

Cattle Call

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Blight Farms Recognized for Environmental Stewardship

Natalie Rector, MSUE Manure Nutrient Management

Blight Farms, near Albion, Michigan were selected as the Region I winner of the 16th Annual Regional Environmental Stewardship Award. They will travel to the National Cattlemen's Beef Association annual meeting in January where the national winner will be announced.

The Environmental Stewardship Award winners are examples of how environmental management benefits both the cattlemen's bottom line and the resources in their care. The goal of the program is to acknowledge producers who go the extra mile when it comes to preserving and enhancing the resources on their land. Blight Farms is an excellent example of these goals. They previously received verification in the livestock system from the Michigan Agriculture Environmental Assurance Program (MAEAP).

Owned and operated by parents Bill and Fran, two sons, Art and Leanne and Ken and Sue Blight, they manage 2200 acres of crop land, feed out 1000 head of beef steers and farrow to finish 1700 hogs per year.

No-till production has been not only a success, but a necessity on stoney ground in south-central Michigan. They utilize the manure resources for nutrient benefits on the crop rotation, significantly reducing purchased fertilizers and also include cover crops in the rotation.

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They have installed a settling basin and grass filter strip adjacent to a cattle lot. Due to environmental concerns, they have moved toward more roofed facilities for the beef operation.

Blight Farms have opened their doors to several tours and farm demonstration events. They have hosted an annual summer tour for the Innovative Farmers of South Central Michigan and local Land Use Planning tours for township and county officials. Their commitment to environmental stewardship includes protecting the land within their management and preserving neighboring farmlands for the long-term future of agriculture. 



From left to right: Art, Leanne, Stan Weitzel, Meghan, Afton, Amanda, Ben, Bill, Sue, Ken and Fran Blight

Dates and Changes for Michigan Bull Test Station

Dave Hawkins, Ph.D.,
Department of Animal Science

The 19th Michigan Cattlemen's Association/MSU Bull Test is set to begin with the delivery of bulls on Friday, October 13 and Saturday, October 14, 2006 to Plank Farms near Crystal, MI. All bulls will be required to have a negative test for TB, BVDV and have an EID applied prior to delivery. The electronic identification (EID) is new this year, but will be required of all cattle being sold in Michigan effective March, 2007.

Delivery:	October 13 & 14, 2006
On test:	November 1 & 2, 2006
28 day weight:	November 30, 2006
56 day weight:	December 28, 2006
84 day weight:	January 25, 2007
Off test:	February 21 & 22, 2007
Sale date:	March 17, 2007

Nomination forms may be obtained from the MCA office, 2145 University Park Drive, Suite 300, Okemos, MI 48864. (517) 347-8117, www.micattlemen.org 

Tonsor Joins MSU Ag. Econ.

Dr. Glynn Tonsor recently joined the Agricultural Economics faculty at Michigan State Univ. Glynn was raised on a swine farm in Northeast Missouri and holds a Bachelor's degree in Agribusiness from Missouri State University and a Ph.D. in Agricultural Economics from Kansas State University. His efforts are currently



targeted towards applied issues impacting the livestock industry. Some of Tonsor's current research includes analyzing domestic and international consumer preferences for different meat products, examining the design and effectiveness of animal identification programs, exploring the effect of expansion in the ethanol industry on the livestock

sector, and investigating an array of livestock pricing, marketing, and production issues. 

Johne's Disease Control Demonstration Project

Dan Grooms, DVM, Ph.D., Large Animal Clinical Sci.

Johne's disease (JD) continues to be a major threat to both the beef and dairy industry. Johne's is a bacterial infection of the intestinal tract that results in significant losses if not controlled. Michigan State University is currently conducting a JD control demonstration project in Michigan. This project is part of a national program with the aim of demonstrating successful disease control strategies.

One of the herds enrolled in the Michigan project is a commercial cow-calf operation that began experiencing significant problems with JD 5 years ago. At that time, the owner identified several cows soon after calving that developed chronic diarrhea and weight loss that failed to respond to treatment. These are classical signs of clinical JD. In subsequent years, the problem persisted with new animals experiencing clinical JD. The problem came to a head 2 years ago when nearly 25% of the 1st calf heifers were affected and eventually died or were culled. In December 2005, MSU veterinarians were consulted and along with the herd veterinarian, farm personnel, and several MSU CVM students, conducted a JD risk assessment and developed a disease control

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program. In addition, blood was taken from all adult cattle and tested for JD. Based on this test, approximately 7% of cattle greater than 2 years of age were infected with JD. A break down of the percentage of positive cattle by age group, is shown in the following table.

Age Group	Positive 2005
2 years	15%
3 years	4%
4 years	13%
5+ years	4%
Total	7%

Note that many cattle which would have been three years of age, at the time of this test, had been culled, with clinical signs of JD, during the previous year. This likely reduced the apparent prevalence in this age group. Because the disease prevalence is highest in younger animals and the percentage of new infections is increasing, if not controlled JD will likely continue to increase in this herd.

JD is spread from infected adult animals to younger animals. The primary source of transmission is feces, colostrum and milk. Transmission *in utero* can also occur. The risk assessment identified several farm management issues that significantly increased the risk of disease transmission on the farm. The most significant were:

- A very concentrated common calving area that became heavily contaminated with feces during the calving season. This led to a high risk of newborn calves being exposed to feces from multiple cows, including cows infected with JD.
- New cow-calf pairs remained in the calving area for up to 2 weeks. The longer the calves remain in concentrated areas, the greater the risk of being exposed to feces containing JD.
- Legs and udders of cows were heavily contaminated with feces at the time of calving. The higher the concentration of feces on the udder and legs, the greater the likelihood of ingesting JD during nursing activity.
- Weaned replacement heifers were housed with cull cows in a closed confined feeding area. Often, cull cows may be JD positive, thus putting heifers they are housed with at risk for becoming infected.

To address the risk areas identified, the following management changes have been implemented to help reduce the risk of disease transmission from infected cattle to susceptible calves:

- Cows are moved into the calving area in smaller groups based on expected calving times. This reduces the cow concentration and manure build up in the calving area.
- Once cows calve, pairs are moved to larger pastures within 48 hours. This reduces the exposure of calves to areas of concentrated manure build up.
- Heifers are calved in a separate calving area.
- Any JD test positive cows are calved separately. This reduces the risk of JD contaminating the primary calving area.
- All test positive cows are targeted for culling once they finish raising a calf at their side.
- Heifers from test positive cows are not kept as replacements. Calves born to JD positive cows are the highest risk animals for developing new infections and maintaining the disease on the farm.
- Growing replacement heifers and cull cows are no longer housed together.

The goal of the demonstration project is to continue monitoring this farm over time and document changes in disease prevalence. The information learned from this project will help to direct JD control programs for other producers in Michigan, as well as, across the U.S. For more information on the Michigan Johnes Disease Demonstration Project, visit <http://cvm.msu.edu/extension/johnes> For more information on the national program, go to: <http://www.aphis.usda.gov> 

UP Agricultural Experiment Station Field Day

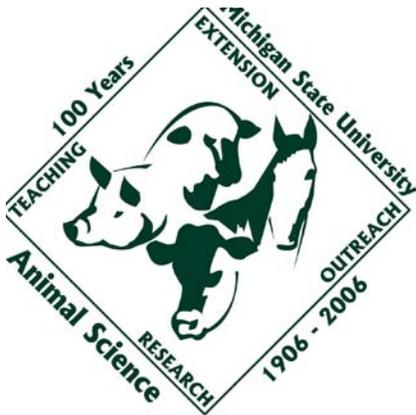
Where: MSU Upper Peninsula Experiment Station
(1/4 mile south of Chatham on M-94).

When: Saturday, July 29, 2006
10:30 a.m. - 3:30 p.m.
Lunch on site

What: Forage, Dairy and Beef programs
Crop tours

For complete program and more information, please contact Paul Naasz or Michelle Coleman at 906-439-5114.

Department of Animal Science 100th Anniversary Celebration November 10th-11th, 2006



Please mark your calendar, and plan to join the festivities. Enjoy MSU Autumn Fest and the final regular season MSU football game too. For continual updates and registration information, visit our website at: www.ans.msu.edu

Official Cattle Identification

Kathy Lee, MSUE Dairy Educator

Official identification for cattle in Michigan will change on March 1, 2007. At that time, all cattle of all ages must be identified with official radio frequency identification (RFID) ear tags prior to movement from premises. Beginning March 1, metal ear tags will no longer be acceptable as official identification for Michigan cattle. RFID will allow for faster intra- and interstate animal tracking for disease control and eradication programs. The premises and animal identification requirements are consistent with the National Animal Identification System (NAIS) under development.

Premises Registration

To place a RFID tag order, producers need a Premises

Identification Number. The Premises ID Number is assigned by USDA to each premises (location) that houses livestock. Michigan TB tested herds have been assigned a Premises ID Number. Michigan Department of Agriculture (MDA) sent a letter to these producers in late February that listed the herd's Premises ID Number and details about the mandatory RFID program. **If you misplaced or did not receive a letter from the MDA or need to obtain a Premises ID Number, you may contact MDA at (866) 870-5136.**

RFID ear tags are a form of electronic identification that contain a microchip with a unique series of numbers. The numbers can be read by a microchip reader. The 15-digit number also will be printed on the front and back of each RFID tag to be read visually. The first 3 characters in the number is 840, which is the U.S. country designation. The 15-digit animal identification number is a lifetime number assigned to an individual animal. The tag is never changed unless lost. If this occurs, the animal needs to be retagged prior to leaving its current premises. **RFID ear tags can be ordered by calling MDA at (866) 870-5136.** The cost of the tags is \$2 each and the applicator is \$20. Be sure to request an applicator when ordering tags for the first time, as the applicator is specific to RFID ear tags. The official application site for the tags is the left ear of the animal. The left ear is on your left when viewing the animal from behind. Detailed application instructions are provided with the RFID tags.

What do I Need to Know about Mandatory I.D.?

Beef and dairy producers will have a chance to learn what it will take to meet the March 1, 2007, deadline for mandatory use of RFID ear tags in an upcoming series of workshops. Kevin Kirk, MDA, will provide a comprehensive overview of the program, followed by questions and answers. There is no cost and no pre-registration required to attend. The workshops are being organized by MSU Extension and the Michigan Holstein Assoc. For more information contact Kathy Lee, MSUE, at 231-839-4667. 

Schedule of ID Workshops

- Aug. 1, 10am-noon** - Jackson Co. MSU Extension Office, Jackson
- Aug. 4, 4-6pm** - Hillsdale Co. Fairgrounds, Hillsdale (BBQ to follow)
- Aug. 8, 10am-noon** - Brown Dairy Equipment, McBain (light lunch)
- Aug. 9, 10am-noon** - Ogemaw Co. MSU Extension Office, West Branch
- Aug 14, 10am-noon** - Clinton Co. RESA, St. Johns
- Aug 15, 10am-noon** - Franklin Inn, Bad Axe
- Aug 17, 10am-noon** - Coopersville Farm Museum, Coopersville
- Aug 17, 2-4pm** - Hood Farms, Paw Paw
- Aug 21, 10am-noon** - Bavarian Inn, Frankenmuth
- Aug 23, 10am-noon** - Newaygo Co. MSU Extension Office, Fremont

Why are Michigan Farms Getting Bigger?

Steven Rust, Ph.D., Dept. of Animal Science
Jim Hilker, Ph.D., Dept. of Agricultural Economics

There has been a historical trend for farms in Michigan to get larger, which has led to public concerns about potential impacts on the environment. Concurrently, the number of total farms in Michigan has declined by 9.3% from 58,661 in 1983 to 53,200 in 2004. Interestingly, the number of farms with sales between \$1,000 to \$9,999 has increased from 28,432 in 1983 to 31,400 in 2004. The purpose of this article is to explain why this trend has occurred and will utilize a Michigan feedlot as the example.

The average or “nominal” price of fed cattle and “nominal” profit per animal from 1983 to 2005 is shown in Table 1. The “nominal” price and profit can be adjusted for inflation using the consumer price index (CPI) which is

then used to express the amount of purchasing power the sales price or profit has for any subsequent year in 1983 dollar equivalents. Between 1983 and 2005, the accumulated affect of inflation has nearly doubled the CPI from 100 to 195.3. As a result, the purchasing power of the dollar has been cut in half, or stating it another way, it takes twice as much income in 2005 as 1983 to provide the same standard of living. Adjustment for inflation using the CPI, creates a price or profit value that is referred to as “real” price/profit. The table clearly demonstrates the downward trend in real prices, profit and subsequent purchasing power. To counter this downward trend and improve the likelihood for economic survival, Michigan farms have become more efficient and grown in size. To generate a “nominal” \$30,000 household income per year for each of the last 23 years (1983-2005), a feedlot had to market an average of 2,292 animals per year. To generate equivalent purchasing power in disposable “real” income over the 23 year period, the feedlot had to market 4,234 animals per year. Clearly, feedlots had to grow in size and efficiency to remain economically viable and provide a minimal standard of living for their families. 

Table 1. “Nominal” and “real” prices for fed cattle and profit for Michigan feedlots

Year	CPI ^a	Nominal		Real		No. animals marketed ^d	
		Price ^b , \$/hd	Profit ^c , \$/hd	Price, \$/hd	Profit, \$/hd	Nominal	Real
1983	100.0	64.32	23.56	64.32	23.56	1273	1273
1984	103.9	66.95	43.72	63.95	42.08	686	713
1985	107.6	60.71	-2.50	56.42	-2.69	*	*
1986	109.6	59.46	34.20	54.24	31.20	1202	1320
1987	113.6	66.87	65.87	58.86	57.98	624	710
1988	118.3	71.58	16.85	60.51	14.24	2440	2892
1989	124.0	74.54	20.81	60.11	16.78	1442	1788
1990	130.7	78.88	43.56	60.36	33.33	689	900
1991	136.2	74.83	-14.10	54.94	19.2	*	*
1992	140.3	75.72	32.20	53.97	22.95	1437	2115
1993	144.4	76.80	34.09	53.15	23.59	1357	2058
1994	148.2	69.51	-41.06	46.90	-60.85	*	*
1995	152.4	66.52	11.19	43.65	7.34	6662	11661
1996	156.9	64.77	15.28	41.28	9.74	3814	6888
1997	160.5	65.90	23.51	41.06	14.65	2479	4579
1998	163.0	61.71	-81.78	37.86	-133.30	*	*
1999	166.6	65.81	39.05	39.50	23.44	1956	4237
2000	172.2	69.69	18.01	40.47	10.46	4242	9496
2001	177.0	72.26	9.21	40.82	5.20	8294	19087
2002	179.9	67.31	-44.56	37.42	-80.16	*	*
2003	184.0	83.34	167.54	45.30	91.05	357	831
2004	188.9	84.65	101.86	44.81	53.92	587	1403
2005	195.3	87.81	34.74	44.96	17.79	1722	4254
23 yr avg.		70.85	49.78	23.97	8.83	2292	4234

^a Consumer price index

^b Price series from western Kansas

^c Profit series from Dekalb Feeds, Rock Island, IL

^d During the years when a loss was realized, one-third of the loss was added to the \$30,000 set income for the next 3 yrs.

Low Stress Cattle Handling and Facilities Workshop

Date: Saturday, August 5th, 2006, 9:00 a.m.-4:00 p.m.

Location: Oswalt Farm – 10144 XY Ave. Vicksburg, Michigan (22 miles southeast of Kalamazoo).

This workshop will provide hands-on opportunities and will leave you with principles and techniques that can make cattle handling less stressful for both you and your cattle. Less stress means animal performance goes up and people's tempers stay down. Less stress equals less morbidity, less mortality, less medicine cost, less damage to facilities, and less injury to cattle and people!

The Oswalt's old cattle handling facility and new facilities will both be demonstrated and our instructor, Mr. Guy Glosson will also comment on the pros and cons of various handling facility designs. This will be a special opportunity to see two sets of facilities under real life conditions. Mr. Glosson is the manager of the Mesquite Grove Ranch, Snyder, TX. The ranch is 50 sections in size and runs 600 cows and yearling cattle backgrounding. Guy has been teaching low stress animal handling as developed by Bud Williams for more than 5 years in Texas, Montana, New Mexico, Hawaii, and Africa.

Registration includes lunch, materials, and opportunity for hands-on experience - \$50 for first person and \$25 per additional family member if registered by July 28 or \$65 first person and \$30 per additional person payable at door. Please register by contacting the St. Joseph County Extension office at 269-467-5511, 612 E. Main, Centreville, MI, 49832. 

Research Round-Up

Harlan Ritchie, Steven Rust, Dan Buskirk
Beef Extension Specialists, Dept. of Animal Science

Carcass Traits Were More Highly Heritable in Calf-Feds than in Yearling-Fed Cattle

Iowa State Univ. researchers analyzed carcass data from the American Simmental Association on 10,439 cattle to determine any similarities or differences in heritabilities of calf-fed and yearling-fed cattle. Groups of cattle under 480 days of age were considered calf-feds, while those over 480 days of age were considered yearlings. Calf-fed cattle were adjusted to a constant 430-day endpoint, and yearling-fed cattle were adjusted to a constant 525-day endpoint. Following is a summary of heritability estimates.

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Age group	Marbling score	Fat thickness	Ribeye area	Carcass weight
Calf-fed	.38	.47	.38	.45
Yearling-fed	.30	.10	.28	.29

As shown above, the heritability estimates for carcass traits are higher for calf-feds than for yearling-feds. This analysis indicates that genetics plays a greater role in the control of these traits in calf-feds than in yearling-feds, and that management assumes more importance as cattle are on feed longer (Tait et al. 2006. Midwest Section ASAS. Abstract 330).

Relationship of GeneSTAR Marbling Marker to IMF Deposition and EPD for Marbling

Univ. of Illinois researchers used a total of 192 early weaned Simmental steers to evaluate the relationship of the GeneSTAR marker for marbling to intramuscular fat (IMF) deposition and the expected progeny difference (EPD) for marbling. Steers were weaned at 88 days of age, fed a high-concentrate diet and slaughtered at 423 days of age. DNA samples were taken for GeneSTAR marbling analysis.

Steers with allele types of 0-STAR (n=47), 1-STAR (n=95), and 2-STAR (n=33) had no significant effect on marbling score, chemically determined IMF percentage, or percent grading Low Choice and higher. Furthermore, there were no significant differences in performance or other carcass traits among the three genotypes. Conversely, marbling EPD was highly correlated with marbling score and IMF percentage. The authors concluded that the GeneSTAR marker for marbling was not an efficacious predictor of IMF deposition under the conditions of this study (Rincker et al. 2006. J. Anim. Sci. 84:686).

U.S. Cow Costs Increased in 2005

Cattle-Fax® recently summarized results of their 2005 cow-calf survey. Cash costs averaged \$351/head in 2005, which was \$36/head above the 2004 average of \$315/head. Over the past 10 years, annual cow costs have ranged from \$292 to \$351/head, with a 10-year average of \$307/head. Cattle-Fax analysts attributed the increase from 2004 to 2005 largely to the increased cost of energy and fuel and the impact these factors have on all cow-calf operations. It is important to note that these costs do not include depreciation, opportunity costs, or returns to management.

Overall, 96% of producers selling weaned calves were profitable in 2005, a record high percentage. Of these producers that sold their calves at weaning, 80% made a profit of \$100/head or more, 44% made \$150/head

or more, and only 4% were not profitable. The results showed there is a strong correlation between high return producers and lower costs and higher production performance. The average cow cost for those who profited \$100/head or more was \$347. Those who profited less than \$100/head had an average cow cost of \$377/head.

The average cow cost for the low 1/3 (least cost) of producers was \$267/head compared to the high 1/3 (highest cost) of producers was \$445, a whopping \$178/head difference. The results also showed a positive correlation between weaning percentage and profitability. Producers that made more than \$150/head weaned 4% more calves compared to those that either broke even or lost money (Tod Kalous, Cattle-Fax® Update).

Effects of Optaflexx® Dose and Feeding Duration on Steer Performance and Carcass Traits

In a collaborative effort, involving a total of 1,867 steers in four studies, Elanco, Nebraska, South Dakota, Texas Tech, and Illinois researchers evaluated the effects of feeding Optaflexx® (Ractopamine [RAC]) on growth and carcass traits when fed at three doses (0, 100, or 200 mg/head/day) for the final 28, 35, or 42 days of the finishing period. Results are summarized below.

Item	Ractopamine, mg/head/day		
	0	100	200
Daily feed, lb	23.2	23.2	22.9
Avg. daily gain, lb	3.18 ^a	3.40 ^b	3.53 ^b
Feed/gain, lb/lb	7.60 ^a	6.99 ^b	6.73 ^b
Carcass wt., lb	820.0 ^a	826.4 ^b	831.0 ^c
Dressing percent, %	64.00	64.08	64.23
Fat thickness, in.	0.51	0.49	0.50
Ribeye area, sq. in.	13.33 ^a	13.56 ^b	13.76 ^b
Yield grade	3.00 ^a	2.92 ^b	2.88 ^b
Marbling score	529.7	531.1	523.1

^{abc}Means differ significantly (P<0.05).

As shown, RAC supplementation significantly improved daily gain, feed efficiency, carcass wt., ribeye area, and yield grade, while having no effect on dressing percent, fat thickness, or marbling score. The dose levels of 100 and 200 mg/head/day did not differ in their effect, except for carcass wt. and ribeye area which favored the higher dose. Although not shown above, there were no significant differences among feeding durations, except for a tendency for increased carcass leanness at 42 days. These results indicate that RAC can maintain improved feedlot performance and carcass wt. throughout the approved 28- to 42-day feeding duration (VanKoeveering et al. 2006. Midwest Sec. ASAS, Abs. 60 & 61).

Concentration in the Feedlot Sector

Dr. James Mintert, Kansas State Univ. agricultural economist, recently examined the concentration that has been occurring in the nation's feedlot sector. Following is a summary.

In 1975, there were 56,221 feedlots in the seven major cattle feeding states (AZ, CA, CO, IA, KS, NE, TX). These same feedlots marketed approximately 15 million head of cattle. Average marketing per feedlot were just 267 head per lot. Feedlots with a one-time feeding capacity of over 1,000 head totaled 1,211 lots, and they marketed about 74% of the fed cattle in the U.S.

By 2004, the number of feedlots in the seven states declined to just 14,932. However, total fed marketings rose by 36% compared to 1975, reaching 20.4 million head. Number of feedlots with a one-time capacity over 1,000 head increased to 1,632 lots. Market share of feedlots with over 1,000 head of capacity increased from 74% to 95%.

These figures demonstrate that cattle are increasingly being fed in larger feedlots, but they don't indicate what size feedlot is most competitive. A simple method of determining the size categories that are most competitive is to examine feedlot marketing by the various size categories and see which ones are gaining market share over time.

A review of the data indicates that only one size category (over 32,000 head) has been gaining market share over time. In 1979, Feedlots of 32,000 head or more capacity marketed 29% of all fed cattle in the U.S. By 2003, these large feedlots had increased their market share to 49% of all cattle fed in the U.S. In contrast, market share of feedlots with a capacity of 16,000 to 32,000 head declined from 27% in 1979 to 20% in 2003. And the market share of feedlots with a capacity of 8,000 to 15,999 head decreased from 17% to 13% over the same time period.

Why is the feedlot sector concentrating? Mintert suggested that there may be a multitude of reasons, but he went on to say it is clear that larger feedlots have a lower cost structure than smaller lots. He noted that larger firms are in a better position to use new technology, much of which requires relatively large volumes to successfully implement. Furthermore, larger feedlots are able to capture advantages in labor, financial, and marketing management. This means that smaller and medium size feedlots must continually strive to lower their costs of operation in order to survive in this industry ([Feedlot magazine](#)). 

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AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY INSTITUTION

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