The Cost Behind Reproduction...

While many questions surround reproductive decision-making, no one question is asked more than, “What will this cost me?” As producers make decisions related to reproductive technologies, the cost and potential financial benefits help drive and dictate their implementation.

Using data from 77 California dairy operations, a group of dairy reproduction extension specialists found the value of a pregnancy ranges from $300 to $650 and concluded:

- Pregnancies are worth less on farms with better reproduction because more pregnancies happen each year. For herds with poor reproduction, each pregnancy is extremely valuable.
- Improving reproductive performance created additional financial returns in three ways:
  1. The amount of marginal milk produced
  2. Additional calves being born
  3. Cash expense when the open cow is replaced
- The economic gains from improved reproductive performance are greatest during times of high milk price and for herds with high production.

Repro Money is a team-based program to help you improve reproductive performance on your farm. The program is based on forming an on-farm team to focus specifically on issues related to increasing your farm income by enhancing the reproductive performance of your cows. For more information regarding Repro Money, please visit http://fyi.uwex.edu/repromoney/.

As you identify ways to improve reproduction on your farm, never lose sight of the financial implications of your decision-making. Regardless of your herd’s reproductive performance today, minimizing unnecessary reproductive expenses can translate to profitable outcomes with more milk and more heifer calves.

Tina Kohlman
Dairy & Livestock Agent
UW-Extension Fond du Lac & Sheboygan Counties
Getting calves off to a good start means instituting a successful colostrum program to assure the calf receives adequate immunity from the dam. Ask nearly any calf care giver and they can recite the colostrum mantra:

- Feed high quality colostrum. Levels exceeding 50g of IgG/liter are considered good quality. The Brix refractometer provides a quick method for testing colostrum on the farm. Values exceeding 22 indicate good quality.
- Feed enough colostrum and feed it early in life. It is commonly recommended the calf receive 4 liters/quarts in the first 12 hours after birth. This provides approximately 200 g of IgG which is more than adequate.
- The final step may be the most important and that is to CLEAN!

Consider it is a race between colostrum antibodies (IgG) and bacteria reaching the site of absorption in the small intestine. If bacteria win the race then antibody absorption is likely to be severely reduced regardless of the amount of antibody that the calf consumes. Excessive bacteria can arise from two sources. The first is the calving environment and the second one is poorly handled colostrum. If the first exposure of the calf after being born is a mouthful of manure from a poorly bedded box stall, bacterial growth in the small intestine can number in the millions within a few hours of birth. As it comes from the cow, first milking colostrum has a relatively low bacteria count (<100 cfu/ml). However Minnesota researchers found, on average, the colostrum bacteria counts obtained from either an esophageal feeder or a floor bucket exceeded 10,000 cfu/ml. It was interesting their study found excessive variation in counts observed from farm to farm. Bacterial counts from colostrum on some farms exceeded 100,000,000 cfu/ml. Why the large differences? Although they didn’t study colostrum handling procedures there are several likely causes. The first being sanitation of the collection buckets and esophageal feeders. The second cause is storage of colostrum for more than a few hours at room temperature. It is important any container exposed to colostrum is cleaned as carefully as the milking equipment!

After each use the container should be cleaned using the following steps in order:
1) rinse with lukewarm water;
2) scrub with hot soapy water;
3) rinse with a sanitizer;
4) invert to allow drying.

Rinsing with hot water causes biofilms to form on the container surface which are conducive to growing bacteria.

The importance of bacteria levels in colostrum was demonstrated most recently by a Minnesota field trial involving 1,000 calves on six farms. One half of the calves were fed raw colostrum while the other half received pasteurized colostrum. They found the high level of coliform bacteria in raw colostrum was highly negatively correlated with colostrum antibody absorption.

The problem on many farms is calves are born into less than desirable conditions. In addition, failure to store colostrum in clean containers promotes excessive bacterial growth. Colostrum management should include strict adherence to cleaning protocols for any surface exposed to, or used to store or administer colostrum. Clean containers prevent bacterial growth and make early feeding or prompt cooling of colostrum less critical to success.

Source: R. E. James, Extension Dairy Scientist, Dairy Nutrition Virginia Cooperative Extension
The Dollar Signs Behind Reproduction

Defining Reproductive Cost
The hard costs of reproduction are easy to measure. While the return on some of these expenses is not seen for months or years they can be tracked and recorded, including semen, labor, synchronization protocol expenses, pregnancy examinations, and facilities for sorting and handling animals. Beyond hard costs, expenses involved with reproduction are often related to lost profit potential, as the equation below outlines:

\[
\text{Cost of breeding program} = \text{Reproduction costs} + \text{Cost of days open} + \text{Culling of reproductive failures}
\]

Within these three expense categories, poor reproductive performance will ultimately reduce herd profitability in several ways:

- **Reduced lifetime milk production.** When calving intervals increase, the result is more milk per lactation but less milk per day of life. These cows spend more days in late lactation when milk production levels are lowest.

- **Fewer replacements.** Longer calving intervals mean fewer calves are born each year, resulting in fewer replacement heifers or extra heifers to sell. Fewer replacements also reduce voluntary culling rates, slowing herd genetic progress.

- **Increased reproductive culls.** When more animals leave the herd for reproductive failure, this reduces the number of low producers that can be culled. This also keeps lower genetic potential animals in the herd for longer periods of time.

- **Higher reproductive costs.** Low conception rates mean more services per pregnancy, resulting in higher semen costs to obtain each pregnancy.

- **Greater vet bills.** Low reproductive efficiency often is associated with higher veterinary bills, as examinations and treatments increase in an attempt to get cows to conceive.

- **Higher incidence of overconditioned cows.** Cows that remain in the milking herd for long periods of time without getting pregnant and at low production often become overconditioned. Heavy cows have more health and reproductive problems during the subsequent lactation.

Determining the Value of Reproduction
The benefits from improving reproductive efficiency are not as easy to measure as the defined costs of poor reproductive function. Many factors will impact the value of each pregnancy, and these factors can change over time or from one animal to the next. The main factors impacting the value of a pregnancy for an individual cow include:

- **Future expected production potential.** The production potential of the cow you are trying to get bred will have a direct impact on the value of the pregnancy. If, for example, two open cows were the same age, in the same stage of lactation and in the same health, more effort would be spent trying to get the cow bred that had higher future production potential. Under most circumstances this animal’s pregnancy will have more value because of the revenue generated from higher milk production.

- **Age of the animal.** A young cow will be expected to survive in the herd longer. Even though her lactation production might be less, she also has more subsequent lactations ahead. Older animals are more prone to disease and more likely to be culled, so achieving pregnancy in the younger animal is most important for long-term financial benefits.

- **Days in milk.** As milk production wanes in late lactation, open cows have less value than identical animals earlier in lactation due to lower income potential.

- **Stage of pregnancy.** The value of a pregnancy increases the closer an animal is to having a calf. A cow late in gestation is closer to the beginning of a new lactation, and thus the stage of life where she is generating profits.

- **Incidence of disease.** Animals that experience more disease not only increase herd costs, but often produce lower amounts of milk during the lactation. Because disease directly impacts production, the difference in the value of the pregnancy is reflected in production potential.

- **Milk price.** When milk prices are higher, it takes less production difference to justify replacement animals.

- **Value of culled animals and cost of replacements.** When a cow is replaced in the herd, there is a cash cost involved. The cost is the difference between the cash received for the culled cow and the cash necessary to bring a replacement into the milking herd.

*Source: Dairy Cattle Reproductive Council*
New Custom Rate Guide Available

Every three years, UW-Extension and the Wisconsin Agricultural Statistics Service team-up to publish a farm custom rate guide. A new version was published last month. The figures are based on reports from custom operators who perform the work, farmers who hire custom work, and machinery dealers who rent out equipment. Over the years, this has been one of the most popular publications available from our office.

Most custom rates printed in the publication include the cost of hiring the machine with fuel and operator, but exclude the cost of any materials (for example, the cost of seed, fertilizer, etc.). There is no attempt to distinguish between rates charged by individuals who perform custom operations as a primary income source and those farmers who occasionally do custom work as a sideline. Typically, rates charged by professional custom operators and implement dealers justifiably trend to the higher end of the rate range.

Within the guide, there are both average rates and numerical ranges given for different custom farm operations. In many cases, rates are also given by region of the state. There are many different factors that impact the rate charged in a given situation. These include: availability of equipment; soil conditions; topography; field size; and the type, age, size, and condition of the equipment used. In some cases, rates are reported in units of dollars per acre and dollars per hour.

Rates reported in the guide for machinery, fuel, and labor reflect 2013 prices and conditions. As the guide is used over the next three years, prices for these inputs may need to be adjusted accordingly.

The 2013 Custom Rate Guide is available on the Fond du Lac County Agronomy web site at: fyi.uwex.edu/fdlcrops/2014/2013crg/.

Corn Seed Survival

Have you ever figured-out the difference between the number of corn seeds planted and the number that actually develop into productive plants? Traditionally, we’ve always recommended to overplant by 10%. So to establish a field at 30,000 plants/A, you would need to drop seed at 33,333 plants/A.

During the past several years, corn seed treatments have changed dramatically and most of the time farmers have little choice as to the type of treatment used other than to compare one company brand over another. Most of the treatments contain both a fungicide and insecticide at a minimum. Joe Lauer, UW-Extension corn agronomist, points out that these treatments protect the plant through the first four- to six-weeks of the corn life cycle. In the past the dominant seed treatment was Captan. Since 2005, Lauer has been tracking the use of seed treatments in the UW corn hybrid performance trials and to date has had 164 different combinations of seed treatments entered. A reasonable question is whether or not today’s seed treatments have improved seed or plant survivability.

The seeding rate for every plot planted in this program is 34,100 plants/A. Harvest plant densities are then measured in 10% of the plots. Various seed treatment combinations are used on hybrids, however, no chemical seed treatments are used in the organic trials.

Where seed treatments are used, corn seed survival averaged 91-92% and was similar in the early, late, and specialty trials (Table 1). The organic trials where no seed treatments are used had 82% seed survival. The most challenging location in the program with the lowest seed survival was Seymour where survival was 84%. Other locations that had lower seed survival included Coleman, Lancaster and Marshfield. These sites ranged from 86 to 87% survival. The location with the highest seed survival was Fond du Lac at 95%.

Table 1. Corn seed survival in the UW Corn Hybrid

<table>
<thead>
<tr>
<th>Trial</th>
<th>N</th>
<th>Harvest Density (plants x 1000/A)</th>
<th>Seed Survival (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early</td>
<td>114</td>
<td>31.2</td>
<td>91</td>
</tr>
<tr>
<td>Late</td>
<td>100</td>
<td>31.3</td>
<td>92</td>
</tr>
<tr>
<td>Organic</td>
<td>37</td>
<td>27.9</td>
<td>82</td>
</tr>
<tr>
<td>Specialty</td>
<td>45</td>
<td>31.0</td>
<td>91</td>
</tr>
<tr>
<td>LSD (0.05)</td>
<td></td>
<td>0.5</td>
<td>2</td>
</tr>
</tbody>
</table>

Performance Trials. Since 2008, all plots have been seeded at 34,100 plants/A. Data derived from reports available at http://corn.agronomy.wisc.edu/HT/ (Table 5 or 6).

Corn seed survival varies from field to field, farm to farm, and by planting date. Knowing the number is relatively important so that desired final stand counts can be obtained. It appears that current seed treatments have helped to increase survival rates, but it still won’t be the same for every field or planting date. It’s well worth the effort to take some time and compare seeds planted to harvest stand counts on an annual basis.
**Fond du Lac County Dairy Project Updates**

Spring is a busy time for Fond du Lac County Dairy Project Members. Check out these upcoming events for dairy youth!

**County Fair Jr. Dairy Show Update:** Based on input from the Dairy Project Year-in-Review Meeting and a recommendation from the 4-H Dairy Committee, the Fond du Lac County Fair has established a qualifying requirement to show dairy at this year’s Fond du Lac County Fair. New for this year: *in order to qualify to show dairy at the Fond du Lac County Fair, youth must attend a minimum of one fitting/showmanship workshop. Fitting/showmanship workshops or opportunities not listed on the “County Fair Activity Card” must be pre-approved by a 4-H Dairy Project Committee Member.”* Opportunities to qualify include, but are not limited to:

- Dairy Day Of Learning
- FDL Jr. Holstein Fitting/Showmanship Workshop
- NASCO Fitting/Showmanship Clinic
- Animart Fitting Clinic
- Badger Dairy Camp
- Showmanship at a district, state or national show
- Club level-sponsored fitting/showmanship workshop (club leader must request pre-approval prior to meeting)

Those wishing to qualify for county fair must turned in a signed and completed “Activity Card” with their Dairy ID Sheets to the Fond du Lac County Fair by June 14th. For more information regarding the requirement, please contact 4-H Dairy Committee Chairperson Pete McCourt at 920.979.9277.

**State Fair Dairy Round-Up:** Save the date for Saturday, May 24th, 9:00 am for State Fair Round-Up. The State Fair Round-up is a requirement to qualify for Wisconsin State Fair Jr. Dairy Show. Any animal you are interested in possibly showing at state fair must be brought to Round-Up for selection. Entry forms are available on line at [http://fyi.uwex.edu/fdldairyyouth/wi-state-fair/](http://fyi.uwex.edu/fdldairyyouth/wi-state-fair/) and are due to UW-Extension by May 15th. For more information regarding qualifying for the Wisconsin State Fair Jr. Dairy Show, please contact our county’s Jr. State Fair Coordinator Sarah Loehr at 608.792.7013 or at sarahloehr24@gmail.com.

**Jr. Holstein Fitting & Showing Workshop:** The Fond du Lac County Jr. Holstein’s will be hosting a fitting and showmanship workshop on Saturday, May 24th at 10:30 am. All 4-H dairy project members are encouraged to attend this hands-on opportunity to learn more about the new PDCA Showmanship Guidelines. For more information regarding the Fitting & Showmanship Workshop, please contact Jr. Advisor Sarah Loehr at 608.792.7013 or at sarahloehr24@gmail.com. *This is qualifying meeting for the Fond du Lac County Jr. Dairy Show.*

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**Farm Management Update for Ag Professionals**

Geared for agriculture professionals, don’t miss out on this opportunity to learn more about milk and grain markets, farm tax and law update, impacts of dairy and livestock facility improvements, and cattle handling.

Set for Friday, May 2nd, 2014, 9:45 am-2:30 pm, Liberty Hall, Kimberly, the cost is $35 per person with registration deadline of April 25th.

![Two people at a desk](image)

For more information, please contact UW-Extension at 920.929.3180 or tina.kohlman@uwex.edu.

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**Agenda:**

- **Milk and Grain Market Updates**
  Robin Schmahl, Ag Dairy, LLC
- **Farm Tax & Law Update**
  Phil Harris, UW-Extension Farm & Tax Law Specialist
- **Impacts of Dairy Facility Improvements**
  Dave Kammler, UW-Extension Engineer
- **They Passed a Farm Bill**
  Paul Mitchell, Ag and Applied Economics, UW-Extension
- **Cattle Handling Protocols**
  Amy Stanton, UW-Extension Dairy Well-being Specialist
Calendar of Events

MAY

2  Farm Financial Update for Ag Professionals, 9:45 am – 2:30 pm, Liberty Hall, Kimberly
3  Clean Sweep Hazardous Chemicals Collection, 9:00 am -12 noon, Fond du Lac County Fairgrounds
16  Master Gardener Plant Sale, Fond du Lac Co. Fairgrounds Cow Palace, 12 noon - 7:00 pm
17  Master Gardener Plant Sale, Fond du Lac Co. Fairgrounds Cow Palace, 9 am - 1:00 pm
24  Fond du Lac County Dairy Project “State Fair Round-Up”, 9:00 am - 10:30 am, Fond du Lac County Fairgrounds
24  Fond du Lac County Jr. Holstein Association’s “Fitting and Showmanship” Workshop, 10:30 am – 12 noon, Fond du Lac County Fairgrounds
28  Meat Quality Assurance Training, 7:00 pm, LGI Room (UC 113/114), UW-Fond du Lac, Fond du Lac

JUNE

11-12  4-State Dairy Nutrition & Management Conference, Grand River Center, Dubuque, IA
22  Fond du Lac County Agri-Business Council’s Breakfast on the Farm, 8:00 am – 12 noon, John Ruedinger Farm, W7222 Cemetery Rd, Van Dyne

UW-Extension provides equal opportunities in employment & programming, including Title IX requirements.
Hazardous Waste Clean Sweep

….an opportunity for homeowners, farmers, and businesses to properly dispose of unwanted or out-dated chemicals & hazardous waste.

Saturday, May 3rd        9 a.m.-noon
Fond du Lac Co. Fairgrounds

Who can participate?

FOND DU LAC CO. RESIDENTS may dispose of unwanted chemicals from the basement, garage, kitchen, craft area, or barn.

FOND DU LAC CO. FARMERS may dispose of outdated or unwanted chemicals but must pre-register by May 1 (see below).

FOND DU LAC CO. BUSINESSES, government departments, and schools using or retailing pesticides are eligible for cost-sharing from WDATCP to dispose of certain hazardous wastes and must pre-register by May 1.

Eligible businesses include:
Abandoned business sites
Aerial applicators
Ag chemical suppliers
Golf courses
Landscape contractors
Structural pest control
Turf managers
Veterinarians

Visit: 
http://fonndulac.uwex.edu/cleansweep/ for more information on this event and locations where other types of waste can be disposed.

Event guidelines:

Cost: $5 per vehicle regardless of the type or quantity of materials brought (cash only).

Materials Accepted
- Solvents (paint thinner, mineral spirits, linseed oil)
- Pesticides (current and outdated)
- Rodent baits and poisons
- Lead based paints and spray paints
- Varnishes, shellacs, & wood preservatives
- Oven cleaners, spot removers, polishes
- Aerosols
- Dioxin materials (such as Silvex & 2,4, 5-T)
- Mercury devices & compounds

Materials NOT Accepted:
- Latex paint
- Electronics (TV’s, computers, etc.)
- Tires
- Infectious/biological waste
- Light bulbs
- Used oil/kerosene
- Compressed gas cylinders
- Explosives / Radioactives

Pre-registration by phone is mandatory for farms & businesses: Call the Fond du Lac Co. UW Extension office no later than Thursday, May 1st (920-929-3171). When you call, be prepared to answer some general questions about what you are bringing (pesticide or other chemical), and how much (lbs. and/or gallons). You do not have to pre-register if only bringing household/yard hazardous wastes.

Note: Disposal funds are limited. If you do not pre-register there is a chance you will be turned away.

The Clean Sweep Program is sponsored by the Wisconsin Department of Agriculture, Trade, and Consumer Protection, UW-Extension, Veolia Waste Services, and Fond du Lac County.