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Getting the most out of your Embryo Transfer (ET) Program

Ever wonder why some producers seem to always have great results when discussing their flush year? How come some do better than others? How can we get those great results? These are common questions we hear as ET vets and especially now as we get into the busy season for all things ET, so I thought I would do my best to summarize how to achieve your best flush results this season!

Best times of year to flush?

- Spring or Fall
 - Avoids cold or heat stress which can affect results
 - Length of days – adequate light and sunshine benefit results
 - Feed changes – by spring, feeds are stabilized with higher digestibility and less variation improves results

Timing since calving

- 60-150 days in milk (or since calving)
 - Less than 60 days, animals are still transitioning from calving and reaching peak milk = negative energy balance which hurts results
 - Over 150 days – how come we have waited this long? Did she have transition issues? Was she bred a few times and didn't catch? Ideally animals are in good reproductive health and cycling on time each cycle.

Choosing Donors

- Young, highly fertile donors
 - Young animals, although they may not have totally proven themselves yet, they are the future and are most likely to make the most, best quality embryos.
 - Old animals (>7 years) are no longer at their most fertile stages of life. There are exceptions to these rules but more common than not, they produce sub-par results.
 - Did we have trouble to get her to do what we needed to do to get her started?
- Health Status
 - Ideally donors have not had any disease in their lactation – RP, ketosis, metritis, cystic, mastitis, lameness – can all affect fertility
 - Body condition score – animals that are too thin, do not have enough reserves left to adequately supply their reproductive system – this encompasses animals that are milking very well, show animals, etc.

Choosing Recipients

- As important as the donors! Pregnancies and live calves are the ultimate goal – not just getting the embryos in!
 - Regular, visual heats every 21 days (seeing blood is useful too) prior to using
 - Heifers – between 12-16 months of age, older heifers tend not to work as well
 - Cows – known high fertility animals, in beef also known to be good mothers
 - Good body condition score and well grown



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- Free from disease or injury
- Not overcrowded or stressed

Nutrition program

- Vitamins and minerals – ensure that animals are getting adequate amounts! This seems to be an area that can be overlooked or forgotten and can make or break whether you get pregnancies! High quality mineral can improve results in both donors and recipients as a result of increased vitamins and trace minerals
- Adequate body condition score – not too fat or thin

Semen

- Fertile semen
 - Use semen known to work on your farm before
 - Different batch dates to mix – lowers risk
 - We have statistics on bulls that we have used on flush – call us if you want to know how that bull has done in past on flushes with us!
- Conventional vs Sexed
 - Less sperm with sexed than conventional
 - Generally less success with sexed in older animals
 - Generally recommend more doses of sexed than conventional
- Timing
 - Sexed semen needs to be later than conventional because it is already capacitated – ensuring cows are bred the day after their heat (20hr) is needed
 - If too early and stopped too soon, especially sexed, semen will not be adequate to fertilize oocytes

Protocols

- Follow given protocol – no extra shots, no forgotten shots – yes it happens, if this does, please call us to discuss how to fix the situation prior to flush day
- Adjust protocols compared to results. Each flush protocol and flush recovery is compared for best results.
 - Did she not respond...
 - Too small of dose?
 - Poor timing on start date – ensure we know about cow heats that day or shortly after to maximize timing
 - Poor cyclicity beforehand?
 - Did we have trouble to get her to do what we needed to do to get her started?
 - Milking hard?
 - Injection site?
 - Drug interference?
 - Feed changes?
 - Poor weather?



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- Some type of stress – shows, travel, pen changes, sickness
- Did she overstimulate?
 - Too large of dose?
 - Wrong protocol?
 - Drug interference?
- Drug options
 - Follitropin vs Ovagen?
 - Chorulon vs Fertiline?
 - Ultrasound guided DFR vs Setup shot?
 - PMSG?
- Many different protocols to try – starting from when they are set up to within the program – discuss what the plan would be for a donor even if you only plan to do her once. This will help make decisions for future on your farm.
- Injection sites and length of needle
 - 18 gauge x 1.5 length needles
 - Back leg site
- Drugs
 - Kept in appropriate storage - some need refrigerated
 - Proper timing

Genetics

- Some animals are good flush animals, and some are not. Their innate number of antral follicles (the ones that respond and grow to make many follicles=embryos) are part of their genetic make-up.
- Animals with known good flush histories make for better flush animals.
- If an animal does not respond twice in a row to a protocol → most likely not a good flush candidate. *There are exceptions
- Cows have very repeatable results. Some are “chickens” and others are average.

There are obviously exceptions to all of these suggestions but farms that have done well have paid meticulous attention to many of these points. We continue to learn and change as new information comes forth. Ultimately, your success is our success, and we want to be part of making your ET program work for you to achieve your best possible results. If you have more questions, please don't hesitate to call us today to discuss.

Interested in IVF? We have great news right around the corner. Call today and ask for Christie to discuss!

Christie Morrow DVM



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Covid-19 protocols

With the presence of Covid-19 in Ontario, our team is taking additional precautions during our farm visits, as highlighted below, to help mitigate the spread of this disease in our community. We have chosen to continue strict precautions as we move through Ontario's phased reopening. Please be aware that as this pandemic develops, we may have to adjust our procedures in response.

Veterinary farm visits

- Once on farm, we will try to maintain a distance of at least six feet from people wherever practically possible
- Care will be taken to wash and disinfect hands and contacted tools and equipment before re-entering our vehicle
- A mask will be worn whenever practically possible, especially in closed air spaces or when physical distancing is not possible. We would like our clients to do the same while we are on farm.

Technician farm visits

- Techs will continue to assist veterinarians as necessary. The same precautions as above will apply
- Technicians will continue to provide services, such as dehorning, but we ask that no farm personnel are in the immediate vicinity during their visit

Clinic procedures

- Our clinic will remain open, but business hours may be subject to change
- Clients will be met at the door by one of our customer care representatives
- Purchases will be set out at the door
- Laboratory samples will be received at the door

If you have experienced any Covid-like symptoms or have had exposure to someone with symptoms, we urge you to please notify us before your next vet visit so we can take the appropriate precautions.

We thank you for assistance in helping us continue to provide veterinary care while considering the health of yourselves and our staff.

Stay healthy!