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What's the Newest Next Thing?

The playing field continues to change in dairy as well as most of agriculture. Embracing change is easier said than done but learning to adapt to change seems more critical as profit measures continue to tighten.

Income over feed cost leads the category of profit measures that continue to tighten. The LGM-Dairy program is a "must-consider" program to help lessen the risk of reduced income over feed costs. Look at http://future.aae.wisc.edu/lgm_dairy.html for information.

Robots continue to be installed on dairies in the Midwest and are of interest to addressing quality of life concerns on dairy farms. Extension in IL, IA, MN and WI got together to host robotic milking and other facility tours. *Check next column for dates and locations.*

The EPA is flying over Iowa searching for manure runoff. Manure runoff and "keeping it out of the creek" continues to grow as an issue. On the dairy side of things, we are being closely watched and thus need to be more and more diligent in our manure handling practices.

Residues and injection practices are impacting meat quality so training ourselves to maintain meat quality is huge as well. So, some of the newest next things have been around awhile but continue to increase in importance. Let us know how we can help.

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Edited by: Larry Tranel

ISU Extension Dairy Team
"Bringing Profits to Life"

Considering Robots to Milk Your Cows?

What seemed like a technology that was only a dream a few years ago continues to make progress here in Iowa and neighboring states. While there are less than 10 robots in Iowa at present, more are in the beginning stages of being planned.

In order for us become more familiar with considering a robot and who knows—possibly adopting robotic milking technology, ISU Extension (along with MN, IL and WI) is leading three tours for producers to be able to visit current robotic installations:

Robotic Milking Tours

June 7th

10 am Jack Wiegel 10037 Phillipine Rd, South Wayne, WI From Browntown, WI take MM north which turns into M at the Lafayette Co line. At Woodford go west (left) still on M. In one mile go south on Phillipine Road and it is the second farm on the right. **(Lely Installation)**

1:00 pm Jim Lepeska 1683 Hopewell Rd, Stitzer, WI. From Montfort, go south on Hwy 80 2 miles, 5 miles west on Hopewell Rd. **(DeLaval Installation)**

June 14th (Both Lely Installations)

9:30 am Mark/Sandra Erhardt 567 Big Foot Rd. Monona, IA From Monona, take CR-X26 6 miles, then turn right onto Big Foot Rd. for 2.4 miles, farm on right.

1:30 pm Heintz Badger Valley Farm-Doug and Julie Heintz 8903 State Hwy. 76, Calendonina, MN 55921. From Caledonia, take Hwy 76 North 8 miles, (long driveway), If coming from North- it is 3 ½ miles south of Houston, MN

June 15th (Both Lely Installations)

10:30 am Hawktree Dairy/Mike Bauman, 3100 Hwy 9, Buffalo Center, IA (just east) **tentative:** 563-583-6496

1:00 pm Stacey's Dairy/Bruce Meinders, 2307 380th St. Buffalo Center, IA. From Buffalo Center, west on 9 for 2 miles, South on R14 for 5 miles, west on 380th ¼ mile

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June 8th and 9th – 4 State Dairy Nutrition and Management Conference, Dubuque

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Proper Humane Euthanasia: Proper Resources and Training

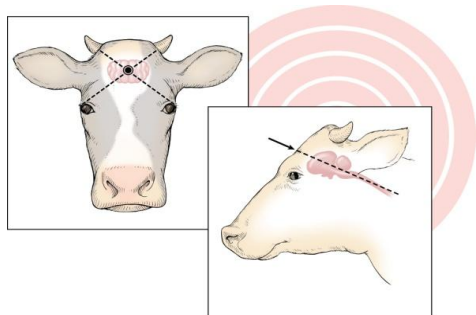
Dr. J.K. Shearer, ISU College of Veterinary Medicine

The topic of euthanasia is unpleasant under any circumstances. It is, however, one of those tasks that veterinarians and others who work with livestock must be prepared to do. In many cases, it is the only practical way to provide prompt relief of otherwise uncontrollable animal suffering. To that extent, it is a responsibility of all who own or work with livestock to have the proper equipment and knowledge to conduct this procedure with maximum efficiency and effectiveness.

<http://vetmed.iastate.edu/HumaneEuthanasia>

The purpose of the above website is to aid those who may be required to perform these procedures, especially in situations where veterinary assistance is not available. Indications for euthanasia along with important human and animal considerations are discussed. Specific anatomical sites for proper placement of penetrating captive bolt or gunshot are described and illustrated for all major livestock species. "Procedures for Humane Euthanasia" manual is available for downloading from this site.

Anatomical Landmarks in Cattle: In cattle, the point of entry of the projectile should be at the intersection of two lines, each drawn from the outside corner of the eye to the base of the opposite horn (OIE, 2009). The firearm should be positioned so that the muzzle is perpendicular to the skull to avoid the possibility of ricochet. Proper positioning of the firearm or penetrating captive bolt is necessary to achieve the desired results.



Use of the poll position (top of the head) for stunning or euthanasia of cattle is not allowed by regulations in the European Union because the depth of concussion in this region is less than that observed in frontal sites. Furthermore, aiming or directing the projectile to the regions of the brain that control vital functions such as respiration and heart function are more easily missed by use of the poll position for euthanasia in cattle.

Gunshot is the method most commonly used for on-farm euthanasia of cattle (Fulwider et al., 2008). Death results from mass destruction of brain tissue. For euthanasia purposes, handguns are limited to close range shooting (within 1 to 2 feet or 30 to 60 cm) of the intended target.

Shotguns loaded with either birdshot or slugs are appropriate from a distance of 1 to 2 yards (1 to 2 meters) and rifles from a longer distance if required. Although all shotguns are lethal at close range, the preferred gauges for this procedure in cattle are the 20, 16, or 12 gauge shotguns. Number 6 or larger birdshot or shotgun slugs are the best choices for euthanasia of cattle. It is important to note that birdshot begins to disperse as it leaves the end of the gun barrel. However, if the operator stays within short range (i.e. within 6 to 10 feet of the target) of the intended anatomical site, destruction of the brain will be sufficient to result in rapid death. One advantage of euthanasia by shotgun with birdshot shells is that it is unlikely that any of the birdshot will exit the skull. In the case of a free bullet or shotgun slug there is always the possibility of the bullet or slug exiting the skull placing by-standers in danger. Extreme caution should always be exercised when using firearms.

SCC 400,000 Limit Update: by Leo Timms

The issue or question of when the 400,000 SCC upper limit on individual farms for products and exports to the EU and other areas will be implemented is still in limbo. Much discussion focuses on what will be the standard of measurement (rolling 3 month geometric means vs 3 month daily average tank SCC, etc).

On the home front however, at least 2 proposals (National Milk Producers Federation and National Mastitis Council) have been submitted to the NCIMS conference this spring (conference regarding regulations on milk). If either of these are voted on and accepted, there would be a stepwise reduction in the public health legal limit SCC to 600,000 in 2012, 500,000 in 2013, and 400,000 in 2014.

For many producers, these levels are already achievable and they are producing high quality milk and reaping the financial rewards of healthier cows, higher production, and higher milk price and premiums (more income). Over 94% of the US milk supply is already there (National average SCC = 233,000). If you're not there or have some milk quality issues or concerns, don't wait until 2014. There's money on the table now and it should go into your pockets. The procedures and solutions are out there. Visit some producers who produce high quality milk, or visit with your extension or agri-service providers for assistance and guidance. Quality milk is a winner for all. It pay\$!

Iowa Begins Permitting Medium

CAFOs by Shawn Shouse, ISU Extension Ag Engineering Program Specialist

Since the federal Clean Water Act was passed in 1972, the Environmental Protection Agency (EPA) and state environmental agencies have been granting wastewater discharge permits to point sources of water pollution, including concentrated animal feeding operations (CAFOs). In Iowa, permits had been granted only to large CAFOs, those with a capacity of 1000 or more animal units (1,000 beef animals, 700 dairy, 2,500 swine).

Recent enforcement actions by EPA have prompted the Iowa Department of Natural Resources (DNR) to begin permitting medium-sized CAFOs as well, under separate provisions of the federal Clean Water Act.

Medium CAFOs are defined by a combination of size and pollutant discharge conditions. **Animal feeding operations** (excluding pasture systems) **are defined as medium size if they have a capacity smaller than large CAFOs, but larger than 300 animal units (300 beef animals, 200 dairy, 750 swine).**

These medium animal feeding operations are defined as CAFOs if they discharge pollutants to waters of the United States (typically lakes, streams or wetlands) by direct contact of the animals with the waters or by discharge through a man-made ditch, flushing system, or similar man-made device.

The Clean Water Act allows the permitting authority to use best professional judgment to set permit criteria for medium CAFOs which may be different from the criteria required for large CAFOs. Iowa DNR has now specified these permit criteria for medium CAFOs. The permit criteria include these provisions:

- All runoff of manure and process wastewater from a 5-inch rainfall event must be stored and land applied.
- Required storage volume can be provided in any system parts that can hold wastewater (settling basins, holding basins, bermed treatment areas, etc.)
- Solids settling must meet Iowa law.
- A professional engineer must determine the appropriate materials and methods for constructing the storage, but compaction and permeability testing are not required.
- Vegetated treatment systems are allowed.
- A Nutrient Management Plan (NMP) is required for manure solids.

- Feedlot effluent must be land applied such that a discharge to a water source does not occur.
- Process wastewater includes runoff from open silage, bulk feed or manure storage, but does not include runoff from intact bales for bedding or feed, or from controlled overflow waterers.
- An operation and maintenance (O&M) manual must be included in the permit application.

Required recordkeeping includes:

1. Daily rainfall amounts
2. Weekly stored effluent volume
3. Inspection of storage berms and outlets, distribution pipes and pumps, soil conditions and any discharges each time effluent is applied
4. Record of any discharge to waters of the U.S. through man-made devices
5. Other site-specific requirements as identified in the permit

Because these medium CAFO permits are new to Iowa, much remains to be learned about the details of the permit application and recordkeeping processes, as well as the evaluation of pollutant discharge conditions at feeding operations.

*****Informational meetings** will be held to help livestock producers understand the permit requirements, design criteria, maintenance, recordkeeping and nutrient management. The first of these sessions are scheduled in western Iowa on March 29-31 with additional sessions planned for eastern and northeastern Iowa this summer.

Meetings will run from 10am to 3pm. Registration cost is \$30 for the first person and \$15 for each additional person from the same feeding operation. Pre-registration is required, but payment may be made in advance or at the door. Registration information:

Spencer meeting March 29 at the Community School Administration Building, 23 East 7th Street, contact Clay County Extension (712) 262-2264

Sioux Center meeting March 30 at the Corporate Center, 950 North Main Avenue, contact Sioux County Extension (712) 737-4230

Arcadia meeting (9 miles west of Carroll) March 31 at the American Legion Hall, 210 West Head Street, contact Carroll County Extension (712) 792-2364

Pregnancy Production and Pregnancy Value

by Ron Lentz, Bremer County ISU Extension

Some food for thought: Our reproduction goals include producing profitable pregnancies quickly.

- ✓ 1000 days and nights-----the time it takes for a heifer calf to be conceived, born, bred, and enter the milking string @ 23 ½ months (assuming it was born a heifer)
- ✓ Non-pregnant cows are 7.5X more likely to be culled than a pregnant one (Grohn, Eicker, et.al.)
.....put that on the breeding board
- ✓ The expense/investment comes over a two year period before the revenue starts. (industry calls that "Product Development")
- ✓ Doesn't it feel good to see a bunch of "P"s on cows rumps after Preg check day (actually we should think about changing the name to "Open" check day, because we're really looking for the open ones)

Dr. John Fetrow, University of Minnesota Veterinary Medicine shares these important pregnancy production/pregnancy value benchmarks to evaluate your herd's reproductive status:

- One pregnancy is worth between \$200-\$600 depending on milk price and replacement heifer costs
- Reducing days open can return \$2-\$6/day....higher in herds with repro problems
- Raising your herd Pregnancy Rate (PR—see your DHIA Summary Sheet) can be worth \$15-\$35 per cow per year. A wide, rough number, but it's designed to show how much repro affects the bottom line. Let's say you milk 150 cows with a 16%PR. Then over time, with better management and working with your repro team (vet, nutritionist, breeder, consultant, extension personnel, etc.) you raise this to 19%.....this raises profits by \$45-\$105/cow/year...or \$6,750 to \$15,750/year.

Prior to joining extension, I spent many years in the AI industry working day to day out in the pens/barns with dairymen. Sometimes the question arose near the lockups or stalls, "How many pregnancies do I need?" We worked with an input graph (ABS Global Technical Services) and below is an example:

STATS: 140-cow herd....13.5 Calving Interval...32% replacement heifer rate...Conception rate of 32% on cows and 56%

on heifers...12% pregnancy loss on abortions/early embryonic death

This herd would need to average 10 pregnant cows and three pregnant heifers per month. Keep in mind, summer heat lowers results, so add another 1-2 the other 9-10 months.

If you already have a dairy management team involving some of the above members, great, if not, seriously look at creating one so all are working for the mutual good. Just like a successful football team, they have "coaches"---offensive, defensive, etc. We're in this together for the long haul.

Plan Now to Beat High Feed Costs

by Lee Kilmer, ISU Extension Dairy Nutritionist

Rising feed costs, driven largely by higher corn prices, coupled with weak milk prices have put a lot of stress on dairy producers making it difficult to show a profit. With spring just around the corner there are a couple of steps that dairy producers can take that will help reduce the impact of high feed prices next fall.

First, when choosing corn hybrids to plant for corn silage, keep in mind that the ultimate goal is how much milk can you expect from feeding the material harvested from an acre of that variety. The Milk2006 program developed by the Extension folks at the University of Wisconsin will calculate the milk per acre as well as the milk per ton that you can expect from various hybrids. While the absolute values may not be perfect, the relative differences between varieties should be useful information on which to base a decision. The programs can be downloaded free and are found at:

<http://www.uwex.edu/ces/dairynutrition/spreadsheets.cfm>

Second, alfalfa is the starting point for most Iowa dairy cattle rations. Small differences in the quality of the crop harvested can make major differences in the amount of supplemental protein that you will need to feed. Once we get into May, monitor your alfalfa fields frequently to see how quickly the crop is maturing. The Predictive Equations of Alfalfa Quality (PEAQ) is a very quick and inexpensive method to monitor how quickly the crop is maturing.

Keep in mind that different fields on your farm may mature at different rates due to variations in soil types, fertility, winter survival, and other factors. Don't make the mistake of only checking one field! Iowa State University Extension plans to measure PEAQ at several locations in northeast Iowa and perhaps other locations around the state and make the information available to all. Check the ISUE Dairy Team website <http://www.extension.iastate.edu/dairyteam/> in May for more information.

Checklist for Agricultural Employers

by Melissa O'Rourke, B.S., M.A., J.D.

Farm & Agribusiness Management Specialist
Iowa State University, February 2011

DEAR IOWA AGRICULTURAL EMPLOYER: THIS CHECKLIST IS INTENDED TO BE AN OVERVIEW OF CONSIDERATIONS AS YOU PREPARE TO HIRE ONE OR MORE EMPLOYEES FOR YOUR FARM OPERATION. FOR EACH AREA, YOU ARE PROVIDED WITH REFERENCE AND/OR CONTACT INFORMATION. **PLEASE DO NOT CONSIDER THIS CHECKLIST TO BE EXHAUSTIVE, AS IT IS IMPOSSIBLE TO LIST EVERYTHING THAT YOU SHOULD KNOW TO COMPLY WITH STATE AND FEDERAL LAWS.** THIS CHECKLIST WILL BECOME OUTDATED OVER TIME AS LAWS AND REQUIREMENTS CHANGE.

THIS TOOL IS MEANT TO PROVIDE YOU WITH GUIDELINES IN A VARIETY OF AREAS, AND YOU SHOULD NOT CONSIDER THIS CHECKLIST TO BE LEGAL ADVICE. CONSULT WITH YOUR OWN QUALIFIED TAX, ACCOUNTING, INSURANCE AND LEGAL ADVISERS AS THEY WILL BE FAMILIAR WITH YOUR FARM BUSINESS, AND CAN PROVIDE EXPERT ADVICE ON YOUR SPECIFIC NEEDS. YOU SHOULD ALSO CONSULT WITH STATE AND FEDERAL OFFICIALS WHO WILL BE FAMILIAR WITH CHANGES IN LAWS AND REQUIREMENTS.

Review Farm Needs and Hiring Practices

▶ Purdue University Extension – Developing and Implementing Sound Hiring Practices:
www.ces.purdue.edu/extmedia/EC/EC-670.html

▶ University of Vermont – Agricultural Labor Management: www.uvm.edu/~farmlabr/

▶ Ag Help Wanted: Guidelines for Managing Agricultural Labor – a guidebook published by the Western Farm Management Extension Committee:
<http://aghelppwanted.uwagec.org/>

Prepare Job/Position Descriptions

▶ Job Description Generator:
<http://dasweb.psu.edu/jobdescription/>

▶ Comprehensive List of Ag Job Descriptions
<http://are.berkeley.edu/APMP/zmgtools/jobdescriptions/top.html>

▶ Determine whether position requires CDL license: Iowa CDL In A Nutshell Booklet:
www.iowadot.gov/mvd/ods/cdl/cdlnut.pdf
-or- call Iowa DOT: 1-800-532-1121

Employee Policy Document or Handbook

▶ Consider establishing written employee policies in document/handbook for employees – reviewed by your legal professional. Do not negate the employment-at-will doctrine.

▶ **Ohio State University Extension** – Short Guide to Farm Employee Handbooks: <http://aede.ag.ohio-state.edu/people/erven.1/HRM/Employee%20Handbooks.pdf>

▶ **UNIVERSITY OF MISSOURI EXTENSION** – TEMPLATE FOR FARM EMPLOYEE HANDBOOK:
[HTTP://AGEBB.MISSOURI.EDU/COMMAG/SWINE/HDBOOKK.PDF](http://agebb.missouri.edu/commag/swine/hdbookk.pdf)

▶ **UNIVERSITY OF VERMONT** – GUIDELINES AND LINKS TO INFORMATION ON FARM EMPLOYEE HANDBOOKS
[WWW.UVM.EDU/~FARMLABR/?PAGE=PERSONNEL/HANDBOOKS.HTML&SM=PERSONNEL/SUBMENU_PERSONNEL.HTML](http://www.uvm.edu/~farmlabr/?Page=PERSONNEL/HANDBOOKS.HTML&SM=PERSONNEL/SUBMENU_PERSONNEL.HTML)

▶ **University of California** – Labor Management in Agriculture – guide to farm employee handbooks
www.cnr.berkeley.edu/ucce50/ag-labor/7labor/17.pdf

▶ **WISCONSIN FARM BUREAU FEDERATION** – TEMPLATES FOR: EMPLOYEE HANDBOOK

▪ www.wfbf.com/Employee%20Handbook.doc
Safety handbook

www.wfbf.com/Farm%20Safety%20Handbook.doc

Recruit Candidates for the Position

▶ Contact area schools – high schools, community colleges, colleges

▶ Contact **Iowa Workforce Development**
www.iowaworkforce.org -or- (800) 562-4692
Local Office Listing:
www.iowaworkforce.org/centers/files/offices.htm

▶ Write Help Wanted Advertisements
www.uvm.edu/~farmlabr/?Page=recruitment/write.html&SM=recruitment/submenu_recruitment.html

Prepare for & Conduct Interviews

▶ Possible Interview Questions – 7-page List:
www.utsa.edu/hr/docs/interviewquestions.pdf

⇒ Includes a list of questions to not ask!

▶ Interview guidance from Iowa State Extension:
www.extension.iastate.edu/valueaddedag/info/Hiringrightandretaininggoodemployees.htm

Evaluate candidates, check references, make selection and offer

▶ Recruiting & Hiring Farm Employees:
<http://agmarketing.extension.psu.edu/Business/PDFs/hiringemployees.pdf>

▶ Consider incentives for good employees:
www.extension.iastate.edu/valueaddedag/info/Incentivesforkeyemployees.htm

▶ Confirm employment offer in writing (pay, benefits, hours, etc.) See Wages and Benefits for Farm Employees – Results of an Iowa Survey – ISU Extension:
www.extension.iastate.edu/Publications/FM1862.pdf

FEDERAL & STATE TAX, WITHHOLDING FORMS

OBTAIN FEIN (FEDERAL EMPLOYER ID NUMBER)

Apply Online: www.irs.gov/businesses/small/ -or-
SS-4 Form: www.irs.gov/pub/irs-pdf/fss4.pdf
IRS Phone: 1-800-829-4933

REGISTER WITH IOWA DEPARTMENT OF REVENUE FOR BUSINESS TAX REGISTRATION:

www.idr.iowa.gov/CBA/start.asp
Iowa Dep't of Revenue phone: 1-800-572-3943

NEW EMPLOYEES COMPLETE BOTH FEDERAL AND STATE W-4 FORMS FOR WITHHOLDING (W/IN 15 DAYS):

▶ Federal: www.irs.ustreas.gov/pub/irs-pdf/fw4.pdf
▶ State: www.iowa.gov/tax/forms/44019.pdf

⇒ **Withhold 6.2% (Social Security, OASDI) and 1.45% (Medicare) from employee's gross pay (Total 7.65%) and deposit employee's share withheld plus matching employer's contribution (total 15.3%) to local depositor bank with coupon book from IRS. Consult your tax professional.**

▶ Booklet about Iowa Withholding Tax:
www.iowa.gov/tax/educate/78552.html
▶ Iowa Withholding Tax Tables:
www.iowa.gov/tax/forms/44001.pdf

Report new employees on Iowa Centralized Employee Registry (CER) Form

(TOP PART OF IOWA W-4)–SUBMIT W/IN 15 DAYS BY:

Mail: CER, Box 10322, Des Moines, IA 50306-0322
Fax: 1-800-759-5881
Website: www.iowachildsupport.gov

Iowa Unemployment Insurance – DETERMINE WHETHER YOU ARE A “LIABLE EMPLOYER.”

www.iowaworkforce.org/ui/uiemployers.htm
Or call: 1-800-972-2024

⇒ Agricultural employers that paid cash wages of \$20,000 or more to agricultural laborers in any quarter of the current or previous calendar year, or employed 10 or more workers in some portion of a day in 20 separate weeks in the current calendar year or the preceding calendar year is a “liable employer” who is obligated to report wages and pay unemployment insurance taxes to the Iowa Unemployment Insurance Division.

▶ Obtain an Unemployment Insurance Handbook for Iowa Employers
www.iowaworkforce.org/ui/stawrs/70-5007.pdf

COMPLETE FORM I-9 (EMPLOYMENT ELIGIBILITY AND IDENTITY VERIFICATION) AT TIME OF EMPLOYMENT AND KEEP ON FILE:

▶ Obtain form with basic instructions:
www.uscis.gov/files/form/i-9.pdf

▶ Handbook for Employers on I-9 Forms:
www.uscis.gov/files/form/m-274.pdf

▶ Advice for maintaining I-9 files and records – Western Dairy News (Nov 2009):
www.cvmbs.colostate.edu/ilm/proinfo/wdn/2009/Nov.%20WDN.pdf

POSTERS – OBTAIN/POST REQUIRED POSTERS:

▶ www.iowaworks.org/reqposters.htm -or-
▶ Contact Local Iowa Workforce Office –
www.iowaworks.org/contacts.htm

COMPLY WITH WAGE AND OVERTIME LAWS

▶ Minimum Wage = \$7.25/hour (state or federal)
⇒ Federal law requires overtime (1½ times regular rate) be paid for all hours worked over 40 in a workweek. Farm workers may not be subject to federal minimum wage/ overtime rules if worker is employed on a “small farm” – *i.e.*, a farm that used less than 500 “man-days” of farm labor in any calendar quarter of the preceding calendar year.

▶ Wage & Hour guidance for ag employees:
www.dol.gov/whd/regs/compliance/whdfs12.pdf
▶ Frequently Asked Questions (FAQs) on Iowa wage and hour law:
www.iowaworkforce.org/labor/wagefaqs.pdf

PROVIDE TO EMPLOYEE:

▶ With each paycheck: Statement of earnings with the hours worked, wages earned, and deductions made from the paycheck
▶ W-2 form/copies by Jan 31 of the following year.

WORKER'S COMPENSATION COMPLIANCE

▶ In Iowa, workers compensation is not required for – Agricultural employees whose employer has a cash payroll of less than \$2,500 in the calendar year preceding the injury; or

–The president, vice president, secretary, and treasurer of a family farm corporation and their spouses, and the parents, brothers, sisters, children, stepchildren and their spouses of either the officers or their spouses.

– Otherwise, Iowa law requires agricultural employers to have a reliable method of providing workers' compensation benefits to eligible employees.
Consult with your insurance professional.

ANNUALLY FILE THE FOLLOWING FORMS

▶ IRS Form W-3 – a summary of all W-2 forms with all “Copy A” of W-2 forms to Social Security Administration (SSA) by Feb 28
▶ IRS Form 943 – summary of all agricultural wages and federal/SSA deposits by Jan 31
▶ Forms available at: www.irs.gov

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2010 Iowa Corn Silage Yield Research Trial and Rye Cover Crop Demonstration

Jenn Bentley, ISU Extension Dairy Field Specialist
Brian Lang, ISU Extension Agronomist

Corn silage is harvested from about 1.8% of Iowa corn acres. Most corn silage is harvested in the northeast and northwest portions of the state where the majority of dairy herds are located. In these regions, corn silage is a major portion of the row-crop acres. Because no independent yield trials are being conducted on corn hybrids for silage in Iowa, a coalition consisting of Iowa State University Extension, Northeast Iowa Community College, the Northeast Iowa Dairy Foundation, and several seed corn representatives initiated a corn silage hybrid trial at the Northeast Iowa Dairy Foundation farm in 2008. This is the third year of the corn silage trial.

The trial received 10,000 gallons per acre of dairy manure in the fall of 2009 from the large manure storage pit at the Dairy Foundation's farm. The manure analysis was 19-10-19 pounds N - P₂O₅ - K₂O per 1,000 gallons. An additional 100 pounds per acre nitrogen was side dressed in the spring 2010. Herbicide was applied early post emergence consisting of 2 quarts Harness Extra plus 3 ounces of Hornet per acre. Aztec was applied at 7.3 pounds per acre for corn rootworm management.

Winter rye was seeded at a rate of one bushel per acre in the fall of 2009 after the trial area and surrounding field was harvested, chisel plowed and field cultivated. Emergence of the rye was poor. With the thin stand and limited growth in spring 2010, it was determined unfeasible and uneconomical to harvest the rye for forage. Instead it was incorporated with spring tillage in preparation for planting the 2010 corn silage trial.

Cumberland Valley Analytical Services conducted dry matter and NIR analysis of each sample. Tests included crude protein, acid detergent fiber, neutral detergent fiber (NDF), in-vitro NDF digestibility (IVNDFD) at 12 and 30 hours, IVNDFD rate, starch, starch digestibility 7-hour, total fatty acids, crude fat, and lignin. The laboratory also calculated net energy lactation, net energy gain, net energy maintenance, and milk per ton. Milk per ton uses "Milk2006", an adaptation of Milk2000 reported by R. Shaver, University of Wisconsin.

Milk2006 approximates animal performance based on a standard cow weight and milk production level (1350 lb. body weight and 90 lb/day at 3.8% fat). The values used to calculate Milk2006 were based on laboratory values for hybrid moisture, crude protein, NDF, IVNDFD, starch, ash, NDFICP and ether extract (fat). Field calculations were used for dry matter yield. No kernel processing was assumed.

The 2010 corn silage trial yield and forage quality results of the twelve hybrids are provided in Table 1. The

shaded area of Table 1 provides results that best estimate relative hybrid performance (yield and Milk2006 per ton and per acre calculations). Appreciation is extended to the Northeast Iowa Dairy Foundation, Northeast Iowa Community College, the seed corn dealers and volunteers who assisted in the establishment and harvest of these trials.

Participating Companies:

- **American Organic**
www.american-organic.com
- **Croplan Genetics**
www.croplangenetics.com
- **Monsanto Seed Group, DeKalb Genetics**
www.asgrowanddekalb.com
- **Mycogen Seeds**
www.mycogen.com
- **NuTech Seed, LLC**
www.nutechseed.com
- **Pioneer Hi-Bred International**
www.pioneer.com

Leopold Center for Sustainable Agriculture:

Funds for this project (*Corn Silage Test Plot to Increase Profitability for Dairy Farmers and Reduce Winter Wind and Water Erosion through the Planting of Winter Rye*) are partially provided by the Leopold Center for Sustainable Agriculture. Established by the 1987 Iowa Groundwater Protection Act, the Leopold Center supports the development of profitable farming systems that conserve natural resources. More information about the Leopold Center, go to: www.leopold.iastate.edu, or call the Leopold Center at (515) 294-3711.

* Means within a column followed by the same lowercase letter are not significantly different by the LSD (0.05) multiple range test.

1. RM = relative maturity of hybrid in days of growth to maturity. However, there is not a specific standard for this measure. For an explanation of RM go to: <http://www.agry.purdue.edu/ext/corn/news/timeless/HybridMaturity.html>
2. Traits. VT3 = YieldGard VT Triple® has two insect protection traits, YieldGard VT Rootworm for corn rootworm larvae and YieldGard Corn Borer for European corn borer.
RR2 = Roundup Ready 2 and enables crop tolerance to glyphosate herbicide. RR = Roundup Ready and enables crop tolerance to glyphosate herbicide.
HXX = Herculex XTRA, has two insect protection traits, HX1 for European corn borer and HXRW for corn rootworm larvae.
LL = Liberty Link and enables crop tolerance to Liberty herbicide. VT = YieldGard VT Rootworm and offers insect protection for corn rootworm larvae.
3. IVNDFD = in-vitro neutral detergent fiber digestibility. The portion of the neutral detergent fiber digested by animals at a specified level of feed intake. High IVNDFD is desirable.
4. IVNDFD Kd rate = fractional digestion rate, potentially digestible NDF fraction at any time.
5. Starch digestibility, 7-hour. Listed on the forage analysis as Low, Average or High. We assigned theoretical numerical values of Low=1, Average=3, and High=5, in order to calculate a mean response for the multiple samples collected and analyzed for each hybrid.

Table 1. Corn silage hybrid yield and quality traits, Winneshiek County, Calmar, 2010.

Hybrid	R M 1	Traits ²	Popula- -tion plants/ ac	Dry matter yield ton/ac	Milk 2006 per ton	Milk 2006 per ac	Harvest moisture %	CP %	Lignin %	Total fatty acids %	Crude fat %	ADF %	NDF %	IV NDFD 12-hr. ³ %	IV NDFD 30-hr. ³ %	IV NDFD rate ⁴ Kd	Starc h %	Starch digesti- bility ⁵ 7-hr.	NEI Mcal /lb	NEg Mcal /lb	NEm Mcal/lb
American Organic D915	1 0 5	Certified organic	28,800 ^a _b	9.34 ^{abc}	3,412 ^f	31,860 ^{cd}	68.5 ^a	7.8 ^{ab}	2.71 ^a	2.4 ^{bc}	3.0 ^b	24.1 ^a	35.7 ^a	29.7 ^d	56.4 ^d	3.70 ^d	34.8 ^f	5.0	0.75 ^e	0.76 ^d	0.48 ^d
American Organic E810	1 1 0	Certified organic	28,200 ^a	8.39 ^a	3,139 ^{bc} _d	26,346 ^a	71.7 ^{de}	8.3 ^{cd}	3.26 ^{de}	2.4 ^{bc}	3.2 ^d	27.0 ^c _d	42.3 ^{def}	28.7 ^{cd}	51.1 ^{bc}	3.13 ^{ab} _c	27.5 ^{ab}	3.0	0.71 ^{bc}	0.73 ^a _b	0.46 ^{bc}
Croplan S4900	1 0 0	VT RR	31,700 ^c	9.48 ^{bcd}	3,295 ^e	31,214 ^{bcd}	68.4 ^a	8.0 ^{bc}	3.15 ^{cde}	2.5 ^{cd}	3.2 ^d	26.1 ^{bc}	39.9 ^{bc}	27.1 ^{abc}	52.9 ^{cd}	3.34 ^{cd}	32.1 ^{de}	3.7	0.72 ^c _d	0.74 ^{bc}	0.46 ^{bc}
Croplan S6100	1 0 7	VT RR	31,333 ^b _c	9.07 ^{ab}	3,093 ^{bc}	28,052 ^{ab}	71.0 ^{bcd}	8.3 ^{cd}	3.37 ^e	2.3 ^{ab}	3.0 ^b	26.9 ^{bcd}	40.4 ^c _{de}	26.9 ^{abc}	50.4 ^{bc}	3.16 ^{bc}	29.0 ^{bc}	4.3	0.71 ^{bc}	0.73 ^a _b	0.46 ^{bc}
DeKalb DKC61-69	1 1 1	VT3 RR2	28,033 ^a	10.11 ^{cde}	3,241 ^{de}	32,777 ^{cd}	70.8 ^{bcd}	7.9 ^{ab}	3.11 ^{bc}	2.5 ^{cd}	3.1 ^c	25.3 ^a _b	38.2 ^{bc}	25.7 ^{ab}	49.3 ^{abc}	3.02 ^{ab} _c	33.2 ^{def}	4.3	0.73 ^d	0.75 ^c _d	0.47 ^{cd}
DeKalb DKC59-64	1 0 9	VT3 RR2	28,033 ^a	9.89 ^{bcdde}	3,077 ^b	30,417 ^{bc}	71.8 ^{de}	7.8 ^{ab}	3.22 ^{de}	2.3 ^{ab}	3.0 ^b	26.0 ^{bc}	39.2 ^{bc}	25.1 ^a	45.7 ^a	2.70 ^a	32.0 ^{de}	4.3	0.72 ^c _d	0.74 ^{bc}	0.46 ^{bc}
Mycogen TMF2W 727	1 1 3	HXX LL RR2	31,900 ^c	10.60 ^e	2,914 ^a	30,876 ^{bcd}	74.6 ^f	7.9 ^{ab}	3.24 ^{de}	2.2 ^a	2.9 ^a	28.3 ^d	42.6 ^e _f	27.9 ^{cd}	48.0 ^{ab}	2.83 ^{ab}	26.4 ^a	5.0	0.69 ^a	0.72 ^a	0.44 ^a
Mycogen F2F665	1 0 9	HXX LL RR2	29,400 ^a _{bc}	9.08 ^{ab}	3,264 ^e	29,637 ^{bc}	72.7 ^e	8.6 ^d	2.89 ^{ab}	2.3 ^{ab}	3.1 ^c	28.1 ^d	42.8 ^f	37.3 ^e	63.0 ^e	4.31 ^e	25.2 ^a	3.0	0.70 ^a _b	0.72 ^a	0.44 ^a
NuTech 3T-713	1 1 3	VT3 RR2	29,767 ^a _{bc}	10.33 ^{de}	3,284 ^e	33,930 ^d	70.0 ^{abc}	7.8 ^{ab}	3.16 ^{cde}	2.6 ^d	3.2 ^d	25.7 ^a _{bc}	38.9 ^{bc}	26.9 ^{abc}	51.1 ^{bc}	3.20 ^{bc}	33.4 ^{ef}	3.7	0.73 ^d	0.74 ^{bc}	0.47 ^{cd}
NuTech 5X-007	1 0 7	HXX LL RR2	28,833 ^a	9.72 ^{bcdde}	3,195 ^{cd} _e	31,088 ^{bcd}	69.9 ^{ab}	7.6 ^a	3.03 ^{bcd}	2.4 ^{bc}	3.0 ^b	25.5 ^a _b	38.0 ^b	27.0 ^{abc}	48.2 ^{ab}	2.89 ^{ab}	32.9 ^{def}	5.0	0.73 ^d	0.74 ^{bc}	0.47 ^{cd}
Pioneer P1101XR- X127	1 0 8	HXX LL RR2	30,533 ^a _{bc}	10.27 ^{cde}	3,077 ^b	31,613 ^{cd}	71.6 ^{cde}	8.1 ^{bc}	3.25 ^{de}	2.3 ^{ab}	3.0 ^b	26.9 ^{bcd}	40.1 ^{bcd}	27.4 ^{bc}	50.3 ^{bc}	3.12 ^{ab} _c	29.0 ^{bc}	4.3	0.71 ^{bc}	0.73 ^a _b	0.46 ^{bc}
Pioneer P1162XR- X127	1 0 9	HXX LL RR2	28,033 ^a	9.62 ^{bcdde}	3,130 ^{bc} _d	30,099 ^{bc}	71.3 ^d	8.0 ^{bc}	2.96 ^{bc}	2.4 ^{bc}	3.1 ^c	25.4 ^a _{bc}	38.8 ^{bc}	27.7 ^{bcd}	47.7 ^{ab}	2.80 ^{ab}	30.9 ^{cd}	4.3	0.73 ^d	0.74 ^{bc}	0.47 ^{cd}
Average			29,547	9.66	3,177	30,659	71.0	8.0	3.11	2.4	3.1	26.3	39.7	28.1	51.2	3.18	30.5	4.2	0.72	0.74	0.46
LSD 0.05*			2,540	0.99	112	3,267	1.7	0.4	0.24	0.2	0.1	1.7	2.3	2.2	3.9	0.44	2.5	---	0.02	0.02	0.02

Listing of ISU Research & Activities

ISU Extension has undertaken many research and outreach activities which are listed below. For more information on each of these, visit the dairy team website www.extension.iastate.edu/dairyteam

- [AS Leaflet-R2598](#) Update from Dairy Science Curriculum (Author: M. Douglas Kenealy)
- [AS Leaflet-R2599](#) 2010 Review - ISU Dairy Farm, Ames, Iowa (Author: Joe Detrick)
- [AS Leaflet-R2600](#) Dairy Section of Veterinary Diagnostic and Production Animal Medicine (VDPAM) (Author: Bruce Leuschen)
- [AS Leaflet-R2601](#) Regulation of Immune Responses to Mycobacteria bovis by a Paracrine Mechanism of Vitamin D Signaling in Cattle (Authors: Corwin D. Nelson, Donald C. Beitz, Timothy A. Reinhardt, John D. Lippolis)
- [AS Leaflet-R2597](#) Probiotic Lactobacillus acidophilus strain NP51® Curtails the Progression of Mycobacterium avium Subspecies paratuberculosis (MAP) Infection in Balb/c mice (Authors: Mohamed Osman, Judith Stabel, Jesse Hostetter, Daniel Nettleton, Donald C. Beitz)
- [AS Leaflet-R2602](#) Effects of Iodine Source and Dose in Lactating Dairy Cows (Authors: Nathan Uph, Sarah Pearce, Lance Baumgard)
- [AS Leaflet-R2603](#) Evaluation of an Experimental Hydrogen Peroxide Post Milking Teat Dip on Teat End and Teat Skin Condition and Health (Authors: Jessie Juarez, Leo Timms)
- [AS Leaflet-R2604](#) Evaluation of Teat Condition Using Liquid or Powder Dips in Winter (Authors: Kia Knutson, Leo Timms, Mario G. Lopez Benavidez, Mark Henderson, Tom Hemling)
- [AS Leaflet-R2605](#) 2010 Iowa Corn Silage Yield Trial and Rye Cover Crop Demonstration (Authors: Jennifer Bentley, Brian Lang)
- [AS Leaflet-R2606](#) Use of "Corn Picker for Silage" to Evaluate Corn Silage Hybrids - 2010 Trials Update (Author: Jennifer Bentley)
- [AS Leaflet-R2607](#) Use of "Corn Picker for Silage" to Evaluate Corn Silage Hybrids - 2009 Trials Update (Author: Dale Thoreson)
- [AS Leaflet-R2608](#) Lameness and Welfare of Cattle: Extension Program Activities and Accomplishments (Author: Jan K. Shearer)
- [AS Leaflet-R2609](#) ISU Dairy Specialist Responds to Dairy Profit and Quality of Life Concerns (Author: Larry Tranel)
- [AS Leaflet-R2610](#) June Dairy Month Open Houses: Learning Events to Improve Consumer Understanding of Modern Animal Agriculture (Authors: Leo Timms, Chris Mondak)
- [AS Leaflet-R2611](#) The Iowa Dairy Story-From Grass to Glass (Authors: Jennifer Bentley, Ron Lent, Dan Lane)
- [AS Leaflet-R2612](#) Multi-State Dairy Employee Management Workshops (Author: Chris Mondak)

The 2011 Dairy Calf & Heifer Association will be held in Lake Geneva, WI on April 5-6th

The DCHA Conference is known for its premier educational sessions, networking opportunities, and an industry tradeshow. This year, the conference sessions combine practical production information with personal and professional growth opportunities. For more information visit their website:

www.calfandheifer.org

Join in on Our NE Iowa Pasture Walks

If you are considering grazing as a means to increase profits and quality of life, please give your dairy field specialist a call. We can assist you in designing a grazing system to fit your farm and lifestyle.

Also, one of the best ways to learn is by visiting with other producers who are also grazing. The following pasture walks are open to anyone with an interest in grazing:

April 27th & September 21st 1-3 PM

John Berlage 2326 265th Avenue, Ridgeway, IA. John is a new dairy grazer looking for ideas to begin the season and a follow-up pasture walk to discuss what worked and what needs to be changed.

May 18th 1-3 PM

Nick Rolling 1536 Paint Creek Drive, Waterville, IA
Denise Schwab, ISU Extension Beef Specialist and Gallagher Fencing will be hosting a fencing demonstration to determine fencing sizing, ground rods, how electric fences work, how to make them work better, how to tie wire and do corners.

June 29th (1-4 PM)*

Mark Kruse 2601 Lafayette Ridge Drive, Lansing, IA
MOSA (Midwest Organic and Sustainable Education Service) Field Day-Discuss changes in organic certification procedure.

July-13th- 1-3 PM

Kyle Wedel 13551 Douglas Avenue, Riceville, IA
Intensively graze 110 crossbred dairy cows. Pasture lamb and graze a 100 ewe flock. Topic: Ken Holscher, ISU Entomologist available to discuss fly control/ID for dairy cattle.

August-31st 1-3 PM

Phil Wille 27425 Killdeer Ave., Garnavillo, IA
Topic: Clayton Co. NRCS available to talk about cost share for lane development

Highlights from the 6th Annual I29 Dairy Conference- Sioux Falls, SD February 2011

Chris Mondak, ISU Extension Dairy Field Specialist,
NW Iowa

The I29 Dairy Extension Consortium is a group of Extension dairy specialists serving Iowa, Minnesota, Nebraska, North Dakota, and South Dakota. The mission of this multi-state Extension group is to promote and support a sustainable dairy industry. Each year the group hosts a conference to look at different aspects of sustaining dairy families, farms, and rural communities.

This year the focus was on animal welfare and its connection to dairy sustainability. Here are highlights from some of this year's presenters:

Temple Grandin. A professor at Colorado State University, Dr. Grandin has done extensive work in the designing livestock facilities, and has published on the topics of safe, correct animal handling. Her presentation at the conference emphasized these points:

- Successful handling of dairy cows in only about having proper facilities designed with cow welfare and behavior in mind. **It is also about good management and good stockmanship.**
- Dairy owners and managers need to take time to **provide stockmanship training** to their employees so that they develop an understanding of cow behavior and welfare, and apply that knowledge in good animal handling and treatment skills. Here are some practical applications of good stockmanship on dairies:
 - Gradual, safe, and calm introduction of cows and heifers to feedbunk headlocks.
 - Slow, gradual, calm introduction of springing heifers to the milking area.
 - Calm handling of calves.
 - Calm handling of cows in the milking area, and avoidance of doing vaccinations or other injections in the milking area.

Dr. Grandin provided this "Rule" for dairy farm owners to consider as the foundation of their training message to employees or family members who work at their farm:

"The RULE to be observed in this stable at all times, towards the cattle, young and old, is that of patience and kindness. A man's usefulness in a herd ceases at once when he loses his temper and bestows rough usage. Men must be patient. Cattle are not reasoning beings. Remember that this is the Home of Mothers. Treat each cow as a Mother should be treated. The giving of milk is a function of Motherhood; rough treatment lessens the flow. This injures me as well as the cow. Always keep those ideas in mind in dealing with my cattle."—Temple Grandin

Scott Higgins. As president and CEO of American Dairy Association – Midwest based in Columbus, Ohio, Scott was involved the Ohio dairy industry's response to the negative video taken at an Ohio dairy farm, and circulated widely in the media/social media. Mr. Higgen's story about successful concerted efforts made in Ohio to counter a negative media situation should give all members of dairy organizations hope and encouragement.

The actions taken in Ohio demonstrate that by working together within and between organizations, dairy producers can be very effective in delivering positive, accurate information about their industry and livelihood. Additionally, he advised that dairy organizations should be **proactive** in giving positive messages to media, promoting good animal welfare practices within their industry, and giving consumers ways to learn about and understand dairy farming.

Jan Shearer. Dr. Shearer, professor and Extension veterinarian at Iowa State University, gave an informative, interesting, and inspirational message about dairy cow lameness and the connection to cow welfare. Please see his full article posted here in this newsletter's issue.

ISU Extension presents:

Manure Management Updates for Dairy Farm Owners March 15-18, 2011



Information and discussion session with Angie Rieck-Hinz,
ISU Extension and coordinator of IMMAG (Iowa Manure Management Action Group)

Having this knowledge could help you stay in business!

Why is this important?

Recent compliance enforcement actions by the EPA have beef and dairy producers evaluating their livestock and manure systems. Anyone who has surface water running through their livestock operation or who has manure, effluent, or "brown water" leaving their farm should consider attending the dairy focus groups.

*******NOTE: Small and medium farms are not exempt from scrutiny and certain regulations*******

What will the discussion cover?

- Clarification on small and medium CAFOs- learn where you fit and what regulations apply to your farm
- Refresher on placing dollar value on your farm's manure fertilizer nutrients (NPK)
- Updates on agronomic practices that promote profitability & land stewardship on your farm
- Information about current regulatory climate – facts to know and trends to expect

NOON – Lunch and general announcements • 12:30 – 2:45 – Program, discussion, Q & A

\$15 with lunch, \$7 if no lunch — pay at the meeting site. Your Pre-registration Message is Appreciated. Call Chris Mondak at 712-737-4230 or email to cmondak@iastate.edu. Or call to your local ISU Extension County office.

Choose your location and date. All meetings run noon – 2:45pm

- **Tues, March 15**—Hull, Pizza Ranch
- **Wed, March 16** – Cherokee County Extension Office
- **Thurs, March 17**—Sac County Extension Office
- **Fri, March 18**—Pocahontas County Extension Office

Other Calendar Dates for Western Iowa:

March 14 – Western Iowa Dairy Alliance Board meeting – Orange City, 11:30 am – 2pm. Info: 712-441-5308

March 29-31 – Central Plains Dairy Expo – Sheraton Convention Center, Sioux Falls SD

www.centralplainsdairy.com/HomeExpo.htm

March 29, 30, 31 – ISU Workshops for Medium Size Dairy and Beef Farms (3/29 – Spencer, 3/30-Sioux Center; 3/31 – Arcadia) call 712-737-4230 for more information.

March 30 – Ag Prayer Breakfast at the Central Plains Dairy Expo. Check with WIDA for info: 712-441-5308

April 5-6 – Dairy Calf and Heifer Association Conference- Lake Geneva, Wisc. www.calfandheifer.org

April 8 – Western Iowa Dairy Alliance Annual Meeting – Boyden Demco Center – 1:30pm – 3:30pm.

(Business meeting/educational program about National F.A.R.M. with Dr. Jan Shearer, ISU Extension Veterinarian)

June 29 – June Dairy Open House – Van Ess Dairy, Sanborn IA, evening event. Contact WIDA for details 712-441-5308.