DATE
HOUSE FARMS	222.8	29920	1051	877	8/27/10
PASCH DAIRY	232.5	29801	985	881	8/19/10
MOEGGENBERG MICHAEL	125.3	28700	351	261	7/3/10
JOHN KOCH	35.6	28231	1120	822	8/5/10
MATT SEELEY	79.8	26505	942	826	7/14/10
BERNARD BRECHT & SONS	193	26299	956	809	8/30/10
ROBERT MILLARD	88.2	25726	1222	789	8/27/10
NORMAN GROSS	105	25502	1018	784	8/3/10
JUDGE DAIRY FARM	309.5	25384	890	752	8/18/10
MARTIN FOX	51.6	25347	966	773	7/26/10
NEYER FARMS INC	1149.5	24299	866	752	8/4/10
JOHN MONTROSS	4.2	23070	1091	723	8/27/10
CONNERS FARMS LLC	115	22600	870	728	8/26/10
STEVENS FARMS	41.8	20377	782	616	8/5/10
FOX DAIRY FARM	312.6	20256	643	620	6/30/10

**MICHIGAN STATE
UNIVERSITY
EXTENSION**

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Bringing knowledge to life!

www.isabellacounty.org/dept/msue

Managing Disease and Field Crops

December 22nd, 2010

**Isabella County Commission On Aging,
2200 S. Lincoln Rd, Mt. Pleasant, MI 48858**

ALL DAY PROGRAM

Meal Included

This meeting has the potential of

8 RUP Credits

**Look for more information in the next
Isabella County Ag and Dairy Newsletter!**

Dear Friend of Extension:

The Isabella County/MSU Extension Service is pleased to send you the enclosed material. The purpose of the Extension Service of Michigan State University is to provide educational services in Agriculture and Marketing, Home Economics, 4-H Youth Development and Natural Resources/Public Policy. These services are financed jointly by County, State and Federal funds, and are available to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status or family status. If our staff can be of further assistance, we invite you to contact us by mail, phone or visit us at the office.



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