

Richland County AG News & Notes

Agricultural Newsletter of the Richland County Extension Office

Spring 2007

Adam Hady, Richland County Agricultural Agent e-mail: adam.hady@ces.uwex.edu

Steve Kholstedt, Richland County Resource Agent e-mail: steven.kholstedt@ces.uwex.edu

Richland County Extension – 1100 Hwy 14 West, Richland Center, WI 53581

Phone: 608.647.6148 Website: <http://richland.uwex.edu>

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Requests or reasonable accommodation for disabilities or limitations should be made prior to the date of the program or activity of which it is intended.

Calendar of Events:

May

15-16 Grazing School – River Falls
19 Landscape Field Day – Dodgeville

June

2 Badger Poultry Club Show – Richland County Fairgrounds
14 Youth MAQA – 2pm UW-Richland Campus
14-15 4 State Dairy Nutrition Conference – Dubuque, IA
21-22 National Compost Barn Conference – MN
26-27 Grazing School – East Troy
26 Area Animal Science Days – Richland County Fairgrounds

Wisconsin leads the Country in the production of:

| Product: | % of U.S. Production: |
|---------------------------|-----------------------|
| Cheese | 26.4 |
| Mink Pelts | 29.6 |
| Corn for Silage | 14.1 |
| Cranberries | 58.8 |
| Snap Beans for Processing | 37.9 |

Source: 2006 Wisconsin Agriculture Statistics

USING HERITABILITY TO YOUR ADVANTAGE

By:
Dr. Jeff Lehmkuhler
UW-Extension Beef Cattle Specialist

Having a basic understanding with respect to the heritability of traits allows for an understanding how genetic selections may impact the phenotype observed and how quickly these changes may be observed in a herd. The degree to which the genes of an individual influence the phenotypic variation is described by the heritability of a given trait. It is important to consider that heritability estimates are specific to a given population and environment. This fact is perhaps better realized if one were to look at the heritability estimates for a few traits listed by various breed associations. For example the heritability estimates for birth weight and milk / maternal milk reported by the American Angus Association, American-International Charolais Association and the American Hereford Association are 0.42, 0.14, 0.43, 0.10, 0.49 and 0.14. Though the values are very similar they are not exactly the same for all three breeds. The higher the heritability estimate, the more rapidly change may be observed through genetic selection.

The tables below list the heritability of some traits as reported by others. In general, reproductive traits are considered to be lowly heritable. These traits respond more positively through heterosis and crossbreeding. Performance traits such as birth, weaning and yearling weights are considered low-moderately heritable. Carcass traits are moderately heritable. While traits such as hip height, frame score (age adjusted hip height) and mature weight are highly heritable. This can be seen by looking at how rapidly the frame size of past national shows changed over time. Note that

even phenotypic characteristics have some degree of heritability as indicated by the Simmental data set. Also, keep in mind that one should utilize the heritability estimates for a specific breed where appropriate (i.e. purebred breeders).

Additionally, it is important to be aware of the genetic correlations between traits. In other words, selection of one trait may result in changes in other traits. An example of this is the genetic correlations between birth, weaning and yearling weight. The genetic correlations are 0.53 and 0.54 for birth weight to weaning and yearling weight. In general, calves with higher birth weights would be anticipated to have heavier weaning and yearling weights. Keep in mind however that there is variation within a population and a normal distribution is assumed with low birth weight and high weaning weight individuals being found (i.e. curve benders) as well as those with high birth weights and low weaning weights.

Recently, I was asked about pelvic area measurements and if they were heritable. The answer is yes, but one needs to understand what selection for increased pelvic areas could result in. Many individuals measure pelvic area in their breeding animals as indicator for reducing calving difficulty. USDA researchers illustrated selection for increased pelvic area can reduce calving difficulty while at the same time this selection method can also result in increased birth and weaning weights (Bennett and Gregory, 2001). The genetic correlation for pelvic area and these weight traits were 0.39 and 0.43 for birth and weaning weight, respectively. The use of pelvic area measurements are better utilized in culling heifers that are below a set target or a minimal threshold size. In a Canadian veterinary journal, it was stated "Our analyses suggest there is no evidence

to justify the continued use of pelvimetry as an on-farm test to reduce dystocia in beef cattle” (Van Donkersgoed et al. 1993). In a separate journal article by USDA researchers, they indicate that the selection of for increased pelvic area in yearling bulls would not likely reduce calving difficulty (Kriese et al., 1993). Using birth weight combined with calving difficulty score of 2-year old heifers was suggested to be the more accurate in predicting heifer calving difficulty (Bennett and Gregory, 2001). The literature indicates that if yearling weights were able to kept constant or such that the frame of the animals were not increased through selection for pelvic area then one may see a reduction in calving difficulty. This illustrates the complexity of predicting selection responses and that not all things are “cut and dry”.

Hopefully, you have gained some insight as to how quickly progress may be observed in your herd through genetic selection. If you have questions, contact your local county extension agent for more information.

Table 1 Estimates Heritability for Beef Cattle Traits

| | |
|-----------------------|-----------------------|
| Conception Rate | 0.05-.17a |
| Calving Ease | 0.10-0.13a |
| Scrotal Circumference | 0.48a |
| Birth Weight | 0.31a |
| Weaning Weight | 0.24a |
| Yearling weight | 0.33a |
| Frame Score | 0.61a |
| Mature weight | 0.53-0.79b 0.44-0.53c |

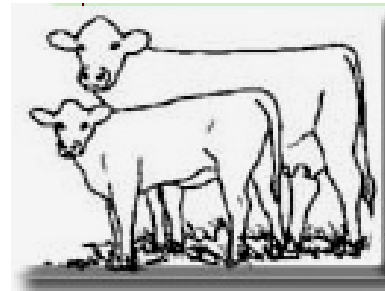
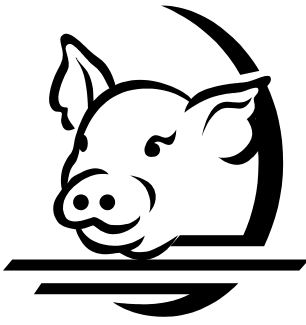


Table 2 Estimates of heritability for carcass traits in beef cattle (Bertand et al., 2001)

| | |
|-----------------|------|
| Carcass Weight | 0.39 |
| REA | 0.47 |
| Fat Thickness | 0.34 |
| Marbling Score | 0.46 |
| % Retail Cuts | 0.41 |
| WB Shear Force | 0.22 |
| Ultrasound REA | 0.32 |
| Ultrasound Fat | 0.28 |
| Ultrasound IMF% | 0.41 |

Table 3 Estimates of Heritability for Phenotypic Traits of Simmental Cattle (Kirschten, 2002)

| | |
|--------------|------|
| Stature (ht) | 0.60 |
| Body Length | 0.39 |
| Muscling | 0.42 |
| Capacity | 0.44 |
| Feminity | 0.32 |
| Rear Legs | 0.12 |
| Foot/Pastern | 0.13 |
| Udder Attach | 0.23 |
| Udder Depth | 0.35 |
| Teat Size | 0.39 |



A Quick Look at Pseudorabies

By:
Adam Hady

As many of you have heard, there have been two swine herds in Clark County that have tested positive for pseudorabies. The question that arises is what is pseudorabies? Could this be a concern for my hogs at home?

Pseudorabies has been around for a long time in the US. This disease has a major impact on the swine industry economically. The disease is caused by a herpes virus and was first discovered in cattle and dogs in 1902 by Aujeszky in Austria. The disease can affect cattle, sheep, cats, and dogs.

The biggest devastation to the swine industry is the disease's effects on reproduction and piglet survival. As we look at newborn pigs less than three weeks old, the disease can be characterized by sudden death. The pigs may exhibit little to no clinical signs. Clinical signs that might present themselves are fevers that exceed 105°F, decrease in feed consumption to loss of appetite, vomiting, lack of coordination, and convulsions. When the disease hits pigs less than two weeks old death losses can reach 100%.

As the pigs get older, they develop a degree of resistance to the disease. Death loss due to the disease does decrease as age and resistance develop. As with little pigs, juvenile pigs three weeks to 5 months old show similar symptoms to the disease. Other symptoms include labored breathing, heavy salivation, trembling, and lack of coordination, especially in the hind legs. There may also be a yellowish nasal discharge and other symptoms associated with respiratory diseases. Pigs that recover at this stage are very slow to reach market weight.

Adult pigs will not have as severe a reaction to the PRV, however, death can still occur. In adult pigs, the disease appears as a fever coupled with

a respiratory disease with symptoms such as nasal discharge, sneezing, nose rubbing, and coughing. Pseudorabies often occurs with other respiratory diseases such as Pasturella and Actinobacillus.

Sows that are infected early in gestation will return to heat because of lost pregnancy and reabsorb the fetuses. If infection occurs in mid-gestation, fetuses may be aborted as mummified pigs. Infection of the sow at the end of gestation can cause the sow to abort, have still born pigs, or give birth to weak pigs.

The disease is spread through direct contact. The nose and mouth are the main areas of infection for the animal. Other vectors are feeders, drinking water, bedding, or other objects such as clothing or boots. These are common vectors because they are points where an infected animal will leave behind saliva or nasal discharge. Recovered pigs may be carriers of the disease and that is why eradication of the animal is important to the disease control program. Cats, dogs, and wild animals such as raccoons and skunks are susceptible to the disease. The disease is not contagious to humans.

There are national programs established to control this disease. The national program has five stages in the disease control program, and the states are giving a particular status based on their level with the program. Stage one – which is the state creating a committee to start the legislative procedures for the disease eradication to stage five which is Pseudorabies Free State.

Information for this article came from the Pork Industry Handbook on paper on Pseudorabies and the National Pork Board's fact sheets on Pseudorabies. Web links to both of these resources can be found at the following web address:

<http://www.uwex.edu/ces/animalscience/swine/index.cfm>.

Developing a Biosecurity Plan to Prevent Introduction of Mastitis Pathogens

By:
Dr. David Rhoda, DVM
Extension Outreach Veterinarian
UW Department of Dairy Science,

Article Summary:

- Biosecurity addresses prevention of introduction of pathogens and prevention of spread of pathogens
- Highest risk of introduction is from addition of heifers or cows
- Certain practices can help reduce the risk of introduction of pathogens

A biosecurity plan has two aspects; the prevention of introduction of contagious pathogens to the dairy and the prevention of spread of either contagious or environmental pathogens on the premises.

We'll consider the prevention of introduction of a contagious pathogen to a dairy first. The contagious pathogens are *Streptococcus agalactia*, *Staphylococcus aureus*, and *Mycoplasma* and they are so named because they are well adapted to survive in the cow, and can easily spread from one animal to another especially during milking.

The highest risk of introduction is from the addition of heifers or cows to the dairy and the older the animal added, the higher the risk. It seems important to notice that we refer to reducing the level of risk not the elimination of risk because these bacteria are not shed continuously. Let's consider some steps and information that helps us quantify risks even if it is referenced by the vague term of reduction of risk:

- Obtain knowledge about the herd of origin by reviewing previous bulk tank cultures and individual cow cultures. Factor-in that the greater the number of negative sample available the more assurance there is that the contagious pathogen is not on the sellers' dairy
- Culture the individual animal upon arrival to the dairy; just remember that contagious pathogens are sporadic shedders
- Isolate purchased animals to prevent spread until you are totally assured that the incoming animals are uninfected
- Maintain a regular surveillance of the bulk tank, individual clinical cases, and the subclinical population of cows for contagious pathogens by culturing in order to continue monitoring for these three
- If animals have contact with animals from other herds at public exhibitions or commingled raising and then returning them to your own herd treat them as purchased animals
- Develop a plan for visitors to your dairy that addresses their outer ware and past exposure to livestock

Richland County Agriculture Facts:

Hogs in Richland County

In 2005 Richland County had 17,000 total Hogs and pigs.

Ranking 7th in the State

Source: 2006 Wisconsin Agricultural Statistics

Production in the Past

Swine Selection in 1910

American lifestyle is changing and evolving. With that life style agriculture has kept up with changes and trends. It is quite possible that the swine industry has seen the most drastic change to meet the demand of the consumers. So, for this issues look into the past I found the book: Swine: Breeding, Feeding and Management by W. Dietrich, Assistant Professor of Swine Husbandry, University of Illinois, published in 1910.

As I was looking through the chapters of this book, the first chapter sparked my interest. I knew that in the past lard was a large commodity for the swine industry. I did not realize that there were two principal types of hogs. They were described in the book as the fat or lard hog and the bacon hog.

The lard type, as described by the author, was a pig that was developed primarily in the Corn Belt and was a hog that can carry a considerable amount of fat or lard. The fat on these pigs varied in texture and firmness and were utilized for multiple purposes. This meant that the pigs needed to have appropriate quantities of these types of fat or lard. These pigs were also to have an even and smoothly laid layer of fat. In general appearance the pigs should be long and symmetrical with matching width and depth.

The second type was the bacon type. The author noted that this was a term relating to Canadian or European type bacon. These pigs were relatively leaner than the lard pigs, and were produced for quantity of lean meat in the carcass. These pigs were marketed at 160-200 pounds, with a back fat of 1.5 inches and an abundance of lean meat.

So, as we enjoy the pork of today, think of how agriculture adapts to our tastes.

National Compost Dairy Barn Conference

There will be a National Compost Dairy Barn Conference, held June 21-22, 2007 at the Holiday Inn located in Burnsville, Minnesota. The conference is for anyone interested in current research and producer experiences with this housing system for dairy cows. The program will also include topics related to compost science and marketing. For all the details about the Conference Agenda, Compost Dairy Barn Tour and Program Speakers, please visit the Conference website at: <http://www.ansci.umn.edu/compostbarnconf.htm>. A copy of the brochure can be picked up at the Richland County Extension Office. Pre-Registration is due June 4th.



UW-Extension Hosts Grazing Schools Across Wisconsin

Farmers interested in switching to rotational grazing or just starting out in grazing should plan to attend one of the Wisconsin Grazing Schools which will be held around the state over the next several months.

The Wisconsin Grazing Schools are designed to teach producers, educators and agency staff the basics of management-intensive grazing with a hands-on approach.

The two-day workshops will provide opportunities for in-depth discussions and field exercises covering both agronomic and

livestock topics related to grazing and dairy and livestock production on pastures. Topics include pasture species selection and management, fencing and watering systems, animal health on pasture, animal nutrition, pasture improvement techniques and economics of pasturing systems. Producers will have the opportunity to network with producers already using Management intensive grazing (MIG) as well as University and USDA-NRCS experts in grazing.

Management intensive grazing (MIG) is based on four key factors:

- meeting the nutrient requirements of the grazing animal
- optimizing forage yield, quality, and persistence
- environmental stewardship; and
- integrating knowledge and technology into a practical and profitable management system.

Cost for the school is \$75 per person, which includes reference materials and meals during the school. A second person from the same farm can register for \$35. Dates, locations and registration deadlines are: May 15-16 in River Falls. Registration deadline – May 7

June 26-27 in East Troy. Registration deadline – June 18

July 24-25 in Neillsville. Registration deadline – July 16

A fourth workshop will be held in Ashland at a date yet to be determined.

For a brochure and registration information, contact Dennis Cosgrove, UW-River Falls, 410 S. Third Street, River Falls, WI 54022 (715) 425-3345 or by email at dennis.r.cosgrove@uwrf.edu. The brochure can also be downloaded from www.uwrf.edu/grazing under upcoming events.

LANDSCAPE PROJECT FIELD DAY #4

C4C's fourth field day, **"It's Your Water: Stream bank Restoration & Management"** will be hosted by Bill Wisler from **10 AM until noon on Saturday, May 19**. Participants will meet at the farm of Bill and Jayne Wisler northwest of Dodgeville.

Bill describes their farm as a 'hardscrabble farm'—composed of variable terrain which was probably very difficult to actually 'farm'. It is a piece of property with diverse geology with greater than 200 ft of elevation change, accommodating quite a variety of different ecosystems. Since the Wislers purchased these 140 acres in 1993, they have taken a broad view of the whole farm and are attempting to restore the farm back to its pre-agriculture state.

The stream running through their property, like many streams in this area, is badly silted in with sand and mud, the banks had widened out and eroded and the water was slowing down. It was not a healthy stream. With the help of the Natural Resource Conservation Service, they received a grant for stream bank stabilization and for narrowing of the stream. When planning the work, they looked at the whole ecosystem, including native plants, stream animals, trout and the macro invertebrates that inhabit the stream

On the 19th, Bill, Mike Miller from the Department of Natural Resources and Joe Schmelz, the soil conservationist from the NRCS office who designed the project, will describe the project from its inception to the completion. Participants will learn about what makes a stream healthy and how to pursue something like this on your farm.

Jayne and Bill have also established a wetland prairie and are working to restore a 20 Acre Oak Savannah. Participants can walk the property after the stream bank presentation if interested in seeing these areas.

Register for the field day and get directions to the farm by emailing landscapeproject@yahoo.com or calling 588-2188, Ext.25. Participants should wear clothing and shoes suitable for outdoor hiking.

This field day is the fourth of a series planned for 2007 as part of the Center for Creativity and Innovation (C4C) Landscape Project partially funded by a grant from the UW Department of Liberal Arts.

Dairy Conference Offers Information on Nutrition and Management

Madison – Dairy feeding and management practices that maximize profitability will be topics of a seminar that brings together dairy producers, feed industry personnel and agribusiness professionals from Iowa, Illinois, Minnesota and Wisconsin.

The Four-State Dairy Nutrition and Management Conference is scheduled for June 13 and 14 at the Grand River Center in Dubuque, Iowa. The seminar is sponsored by Extension in Wisconsin, Illinois, Iowa and Minnesota.

The four general session presenters and topics are:

- Jim Drackley, University of Illinois, will discuss rethinking energy for dry cows;
- Charlie Staples, University of Florida will discuss fatty acids and reproduction;

- Adam Lock, University of Vermont, will discuss dietary component and rumen environment interactions on milk fat; and
- Lou Armentano, University of Wisconsin-Madison, will discuss dietary effective fiber, particle length and sorting.

Topics for breakout sessions include nutrition and mastitis, trouble shooting herd nutrition and health, economic considerations of sexed semen in dairy cattle, corn ethanol byproducts, National Feed Management Project, and making starch work in the rumen.

The conference begins at 8 a.m. on June 13 with a pre-conference symposium. The symposium topics focus on energy balance issues in dairy cattle. The second day breakfast speaker will discuss laboratory measurements of forage quality. The conference concludes at 11:45 a.m. on June 14.

Five concurrent post-conference workshops will be offered on June 14 from 12 p.m. to 3 p.m. for a limited number of registrants. The workshop topics are dairy ration formulation, feed management, evaluating bunkers and bags, investigation of milk quality problems and DAIRY TRANS financial analysis. During these hands-on workshops, attendees will get individualized help with such tasks as balancing dairy cattle rations, recommended practices for sizing storages and filling bunkers, and developing a whole farm financial analysis.

The registration fee prior to June 1 is \$125 per person. This fee covers meals and breaks, and conference proceedings but does not include the post-conference workshops. Registration after June 1 is \$150 per person. The post-conference workshops are an

additional \$50 per person. Each session has a limited enrollment.

For a copy of the program brochure, registration and lodging information, contact Randy Shaver, 608-263-3491, rdshaver@wisc.edu. The brochure is also available online at <http://cdp.wisc.edu/Calendar.htm>



Save Fuel During Spring Planting

Madison, Wis. - With fuel prices on the way up again it is a good idea to make sure tractors and equipment are correctly prepared to get the most work out of each gallon of diesel fuel. Farmers can take a number of steps to maximize fuel efficiency. UW-Extension offers the following recommendations:

Match the tractor to the job. Obviously, you don't need a 100 horsepower tractor to rake hay, but it is not uncommon to see high horsepower tractors doing very low power jobs.

Make sure air and fuel filters are changed when necessary. Partially clogged filters can starve engines of both air and fuel making them work harder just to run. Making sure oil changes and other maintenance are

completed also helps tractors run efficiently.

Make sure tires are correctly inflated. Radials are typically inflated to lower pressures than bias ply tires.

Make sure the tractor is properly weighted, both total weight and distribution. Often a tractor is weighted for the hardest tillage job it will do and left that way. Most of the year it could be weighted with significantly less weight and burn less fuel. Eight to ten percent drive wheel slippage is the target for maximum efficiency.

Recommended weight distribution for a two-wheel drive tractor with a semi-mounted implement is 30 percent front and 70 percent rear, tractors with mechanical front wheel assist should be ballasted with 40% front and 60 % rear.

Shifting up a gear and backing off the throttle can also help save fuel while doing many tasks, as long as it doesn't cause the engine to lug down too much.

Newer diesel engines should not be blowing a lot of black smoke while working. The black smoke is unburned fuel and indicates inefficient operation.

Adjustments to the implements being pulled or used can also help get the most work for the fuel dollar. Tillage tools that are not correctly aligned or leveled make the tractor work harder to pull them across the field. It's easier to pull forage harvesters if the knives are sharp and the shear bar is correctly adjusted. In order to reduce friction, all machinery should be kept lubricated according to the manual.

Following these basic maintenance guidelines can help reduce fuel costs during fieldwork season.

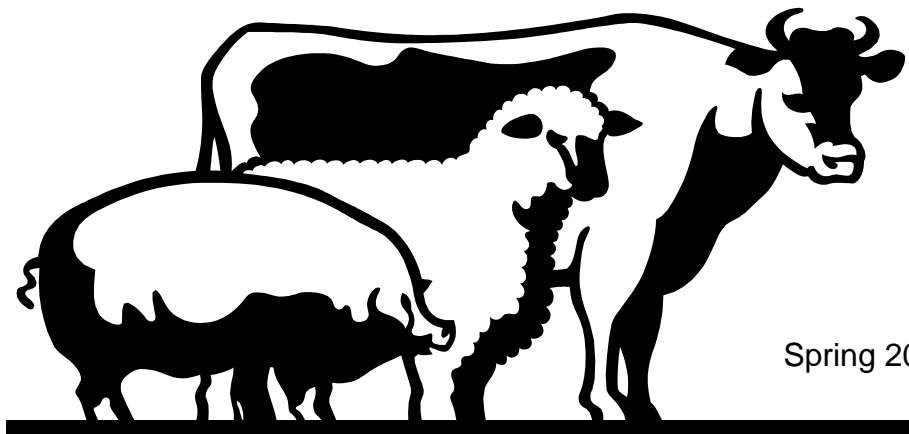
Richland County Extension Office
1100 Hwy 14 west
Richland Center, WI 53581

Phone: 608-647-6148
Fax: 608-647-9116
E-mail: adam.hady@ces.uwex.edu

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RICHLAND COUNTY AG NEWS & NOTES



Spring 2007