

**NOTES & NEWS
FROM
COLORADO GENETICS, INC.
2012**

This year's newsletter will briefly review topics from our 2011 Notes & News and add a few new items or points of interest that have surfaced during the Spring and Fall breeding seasons of last year that appeared to be of importance to our clients.

Reproductive success is a critical factor in the present beef cattle management environment. With decreased cow numbers, increased production costs and the highest calf prices seen in the industry, it is certain that every pregnancy and live calf will be of economic importance to producers. Possibly a few of our ideas and suggestions can benefit your breeding program.

For more subject details, we suggest that you refer back to last year's letter, view it on our website at www.coloradogenetics.com, or simply request another copy.

EMBRYO TRANSFER

- When using sexed semen for breeding ET donor cows, it has been our experience that the best results have occurred when the semen is packaged with 5.0 million sperm per straw rather than the 2.1 million straws. Also, we have been utilizing an AI breeding time schedule that is designed especially for donor cows in order to increase egg fertilization.
- This year, CGI will be looking forward to evaluating a new superovulation product that will only require two injections rather than the current eight injections – we will keep you updated.
- Both in 2011 and so far this year, we are seeing a very noticeable increase in inquiries for the international export of embryos. We look forward to continuing to explore this market with our clients and please let us know if you have personal contacts we should utilize.
- At CGI we continue to re-synchronize recipients as this enables us to transfer embryos to a group of recipients twice within 30 days. Contact us for details.

MULTIMIN 90 – AN UPDATE ON RESEARCH TRIAL REPORTS DURING 2011

- MultiMin 90 is a subcutaneous (SQ) injectable form of the trace minerals zinc (Zn), manganese (Mn), copper (Cu) and selenium (Se).
- As in the past few years, at CGI, our protocol for ET donors and recipients as well as synchronized AI programs continues to include a subcutaneous (SQ) injection of MultiMin for each female.
- A recent study conducted both in Brazil and the USA reported an increase in pregnancy rates of as much as 10-13% when MultiMin was injected at the time of CIDR placement.

- The manufacturer of MultiMin states that the product can improve an animals' mineral status as quickly as 8-12 hours after administration. Remember, this product is only a supplement to your existing designed mineral program, not a substitute.
- Trial data from Kansas State University and Texas A&M indicates an advantage of 3-13% in overall pregnancy rate within a herd of cows and a 10% increase in timed AI pregnancy rates.
- A recent study indicates that beef calves receiving a recommended 1cc SQ dose of MultiMin at birth and again at the time of calthood vaccination, can show an increase in neutralizing antibody titers by day 30 following the vaccine administration as compared to controls (possibly disease protection is enhanced). We now have clients reporting very encouraging results as indicated by calves being more "thrifty" and showing a decline in calthood diseases – possibly the MultiMin is at least a factor in these positive observations.

ESTROUS SYNCHRONIZATION

- Cows
 - 1) *7-day Co-synch and CIDR*
This still remains the CGI reliable "stand by" synch protocol for cows producing years of acceptable pregnancy rates in well managed cycling cows. As an added advantage, this program can assist in "jump starting" cows that are near cycling status. Timed AI (TAI) with GnRH occurs at 60-66 hours after CIDR removal.
 - 2) *PG 6-day CIDR and TAI*
This synch program allows for both heat detection (for determining the percentage of cycling cows) as well as a TAI. This option requires more times through the chute.
- Heifers
 - 1) *7-day Co-synch and CIDR*
Many of our clients continue to use this program with acceptable results.
Remember – unlike cows, heifers need to be TAI'd with GnRH 52-56 hours after CIDR removal – contact us about proper CIDR insertion time to allow AI in daylight hours.
 - 2) *14-day CIDR-PG (with or without TAI)*
This is a relatively new program that, according to the research conducted by Dr. Cliff Lamb at the University of Florida and others, continues to result in very good AI pregnancy rates when used in well managed and cycling heifers.
 - 3) *PG 6-day CIDR (with or without TAI)*
Dr. Perry of South Dakota State University indicates that the PG prior to CIDR insertion may initiate a new follicular wave in some heifers that would tend to increase pregnancy rates. We will keep you informed as data continues to be collected.
- With any CIDR synch program, a cow basically has four opportunities to become pregnant within 65 days. At today's prices, one missed breeding cycle could equate to \$60 or more per head lost for each of those calves.

AI, BULLS and SEMEN

- Ultrasound pregnancy testing can best be utilized about 90 days after fixed time (FTAI) to determine the difference between AI and bull bred pregnancies. This timing also assists in planning early for the management of late bred or open females.
- Last year, a Missouri replacement heifer program showed that heifers bred by natural service averaged \$1492.00 per head vs. AI'd heifers at \$1751.00 for a \$259.00 AI advantage! Also, if the AI pregnant heifer was also AI sired, the added advantage was \$241! (Of course, the present market is even stronger for pregnant heifers.)
- When using semen from young "yearling" bulls for AI, it is often suggested to have a sample re-evaluated, especially if the semen has been handled and shipped often, to better ensure fertility results. Some young, over-conditioned bulls have marginal fertility characteristics that may be a detriment to a breeding program.
- To improve heifer pregnancy rates, it is often helpful to have a reproductive tract score (RTS) palpation done 30-60 days prior to breeding. On a score of 1 to 5, it is advised to only breed heifers scoring a 4 or 5 that indicates normal uterus and ovarian maturation.
- In bulls, MultiMin 90 has been shown to potentially influence increased spermatogenesis (sperm production), decrease abnormal sperm and increase sperm quality when given as early as 90 days prior to breeding – i.e., possibly at BSE semen evaluation time.
- Dr. Patterson of the University of Missouri, offers the following cost analysis of AI vs. natural service breeding:
 - Bull price of \$3740.00 with a lifetime of production of 45 calves
 - Semen at \$25.00 per dose
 - Synchrony cost of \$20.00 per head
 - Conception rate of 55%
 - Producer could AI 83 heifers for the same cost of the bull resulting in 46 pregnant heifers.
- An author recently suggested that a young bull be placed with only one female per month of age of the bull for best breeding results i.e. an April born bull may best be placed with only 13 heifers the following May.

REPRODUCTIVE NUTRITION

- Testing of available feeds for nutrient content has been of particular importance recently due to drought conditions. Crops from drought areas may not only be deficient in energy and protein, but they can be contaminated by the increased uptake of potentially toxic levels of various minerals – check with your nutritionist.
- To increase body condition score (BCS) on a selected group of cows, a suggested supplementation can be ½ corn and ½ dried distillers grain and solubles at approximately 5 lbs./head/day for thin cows or every other days for moderately conditioned cows. It is estimated that a female may need to gain 80-100 lbs. to increase BCS by 1 point.

- A recent Canadian study in 39 beef herds reports a significant association between serum copper levels and pregnancy status. If copper concentrations were less than 0.4ppm, there tended to be an increase in open cows.
- Inexpensive mineral products may have many components, such as magnesium, copper, etc., that are “oxides”. Nutritionists indicate these oxides keep the mineral cost down but are very poorly absorbed. Chelated minerals are much better utilized by the cattle. Check your labels and visit with your nutritionist if you have concerns.
- When feeding rations including distillers grain products, be sure to watch the sulphur content of the complete ration.
- Research from Purdue University and the University of Wyoming reported as much as 20% decline in conception rates in a group of heifers when the plane of nutrition was noticeably decreased immediately after breeding – i.e. consider not moving Al’d heifers from a dry lot ration to an early green grass pasture that is primarily water and chlorophyll!
- A small trial at Oklahoma State University involving cycling heifers, reported that when a group of these heifers was placed on a diet that was only 40% of the maintenance requirement, that approximately two thirds of the heifers had ceased cycling in 14 days!
- At a recent American Embryo Transfer Association (AETA) meeting, Dr. Humbolt stated that a negative energy balanced ration fed to postpartum cows definitely has a negative effect on oocyte (egg) maturation and development with a potential to decrease pregnancy rates due to increased early embryonic death (EED).
- Research continues to indicate decreased fertility in the “fat cow syndrome” may at least partially be due to insulin resistance. Insulin is a driver of IGF1 production in the follicle which has a positive effect on ova quality – therefore, overly fat heifers or cows may produce ova/embryos of lesser quality than normal.

ODDS AND ENDS

- Plans for cattle handling facilities including corral designs, portable windbreaks, cost saving hay feeders, etc. are available from CGI.
- Remember, when traveling abroad to take precautions against bringing home a foreign disease to your herd or others.
- Producers have reported that the Sandhills calving system continues to be a successful management program to assist in the prevention of calf scours.
- A possible benchmark for the calving distribution within a beef herd has been suggested as follows:
 - First 21 days – approximately 65% of cows have calved
 - First 42 days – approximately 85-90% of cows have calved
 - First 65 days – approximately 95% of cows have calved
- It has been reported fertility rate after breeding in beef cows can be as high as “89% – 100%”. Pregnancy rates lower than these figures are generally due to early embryonic death (EED). Factors affecting increased EED may include, but are not exclusive to, moving dry lot females to early grass with a loss in weight, heat stress, vaccinations too near to breeding dates; decreased protein/energy feed sources, etc.

- A recent study at Texas A & M University was conducted with 900 cows to determine pregnancy loss due to early pregnancy diagnosis by rectal palpation at approximately 30 days of pregnancy. The cows were re-examined at 60 days of pregnancy and it was concluded that rectal palpation did not increase pregnancy loss as compared to controls that were only ultrasounded.