



GENSTOCK NEWS

ANIMAL BREEDING & FLEECE TESTING SERVICES

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Welcome to the Spring edition of the Genstock Newsletter. Time for sheep sales & shows, lamb marking and yes preparing ewes and rams for mating or artificial breeding programmes.

A WORD FROM CRAIG

During the winter months, it is a good time to reflect on last years mating programs and to make plans for the forthcoming breeding season.

Demand for Pregnancy scanning continues to increase with just over 400,000 ewes scanned for wet/dry and 175,000 scanned for multiple births. Higher fertility flocks are making considerable economic gains with litter size diagnosis, especially when lambing early and feed availability is limited.

Recent work by Rob Davidson (WAMMCO) and Keith Croker (AgWA) has proven that providing twin bearing ewes with extra energy at lambing not only increases lamb survivability but can increase weaning weights by up to 2kg per lamb – approaching that of single bearing ewes.

The tight spring in 2004, resulted in greater variations in pregnancy rates. Ewes that maintained higher body condition during that period achieved acceptable conception rates whilst those that did not recover post weaning saw disappointing results. There is increasing evidence that by maintaining ewes at body score 3 throughout the year will achieve maximum production rates.

Mating ewes on barley stubbles once again is producing

excellent conception rates – as good as lupin stubbles.

Damaged teats continue to have an effect on weaning percentages. During our AI / ET season, the level of teat damage observed due to shearing is of major concern. Flocks have been identified with up to 8% of ewes affected. It only takes a tiny cut on the end of the teat duct to render that side of the udder useless. Please instruct shearers to take care around the udder – especially at lamb shearing

Many clients utilising pregnancy scanning are now remating their dry ewes however late lambing presents new challenges, both in carrying over late lambs and also having ewes in a suitable condition for the next mating.

A very useful management practice being used by a number of clients is to place a backup ram in each mob, 2 weeks after the end of mating. These rams are then removed at pregnancy scanning time – 6 weeks post mating, and the dry ewes are rescanned in a further 6 weeks.

This practice reduces the time period between lambing and increases overall lambing percentages through better ewe utilisation.

STOP PRESS

JIVET & VITRIFICATION EMBRYO FREEZING

Following recent discussions with Prof Chis Maxwell, Professor of Animal Reproduction at Sydney University and Dr Simon Walker at the South Australian Research and Development Institute SARDI, there is renewed interest in vitrification (ultra rapid freezing) of embryos because of the newly developed "Cryotop" method. Unlike previous vitrification methods, the cryotop method may prove to be commercially viable and we will be performing commercial trials to validate this before offering the service to clients.

As this newsletter goes to print, Genstock is organising both a JIVET (Juvenile Invitro Embryo Transfer) program on 6 – 8 week old lambs with SARDI whereby the invitro work will be performed on centre at Genstock and also the Vitrification of embryos utilising the new cryotop method.

Watch this space for updates.

"The Big Chill"

Recent developments in chilled Embryo technology now enables embryos to be held in a controlled environment at low temperature for up to 24 hours. This allows embryos to be transported overnight and transplanted into a client's recipient ewes the next day.

Results during the past 12 months have shown that chilled embryos have a take rate only slightly below fresh transfer and markedly better than frozen embryos.

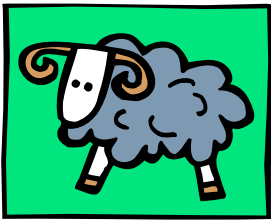
Murray Drage of the Amuri Creek Dohne Stud, achieved an 80% take rate with chilled embryos flown overnight to a client in the Eastern States.

\$250 Pregnancy Scanning Free

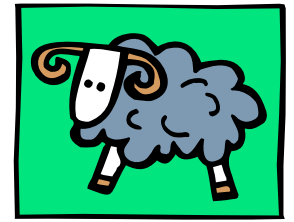
In order to obtain feedback on Genstock Scanning services, we have included a form to be filled in by all clients that utilised Genstock scanning services last season.

Client feedback is essential to maintain the best possible service. One lucky client who returns the attached form will receive \$250 discount from next season's account.

GENSTOCK: FOR WHEN RESULTS REALLY COUNT



RAM TRAINING FOR SEMEN COLLECTION

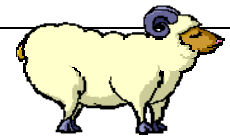


IT IS IMPERATIVE THAT RAMS ARE IN OPTIMUM HEALTH STATUS FOR SEMEN COLLECTION. SEMEN QUALITY IS STRONGLY CORRELATED TO BODY CONDITION. POOR QUALITY SEMEN GIVES POOR CONCEPTION RATES.

- If it is a requirement to have animals kept inside, then the rams need to be acclimatized to a hard feed diet for 2 weeks prior to entry to the centre. Always slowly introduce a change in diet.
- It is preferable that the rams are shorn before entering the centre. With less wool (weight), the ram will be far more enthusiastic and easier to collect.
- If shearing is not possible, then please clip long wool from around the prepuce. This enables easier and cleaner collection of the ram.
- Ensure good animal husbandry practices have been carried out recently such as:
 - Foot paring, Horn trimming, Lice treatment, Drenching, Fly Strike treatment
- Examination and palpation of testicles should be undertaken to check for presence of abnormalities and to ensure good tone or firmness of testicles.
- Familiarise rams with human presence on farm for at least ten days prior to collection. One recommendation is some light hand feeding.
- If the rams are untrained, run the ram/s with a small number of ewes (approximately 10) for a few days. Ensure the rams have a couple of days break before bringing into the centre.
- It is also useful to separate the rams to acclimatize them for individual penning when at the centre. Paddock rams are individually kept in well fenced, shady plots and rams that have been housed are in individual pens on grating which are cleaned daily.

The best time to freeze semen is in Winter / Spring when the ram/s have regained body condition after joining in Summer. Green feed is high in essential vitamins and nutrients and improves semen quality. The semen production cycle is 6 – 8 weeks so please allow at least a 2 month rest period after joining before bringing rams to the centre.

Biosecurity Measures



Rams for Semen Collection

- All clients are required to sign a declaration on arrival that to their knowledge the rams do have not have Johnes, foot-rot or Brucellosis.
- Rams are foot-bathed on entry and exit in a 10% Zinc Sulphate bath for 15 minutes. This eliminates any bacteria living in the hoof which could be a precursor to scald or foot-rot.
- All rams are blood tested for Brucellosis ovis on entry. This also applies to Brucellosis accredited flocks unless an accreditation certificate is supplied, to state the ram had been blood tested within the last 3 months prior to entry.
- Rams that have semen frozen or licensed for sale have a sample of semen tested for Brucellosis ovis, Actinobacillus seminis and cultured for inflammatory cells. Most bacteria that are present in semen cultures such as E. Coli, generally live in healthy rams and only become a risk when they build up in numbers. The main indicator that the ram is excreting bacteria in harmful quantities is the reduction in semen quality and the presence of inflammatory cells in the semen culture. In the cases of Actinobacillus seminis, the ram is generally infertile. If the semen does have bacteria present in significant numbers but is not infectious (that is, does not have inflammatory cells), then the ram is treated with the recommended antibiotic as a precautionary action ONLY. The recommended antibiotics are supplied on the result sheet from the Department of Agriculture's Health Testing Laboratory.
- Teaser ewes used for ram collection are drenched and lice treated off shears. Ewes are routinely tested for Brucellosis & Johnes.

Donor Ewes for Embryo Transfer

- All clients are required to sign a declaration on arrival that the ewes do have not have Johnes, foot-rot or Brucellosis to their knowledge.
- All donor ewes are foot-bathed on entry and exit in a 10% Zinc Sulphate bath for 15 minutes. This eliminates any bacteria living in the hoof which could be a precursor to scald or foot-rot.
- All donor ewes are drenched with Ivomec® and injected with Scabi-gard® on entry unless previously performed.
- Clients are advised to shear and lice treat donor ewes prior to entry to the centre.

On farm AI/ET and Pregnancy Scanning

- All equipment such as pregnancy scanning crates are cleaned before arrival to the farm.
- All veterinary and technical equipment is either sterilised or disinfected prior to use. There is very minimal chance of cross infection between farms.



GENSTOCK: FOR WHEN RESULTS REALLY COUNT

DNA TESTING

By Tom Watson, Genetic Technologies

The advent of DNA testing now provides sheep meat and wool industries with a cost-effective and rigorous method of ensuring product quality, reliability and genetic gains from breeding programs.

Genetic Technologies Limited, an acknowledged Australian leader in DNA testing, has introduced a DNA testing service which utilises 'GTG BiogeneCards' to collect blood spots for DNA analysis.

The company says its unique, bar-coded cards enable accurate, safe and simple DNA recovery 'on-farm'. The barcodes ensure accurate sample tracking and high-volume processing through an ultra-modern, automated robotic lab environment.

"With industry data suggesting an incorrect parentage assignment rate of between 20-28% under natural mating conditions, the question really should be 'Why wouldn't you use DNA as a tool to improve your rate of genetic progress?'" says Tom Watson, Genetic Technologies' Director of Livestock Business Development for Australasia.

With a sheep parentage marker panel developed in Australia and validated using Australian and New Zealand ovine genetics, some 10-15 DNA markers are used for reference profiling, parentage assignment and trace-back verification of sheep breeds. These highly polymorphic markers will assist to ensure exclusion rates up to 99%.

Dr Watson says this information will assist stud breeders as well as meat and wool growers to effectively manage breeding, with a view to better identification and tracking of animals generated from natural matings, or artificial insemination and embryo transfer programs. Multi-sire or syndicate mating programs can become standard practice and intervention at lambing time for identification purposes may be avoided altogether.

"The same DNA technology can also aid in the diagnosis of parental sources of lethal or deleterious genes and mutations, such as Spider Lamb Syndrome."

With experience in human and forensic genotyping, Dr Watson says that Genetic Technologies has a significant investment in expert staff and modern equipment. The launch of DNA testing for livestock was a natural business extension given that DNA profiling has become the international standard used by breeders and breed societies alike.

Any enquiries can be directed to Genetic Technologies Limited (GTG) at tom.watson@gtg.com.au or animals@gtg.com.au or by phone at +61 3 9415 7688. The company's website is www.genetictechnologies.com.au.

Gudair Vaccine

Genstock continues to offer very competitive pricing for Gudair vaccine. Approximately 50,000 doses were sold to clients last season. Please note that to comply with the National Livestock Identification Scheme, all sheep vaccinated must receive an approved ear tag containing the owners brand plus a "V" in a circle.

AETS CONFERENCE

Carol Miller, Genstock Embryologist

Recently I had the opportunity to attend the annual Australian Embryo Transfer Society conference in Darwin.

The keynote speaker was Charles Looney, a renowned Artificial Breeding Specialist from Texas USA. Charles gave an interesting speech on donor selection, preparation and management to improve fresh and frozen embryo pregnancy rates in recipients. He referred to these factors as a long chain, where each of the factors is a link on the chain. If one link of the chain is weak (ie. poor semen quality) then the chain is broken and the resultant embryo transfer (ET) success is limited. This image highlights the importance for both clients and the artificial breeding centre for a holistic approach to ET to achieve the best results.

Peter Long a Lawyer from Stacks/Goudcamp Gunnedah updated us on legal requirements and changes within the industry. The importance for clients in signing the pre work contracts was highlighted as being standard practice across the board for the artificial breeding industry. It would be appreciated this coming season if these could be signed and returned promptly.

Other points of interest to Genstock clients (in particular clients programming their own recipients 'on farm') came from Matthew Hallam of the Animal Logic Group. He spoke primarily on the importance of nutrition for reproductive efficiency. He stressed the need for recipient ewes to be of body condition score 2 -3 prior to ET programming and the subsequent maintenance of a rising plane of nutrition from pre program to embryo implantation. Mathew Hallam confirmed the post ET recipient requirements which Genstock currently recommends. He spoke on the importance of NO STRESS; especially the 30 days post implantation and keeping ewes on a level plane of nutrition with no supplementary protein. Please note- Genstock provides a fact sheet to aid you with this information.

Bill Lindemans of Cryologic gave a talk on the dynamics of Embryo freezing and technology advances with Vitricification (Ultra rapid freezing) of Embryos. Genstock is currently trialing these techniques and clients will be informed of the results.

FLUSHED WITH SUCCESS

EMBRYO TRANSFER 2004/2005 SEASON

- GENSTOCK FLUSHED 1666 DONOR EWES (35% MAIDENS)
- TRANSFERRED 12,968 EMBRYOS
- ACHIEVED 10,033 PREGNANCYS – (77.4%)
8.26 EMBRYOS / DONOR
6.39 PREGNANCYS / DONOR

Staffing

Tim Stevenson has recently left Genstock to take up a position as State Manager for Allflex. He has purchased "Kuala-Dale" previously owned by Haydn Sprigg. We wish Tim well in his future endeavors.



Announcement

All the staff at Genstock are very excited to announce the safe arrival of Julia and Carlo's baby girl, Sienna Rose. Julia will return to work in October to organise your artificial breeding programmes for this season

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