May 2009

Animal Industry News Update

from the LCES Animal Science Specialists

Swine (Dr. Tim Page)

Improving Conception Rates Using Artificial Insemination

With the high cost of inputs such as feed, pharmaceuticals, and quality semen, pork producers need to place more focus on increasing conception and farrowing rates in their herds. Every producer should realize that the most efficient artificial insemination system is the one that gives the high reproduction results by inseminating at the right moment. Top efficiency in the barn is not reached by skipping a routine of twice-daily checking sows that are coming into heat.

Top reproduction efficiency is not necessarily reached by using hormones in abundance. Inducing heat by hormones makes the selection of the most fertile sows more difficult and can create problems in reproduction by giving rise to a lower rate of improvement. I cannot stress enough that the first insemination is the most important. This means defining the correct moment to inseminate and trying to hit the target of conception in one shot.

Many research studies have shown that, in principle, you only need one good insemination of the sow in the period of 24 hours leading up to her ovulation. I am not suggesting that producers go to one insemination, but if producers will focus more on the first insemination, their conception rates will go up. Clearly, a focus on that first insemination per estrus demands that the moment of ovulation is known. This is not all that difficult, considering that ovulation takes place at two-thirds of the way through the total length of time the sow will stand to the boar or to back pressure.

The length of estrus becomes an important factor in the calculation. Two major influences on its extent are the farm and the sow. Research has proven a definite farm effect, in that the records for a particular herd will show estrus length to have stayed relatively constant for all sows over a span of years. This has to do with the genetics present, the type of management, the layout and the way in which the producer works with their animals. The sow effect is well known to any herd operator. Simply, the earlier a sow comes into heat after weaning, the longer her estrus period will last.

Remember, the first insemination is the most important. Check sows twice daily for signs of heat. There is a place for hormones in swine reproduction but try not to use them in abundance. Most producers need to continue to inseminate sows twice, and most just need to do a better job of timing the first insemination.

Poultry (Dr. Theresia Lavergne)

Animal Welfare Group Continues to Target the Poultry and Livestock Industries

Will Ohio be the next state with a ballot initiative concerning confinement of poultry and livestock? Humane Society of the United States (HSUS) representatives are discussing poultry and livestock confinement with animal industry leaders in Ohio. The HSUS says they are considering a ballot initiative, for Ohio, similar to Prop 2 in California (passed in November 2008). The HSUS also gave Ohio the option of developing their own animal welfare guidelines in lieu of HSUS taking the issue to ballot. HSUS wants the state to phase out laying hen cages, sow gestation stalls, and veal crates.

The group may be targeting Ohio because of the size of its poultry and hog industries. Ohio is the second largest egg producing state with 28 million laying hens, and ranks ninth in hog production. Also, there may be voter support for an animal welfare initiative. According to an Ohio State University survey, 90% of respondents agreed that it is important that farm animals are well cared for, 85% believed the quality of life is important even for meat animals, and 81% indicated that the well-being of farm animals is as important as pets.

Animal welfare groups have targeted other states in the past and voters have passed welfare laws. In 2002, Florida voters approved Amendment 10 by a 54% vote. Arizona voters approved Proposition 204 in 2006 with a 62% vote. And, most recently, California voters approved Proposition 2 with a 63% vote in 2008. Also, Colorado animal industry leaders have agreed to a legislative compromise on animal welfare issues instead of allowing a ballot initiative.

The passage of these animal welfare laws illustrates the distance between the voter and production agriculture. The consumer (voting public) does not seem to understand how poultry and livestock are cared for. Therefore, animal industry leaders in Ohio are working to inform the public about animal production practices. The rest of the states need to join in the effort to provide poultry and animal production information to the public -- instead of allowing HSUS to say how poultry and livestock should be raised.

(Source: Feedstuffs, April 20, 2009)

Animal Health (Dr. Christine Navarre)

Bovine Trichomoniasis

Trichomoniasis is a bovine venereal disease that can cause substantial reproductive and economic losses in cow-calf operations that use natural service. The disease is caused by the protozoan *Tritrichomonas foetus* (*T. foetus*), and is commonly referred to as 'Trich'. Bulls can become chronic, asymptomatic carriers of *T. foetus*, because the organism can live in the microscopic folds of a bull's penis and prepuce. Infections in cows can result in early embryonic death, abortion, pyometra (pus-filled uterus detected at pregnancy exam), or infertility, influencing the reproductive performance and economic profitability of a cow-calf operation. Many states, including Louisiana, now have regulations on movement of bulls to prevent the spread of trichomoniasis.

How does trichomoniasis affect a cattle herd?

- Repeated breeding that results in long, drawn-out breeding and calving seasons.
- A high percentage of open cows at pregnancy examination, or detection of a wide range of gestational ages. Most embryonic/fetal loss occurs during the first trimester, and late term abortions are not common with trichomoniasis. Therefore, most reproductive losses are not detected until pregnancy exam or calving season.
- Pyometra(s) detected at pregnancy exam; this typically occurs in less than 5% of animals.
- Bulls show no clinical signs, but can become carriers.
- Cows and heifers will rarely show a very mild vaginal discharge, but this is usually never noticed. Therefore, like the bull, there are typically no initial clinical signs that a cow or heifer is infected with *T. foetus*.
- Cows and heifers can usually clear the infection in 2 to 6 months (sometimes longer), but usually not before sustaining some type of reproductive loss.

With so few noticeable clinical signs of trichomoniasis it is important to view a herd's overall reproductive performance to look for any indication of a problem. Trichomoniasis should be suspected, along with many other culprits, any time herd reproductive performance declines in a natural service herd. In herds with new infections the results can be devastating, with a long, drawn-out calving season and only a 50-70% calf crop. In herds where trichomoniasis has gone undetected for a long time, the results may be less dramatic because of temporary herd immunity. In such cases, the calf crop may only drop 5-10%, which is still enough to have a substantial economic impact.

Economic impact

- Loss of calf crop due to early embryonic loss or abortion.
- Loss of weaning weight due to delayed conception and late calving (since calves are born later in the season and then sold at lighter weights).
- Culling of open cows and infected bulls.
- Replacement of valuable breeding stock (i.e. open cows and infected bulls).

Risk factors associated with trichomoniasis

- Natural service
- Using leased or borrowed bulls, or introducing any 'non-virgin' bulls into a herd without prior testing
- Large herd size (smaller herd size decreases exposure potential)

Transmission

Tritrichomonas foetus is transmitted when an infected bull breeds a susceptible cow or heifer, or when a susceptible bull breeds an infected cow or heifer. Very rarely is *T. foetus* ever transmitted by contaminated semen or artificial insemination (AI) equipment, especially if semen is purchased from reputable AI studs and used with hygienic AI techniques. Reputable AI studs have strict biosecurity and quality control measures in place to ensure that their bull semen is not contaminated with *T. foetus*. So, AI using hygienic techniques with bull semen from a reputable source is an excellent way to prevent the introduction of *T. foetus*, although AI may not be practical in larger herds.

Treatment

Trichomoniasis is usually self-limiting in cows and heifers (they will usually clear the infection in 2 to 6 months), as opposed to bulls that typically become chronically infected carriers. Unfortunately, one of the complicating factors associated with trichomoniasis is that there are currently no effective treatments with Food and Drug Administration approval.

Prevention of trichomoniasis

- When possible, avoid grazing cattle on public lands where both bulls and cows have a much greater risk of exposure through coitus with other *T. foetus*-infected animals.
- Utilize artificial insemination when possible.
- Cull all open cows and heifers.
- Control animal movement into a herd. Maintain good fences to prevent *T. foetus*-infected animals from inadvertently entering a herd, or to prevent uninfected animals from temporarily entering a *T. foetus*-infected herd and then returning with *T. foetus* to their uninfected herd of origin.
- Purchase only virgin bulls and heifers as replacements.
- Maintain as young a bull battery as possible.
- Consider immunization against *T. foetus* in high-risk herds.
- Purchase replacement animals from reputable sources and test appropriate animals prior to introducing them to the herd.

Control of trichomoniasis in infected herds

- Test and cull all infected bulls. Infected bulls should be sold for slaughter only.
- Test bulls for *T. foetus* at least once before introducing them into a new herd. The test should be performed after two weeks of sexual rest. Ideally, a bull should have three negative cultures at weekly intervals.
- Utilize artificial insemination when possible.
- Reduce the breeding season to 60-90 days and cull all open cows and heifers. If there are too many open cows for culling to be economically feasible, then open animals should be separated and maintained as a separate herd.
- Culture all pyometras diagnosed in cows or heifers during pregnancy examinations.
- Submit all aborted fetuses and placental tissue to a diagnostic laboratory.
- Vaccinate against *T. foetus*.

Dairy (Dr. Charlie Hutchison)

Milk Prices

The April Class I price for milk was $14.16/cwt which is $0.93/cwt higher than March, but a far cry from the April 2008 Class I price of $21.71/cwt. The other class prices for April 2009 are: Class II at $10.49/cwt, Class III at $10.78/cwt and Class IV at $9.82/cwt. These class prices are averaging about $0.2167/cwt higher than the class prices in March, but pales in comparison to the average price of $15.53/cwt for these classes of milk in April 2008. Based on these prices and an estimation of utilization for each class of milk the Uniform Blend Price for April milk in Federal Order #7 should be $13.00/cwt ± $0.30/cwt.

The MILC payment for March milk was $2.01/cwt. The MILC payment will be lower in April because the Class I milk price was nearly a dollar higher. On the milk price alone, the MILC payment would be $1.50. Based on preliminary April grain prices, the feed cost adjustor will be 10¢, bringing the total MILC payment to $1.60.

The All-Milk price nationally for April was estimated at $12.00, up 20¢ from the month before. Corn prices were up a penny to $3.87/bushel. Soybeans were up 77¢ to $9.89/bushel but that was offset by a $4/ton drop in alfalfa hay (to $133.00). The price of milk over the cost of feed to generate that milk was $4.49/cwt., well below typical levels, according to numbers derived from the "Ag Prices" report.

The Class I price for May milk is $14.77/cwt which is $0.61/cwt higher than the previous month, but is $5.65/cwt lower than the same time last year. The May MILC payment for the milk portion will be $1.224/cwt.

The outlook for milk prices based on the Class III futures market and spot market prices for cheese and other dairy products appeared very favorable on March 27th but now the picture does not look nearly as bright for milk prices (see table below).

	March 27 Class III Futures	May 6 Class III Futures
April, 09	11.72	NA
May	12.74	9.81
June	13.77	10.53
July	14.85	11.76
August	15.75	12.93
September	16.20	13.71
October	16.45	14.35
November	16.40	14.48
December	16.37	14.53
January, 10	16.15	14.66
February	15.99	14.66
March	NA	14.94

The spot prices for dairy products on March 27 and May 6 respectively were Block Cheese $1.2900/lb & $1.1425/lb, Barrel Cheese $1.2975/lb & $1.0600/lb, AA Butter $1.1875/lb & $1.2350/lb, NDM Extra Grade $0.8500/lb & $0.8600/lb and NDM Grade A $0.8450/lb & $0.8800/lb. Obviously, the spot prices on blocks and barrels are having a tremendous influence on the class III futures prices. Sellers and buyers are dealing with a fairly large inventory of cheese, consumer demand is down and exports of cheese and other dairy products are down over 50 percent as compared to last year. Therefore, in order for spot cheese prices and futures to rebound, there has to be some indicator that milk supply and inventories of dairy products will get tighter later in the year, consumer demand for cheese and/or the export market increases before buyers will start purchasing a lot of cheese. Even though milk production is slowing nationwide and a new CWT herd retirement program will take some milk off the market in June and July, this has not promoted any significant increase in Class III futures or spot cheese prices.

Dairy Cattle Genetics

A consortium of researchers led by scientists at the University of California at Davis are unveiling the first comprehensive overview of the portion of the genome responsible for milk and milk production in cattle, along with six other species of mammals. Data produced by the overall genome sequencing will enable researchers to identify genetic variations in cattle that are important for not only milk production and milk composition, but also for reproduction, feed efficiency, meat quality and disease resistance.

Potential Dairy Legislation

A senate bill (S.889) was introduced by Senators Arlen Specter and Bob Casey to revise the federal order pricing system to include a cost of production factor. The name of the bill is 'Federal Milk Marketing Improvement Act of 2009' which is similar to a bill introduced in 2007. It would amend the Agricultural Marketing Agreement Act of 1937, by creating just two classes of milk: Class I (fluid) and Class II (all manufactured products). It would require USDA to annually survey producers on production costs to establish a minimum price for Class II milk, adding a regional differential to create the Class I price. The bill also would prohibit the deduction of "make allowances" from the farmer's milk price. The bill contains some supply management provisions such as setting annual milk production supply and demand bases and establishing provisions allowing USDA to reduce prices to farmers, specifically targeting producers who produce more than 3 million lbs. of milk per year, or those who increase milk production compared to the previous year.