

**NOTES & NEWS
FROM
COLORADO GENETICS, INC**

We have again put together our Spring Notes & News to pass along a few suggestions and ideas we have collected from meetings, professional journals, newsletters, breeders, etc. during 2008. Hopefully, you may find an idea or two that can be helpful in planning your breeding program.

PREGNANT COW FEEDING

FEEDING COWS IN COLD WEATHER

- If hay falls below a minimum of 50% TDN, a producer should consider supplementing with an energy based feed source.
- Remember, cows properly fed to reach a body condition score (BCS) of 5.0 to 6.0 tend to calve easier, milk well and have a shorter post partum period to prepare for breeding possibly as much as one cycle sooner.

FEEDING PREGNANT COWS TO HELP PREVENT SCOURS

- Feeding on dry range forage, protein supplement may be met with 5 to 10 lbs of medium quality alfalfa hay.

FEEDING TO ADJUST AND PREVENT CALVING TIME

- A 5 year study in Kansas indicates feeding daily between 4:00 and 6:00 pm resulted in 85% of the cows calving from 6:00 am to 6:00 pm.

CALVING MANAGEMENT

DYSTOCIA

- Nearly 50% of all young calf deaths (birth to 24 hours old) are due to calving difficulty i.e. early assisted calving increases calf survival and these cows tend to breed back earlier than cows experiencing a lengthy calving interval of an hour or more.

COLOSTRUM

- It is generally accepted that the ability for a calf to absorb antibodies from colostrum declines rapidly 10-12 hours after birth and probably cannot absorb these antibodies by the time the calf is 24 hours old. i.e. if the calf has not nursed in 2-4 hours, it should receive 1-2 quarts of colostrum milk (beef is better than dairy) or a commercially prepared dry powdered colostrum.

- Some oral probiotic preparations have been shown to also assist, along with sufficient colostrum, in the prevention of scours.

REPRODUCTIVE NUTRITION

- Of course, a well balanced ration of energy (TDN), protein and proper mineral supplementation for the environmental conditions for each ranch is of utmost importance ... consult with your local veterinarian to establish guidelines for requirements in your area.
- Energy balance in a ration is probably the single most important nutritional factor related to poor reproductive function in cattle.
- In general, breeding females should be in a positive energy balance in order to be gaining weight, while at the same time using energy to produce milk, maintain body heat, allow for growth requirements, etc. prior to and during the breeding season. The negative effects of overfeeding --- i.e. approaching the "fat cow syndrome" --- are thought to alter endocrine functions leading to insulin resistance, increased glucose and IGF-1 that can interfere with embryo production and survival.
- Also remember that breeding females that go directly from a winter ration to grazing lush grass with a high percentage of moisture may be energy deficient which can be detrimental to normal reproductive cycles.
- Nutritionists indicate cows do well with a ration containing 10-15% crude protein under most circumstances. Again, excess protein intake, resulting in increased urea and ammonia within the cow's body can delay embryo transport through the oviduct to the uterus, decrease progesterone production by the CL and alter the normal uterine pH (a decrease in pH) all of which may impair cellular development that can lead to embryo death.
- If cattle are on wheat or rye pastures, remove them 10-14 days prior to breeding in order to eliminate any excess protein effect from the feed.
- Important trace minerals can be provided through various high quality mineral product preparations. After years of use, backed by research and field studies we recommend chelated minerals in general, injectable Multimin and VitaFerm.
- Remember the old "standbys" of proper calcium/phosphorus ratios, adequate salt and vitamin A&D injections.

USING GENETICS TO IMPROVE REPRODUCTION

- When it comes to improving the most important area of beef cattle production, **the cowherd reproduction**, it has long been known that reproduction in the cow tends to be a low heritable trait and that an animal's own reproductive performance is not a good indicator of that cow's genetics level --- i.e. probably little genetic headway is made by simply culling cows that do not meet the expected reproductive guidelines.
- Direct selection for reproduction might well be achieved through the utilization of reproductive EPD's such as satiability and heifer pregnancy measurements.

- At a meeting held during the National Western in Denver, Pfizer Animal Genetics announced the future availability of GeneStar MVP (molecular value prediction) that will be a 56 SNP DNA marker panel containing four times more markers than currently available --- and the R&D continues of a rapidly expanding pace! Dr. Ronnie Green, of Pfizer, states in part that “future innovations may focus on fertility and other traits of economic importance to beef producers.” Hopefully this technology will soon be a valuable tool in selecting for reproductive traits.

ARTIFICIAL INSEMINATION

BREEDING KIT

- It has been announced that some bull studs are currently, or will soon be, packaging semen in ¼ cc straws rather than ½ cc straws as in the past, so be sure to check with your semen provider on new orders and you will need to buy a ¼ cc AI gun and sheaths for proper use of the straws. We have both available for purchase.
- Clean Cito cutters and scissors periodically to avoid bacterial contamination that may grow from semen and extender medium residues.
- Regularly check your thaw box temperature with a glass thermometer --- they do vary with time! --- for proper semen thawing at 95°F for a period of 30-45 seconds. Always completely immerse the straw in the thaw water --- you want **all** of the semen to thaw at the same time. Also, remember to clean the thaw unit often --- every few days if used often --- and refill with clean water.
- Consider the use of “gomer bulls” as a biostimulation to assist in heat detection for both A.I. and E.T. as the presence of a bull appears to increase pregnancy rates.
- Synchronized AI breeding trials in commercial beef herds have shown that when comparing AI vs. natural bull service, the cost comparison is very close, almost equal in some cases, but the genetics advantage can be demonstrated many times through the life of the offspring.
- Remember to place the A.I. gun in the body of the uterus or slightly further when depositing the semen. **DO NOT** pull back into the cervix to place semen in the cervix!! Dr Saake of Virginia State indicates that probably 98% to 100% of semen placed in the cervix does not make its way into the uterus to continue up the oviduct to fertilize an egg. Therefore it is important that all of the semen is in the uterine body (or somewhat into the individual horns) to provide the best fertilization results --- be just a bit aggressive with your technique to assure proper semen placement.
- When purchasing heifers for a breeding program, remember to make sure they never received any growth implant during their early life.
- Use of sexed semen continues to grow as more facilities come on line to provide a product for both beef and dairy. The technology continues to change and conception rates are improving in both heifers and cows when proper herd management and semen handling factors are considered.

- Reminder of the importance of heat detection (if no synchrony program is used) is shown by the following:

Heat detection rate	55%	70%	85%	95%
Conception rate	70%	70%	70%	70%
Pregnancy rate	39%	49%	60%	67%
- And as many as 50-50% of cows show heat between 6:00 pm and 6:00 am. Heat detect often.

ESTRUS SYNCHRONIZATION

- As most are aware, many synch programs are now available and in fact, they are often confusing due to look-alike names, various uses of the same products, number of days required for the protocols, times needed through the chute, for heifers vs. cows, varying results being reported, etc.!!!
- Through information and data presented at recent seminars and acquired by personal communications with industry leaders, researchers and cattle producers, the following is meant to be just a **guideline** and some updated notes for commonly used protocols.

MGA FOR HEIFERS ONLY!

- ◆ Feed MGA at the recommended dose of 0.5 mg/hd/day and to be fed daily in 4-5 lbs. of feed.
- ◆ 14-19 day program will increase and improve synchrony over the 14-17 day program resulting in the same or improved pregnancy rate.
- ◆ Heat detection is required.
- ◆ If an injection of GnRH (Cystorelin) is given 12 days after stopping MGA feeding, it has been shown to tighten the synchrony for breeding after the Prostaglandin (PGF), Lutalyse or Estrumate, is injected 7 days later.

14 DAY CIDR PROGRAM

- ◆ Replaces 14 day MGA feeding and improves synchrony and pregnancy results but requires 5 times through the chute
- ◆ CIDR only for 14 days → remove CIDR → 9 days later GnRH → 7 days later PGF → 70 to 74 hours later timed A.I. (TAI) + GnRH (33 day program)

CO-SYNCH PLUS CIDR FOR A.I.

- ◆ **Cows:** CIDR + GnRH in a.m. → remove CIDR + PGF 7 days later at 4:00 to 6:00 p.m. → A.I. + GnRH at 60-66 hours (7:00 to 9:00 a.m.)
- ◆ **Heifers:** CIDR + GnRH in a.m. → remove CIDR + PGF 7 days later in a.m. → A.I. + GnRH at 52-56 hours (2:00 to 4:00 p.m.)

5 DAY CO-SYNCH PLUS CIDR FOR COWS ONLY!

- ◆ Requires one more chute run for second PGF injection
 - ◆ Some studies show an increase in pregnancy rate as compared to the 7 Day program
 - ◆ A.I. at 72 hours after CIDR removal
- Do not leave CIDR in a cow/heifer longer than 7 ½ to 8 days or pregnancy rate will decrease.
 - After many years of data collection, Dr. Cliff Lamb of the University of Florida, recently reported studies involving 5 different synchronization protocols show that differences in pregnancy rates were not caused by synchrony schedule but by inconsistencies in nutrition, heat detection and management practices and that equal pregnancy rates can be attained by either heat detection or TAI.

EMBRYO TRANSFER

- ET offspring, both bulls and heifers, continue to bring a top dollar in sales this Spring indicating the added-value to be gained from superior genetic matings.
- Remember, the genetic value of your frozen embryos tends to decrease with time --- consider transferring or selling your frozen inventory this Spring.
- As testing for BVD PI becomes more commonly used, consider testing all prospective recipients, due to the fact, that all resulting ET calves from BVD PI positive recipients will also test positive.
- Nutrition for donors and recipients follows guidelines given earlier, i.e. have the cows on an increasing plane of nutrition (energy) prior to beginning an ET program and then continue to feed just for body maintenance through the superovulation procedure.
- Donors should be fed to optimize the supply of nutrients to meet needs. However, manipulating energy intake and protein content of donor rations, particularly moderate underfeeding in non-lactating cows, may further optimize superovulation responses --- DO NOT HAVE DONORS FAT!
- Do not feed cottonseed products to donors or recipients as it contains a toxin known as gossypol that is detrimental to embryo viability and will decrease pregnancy results of transferred embryos.
- Modified live virus (MLV) vaccines need to be given at least 30 days prior to breeding donors or transferring embryos. This is also true for all breeding females in the herd.

Contact Deb or me here at Colorado Genetics to visit with us about some of the following topics that may assist you in managing your reproductive programs.

- Embryo Transfer - Protocols are available for both heifers and cows to produce embryos for your own purebred herd or to sell domestically and internationally.

- Recipients - We currently have located breeders with recipients available that can be utilized for your embryo program if needed to increase your ET calf production. Recipients can either be purchased as pregnancies or be used to raise a calf that will enter your herd at weaning.
- AI Programs - Many synchronized protocols are now available at varied costs to allow AI combined with heat detection, heat detection plus timed AI (TAI) or simply using TAI to breed all the females on one day. We have proven programs for cows and a couple of new ones for virgin heifers that have recently been showing very acceptable results. If you plan on breeding larger groups (50-200 head) on TAI, Deb and I can assist you in semen thawing, breeding and record keeping.
- Ultrasound - Clients are increasingly using our ultrasound technology services to detect early pregnancies at 26-40 days, determining pregnancies from AI versus clean-up bull breeding at 50-80 days and sexing fetuses between 70 and 85 days of pregnancy. Also included is, diagnosing freemartin heifers, cystic cows, dead fetuses (that can quickly be aborted to allow re-breeding), uterine infections, non-cycling females and other reproductive anomalies.