



GENSTOCK NEWS

WINTER
2019

ANIMAL BREEDING & FLEECE TESTING SERVICES

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BEST AI RESULTS IN YEARS

Genstock breeding services overall results for the 2018 – 19 season, have been very pleasing. The tight start to the season has affected lamb survivability however client satisfaction appears to be high. Some clients have achieved over 80% conception rates in November.

Scott Welke from Westwood Farms in Esperance attributes his improvement in results by utilising vasectomised rams for 2 weeks prior to CIDR insertion in mid October. Similarly, Sherwood Poll Dorsets achieved 95% conception rates in their studs naturally mated in early December. They also achieved a 200% increase in A - grade embryos implanted from Embryo Transfer (averaging 12.4 embryos per donor flushed)

Both studs used 3% vasectomised rams for two to three weeks prior to CIDR insert for AI or ET or rams going out with ewes.

Programme results have provided strong evidence that utilising vasectomised rams achieves the optimum "ram effect", rather than using testosterone treated wethers. This allows the ewes to cycle prior to CIDR insertion or ram introduction. Coupled with ensuring the ewes are on a rising plane of nutrition and have access to good quality roughage will improve overall results.

Vasectomisation is a quick, simple Veterinary procedure whereby the ram is lightly anaesthetised and the section of the Vas Deferens is removed. We would encourage our clients to think about vasectomising some cull young rams, so they are ready for service next breeding season.

PMSG UPDATE

Vetoquinol are no longer supplying Pregnecol®. DO NOT WORRY, we have sourced another product. Novormon® has been trialed last year by Genstock and used for many years by other AI companies in the east. Unfortunately, the product is more expensive as the final hormone is retested prior to dispatch to ensure the PMSG (hormone) level is stable. There will be a slight increase to AI / ET prices to cover this.



Angenup 2019 Sale team

A key point for improving ram fertility is to allow rams access to sunlight, green grass, roughage & reduce the periods of high protein.

A WORD FROM CRAIG

Whilst the wool market has declined in recent times, the overall outlook for the sheep industry remains very buoyant. Wool prices are still at very strong levels with the drought in the Eastern States having an effect on quality. The margin spreads between the 18 – 22 micron wool are very minimal and at this stage wool cut is providing strong incentives for the medium to broad end.

Although the drought in NSW (central northern) and southern Queensland continues, demand for store sheep and breeding stock has not been affected. Limited supply, strong demand from international customers and a low Australian dollar are contributing to the record prices being paid for sheep meat. These three scenarios are set to continue in the short to medium term which gives a very positive outlook for the sheep industry.

Dr Michylla Seal's partnership in Genstock is receiving very positive feedback. Michylla's keen interest in developing flock health advice is gaining momentum and we encourage our clients to utilise this additional service as required.

Liz Barby has successfully attained reaccreditation for Sheep Genetics Australia Carcase Scanning which further compliments our list of Genstock services. Liz's results from her ultrasound on the live animal were incredibly accurate and repeatable, making her one of ONLY 13 accredited scanners Australia wide.

Michylla was approached by the Department of Agriculture in Canberra to project manage updating the accreditation process for the Department of Agriculture Approval of Export Embryo Transfer Veterinarians (ETV). The purpose of the project was to support new and potentially improve market access for Australian livestock embryos. The aim is to deliver an examination system that reflects current international standards. The group is near completion of the project and they hope by revising the ETV approval process it will strengthen and maintain our export markets.

During the last 6 months Michylla has been the sheep representative on the Ruminant Genetics Trade Advisory Group (RGTAG). It is the voice of the ruminant genetics trade industry in Australia with direct liaison between the industry and government at various levels. Michylla has been actively involved representing the sheep industry in setting import and export protocols and advising government of issues. Previously issues around protocols and interpretations of protocols has been managed inconsistently, with both industry and the department having frustrations and delays over the issues surrounding the smooth import and export of genetics. The new RGTAG has a structured, elected, committee of management representing the different species and geographical locations across Australia. Interested livestock breeders may become members of the RGTAG. Please ask Michylla if this interests you.

I would like to wish all our clients the best of luck who are exhibiting at Bendigo Sheep show this weekend.

The wide-spread rainfall of recent times throughout the state has been very welcomed and I really hope the season finishes off well for everyone. Thank you for your ongoing support, it is greatly appreciated.

Cheers *Craig*

GENSTOCK SPONSORSHIP

Genstock is grateful for our client's business, so we love sponsoring events. We would like to say congratulations to the following 2019 winners.

Woolorama

1. Most points, Merino ewes – Tilba Tilba Stud
 2. Most points in Sheep & Wool – Shirlee Downs Stud
 3. Interbreed Champion pen of 3 – Geoff Crabb White Suffolk Stud
- Katanning Most Points in Show – UPCOMING

We also sponsor events such as Narrogin Long Wool Day, Kojonup Golf Club and the Kojonup Show Dog Trial.

GENSTOCK: FOR WHEN RESULTS REALLY COUNT

RAMPING UP REPRO FIELD DAYS

It is extremely important in late Winter / early spring to check your rams for suitability to mate during summer. Ensure all rams receive a health check at least 8 weeks prior to joining.

- Jet the poll area with a long acting fly treatment and check regularly for fly strike leading up to joining
- Treat for internal and external parasites
- Inspect hooves and trim if necessary
- Rams should be shorn 8 – 10 weeks before joining
- Check the penis, pizzle and testes - testes should feel firm, springy and be free of soft or hard lumps
- Poor teeth will interfere with grazing and overall body condition

Finally, if purchasing rams this year, buy from brucellosis free accredited flocks or flocks that have had a recent blood test.

In Conjunction with AWI and Zoetis, Dr Michylla Seal will be involved in the "RAMPING UP REPRO DAYS" to be held at Frankland River and possibly another venue in August.



WORKSHOP INVITATION – Frankland River

WHERE: Ettridge Farms, 1606 Wingebellup Road, Frankland River

WHEN: Tuesday 30th July 2019 from 8:30am (9:00 am start) to 2:00pm

PRESENTER: Dr Michylla Seal

COST: \$75 per person – including morning tea, lunch and workshop materials.

Catering by Frankland Community Café. Places limited to 20.

RSVP: ESSENTIAL (by 29th July) – online at <https://sheepsback.com.au/events/518/>

WHAT WILL BE COVERED

- Importance of pre-joining ram preparation
- Ram anatomy and physiology
- Animal health – must do's
- Ram inspections – 4 T's (practical activity)
- Best practice ram management
- Timing of preparation
- Ram joining %
- Economics of ram purchases (why best practice pays off)

A practical, hands on and interactive workshop that will provide you with the most up to date information from experienced sheep veterinarians on how to optimise ram performance.



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ANIMAL BREEDING SERVICES

RECENT SEMEN ANALYSIS COURSE IN WAGGA

At Genstock, we endeavour to stay abreast of the recent research and developments in the reproduction and flock health field. Michylla recently attended an Andrology (study of male reproduction) update at Charles Sturt University in Wagga Wagga. It was a great collaboration between reproduction specialists across a wide range of species including cattle, sheep, deer/elk, dogs and equine.

Sperm is a streamlined efficient mechanism to deliver chromatin (DNA) to the egg (oocyte). In order to be streamlined, it has limited repair mechanisms, therefore we need to minimise the stresses that can damage sperm. From discussions with an andrologist we have been able to determine some possible reasons for issues we have seen in some batches of semen and poor conception rates. It also has re-enforced our concerns about oxidative stress on semen due to long term high protein diets. We know that seminal plasma plays an important role in how semen survives cryopreservation. At this stage we do not know exactly what component of the seminal plasma increases the resilience of ram spermatozoa to the freezing process. Research in this field is continuing and we hope one day be able to add an additional component to our diluent to increase the resilience to ram spermatozoa to freezing.

In order to achieve this, we do require motile sperm with minimal abnormalities. Abnormalities can be induced by numerous factors such as a young ram with immature sperm, heat stress, a mild acidosis, increased temperature in the testicles, fever, low testosterone levels, mineral deficiencies, such as Zn, Se and vitamin deficiencies such as vitamin E and D. Some abnormalities are transitional, but some abnormalities may persist for the lifetime of a ram, rendering the ram infertile. Some research, in the human field, has demonstrated that effect of sperm on the embryo quality and viability post fertilisation can actually cross generations This means that spermotoxic effects can transcend generations – currently the mechanism of how this occurs is unknown.

Ultimately, our aim is to produce the highest quality sperm possible which requires a collaboration between us as the semen freezing company and you managing the rams in the months leading up to semen collection. From techniques learned at the recent workshop, we will start implementing a few changes in our semen laboratory. This will ensure we are producing a top-quality product, so our clients get the best possible results from semen we have frozen.

GENSTOCK: FOR WHEN RESULTS REALLY COUNT

SHEEP HEALTH - Ewes

Mastitis

A MLA research project has documented the incidence of clinical cases of mastitis in different breeds of sheep in Australia. In Merinos it is approximately 1 to 3%, in Crossbred ewes 2 to 5% and in Terminal breeds 3 to 6%. However, in outbreaks some properties have experienced an incidence greater than 20%. There is always significant variation in the incidence of mastitis between properties and on a property between different years.

Most commonly the primary risk periods are in the first month after lambing until 10 days post weaning. Factors that tend to contribute to mastitis include;

- Very dry weather conditions with a decrease in FOO (Food on Offer), especially when supplementary and drought feeding sheep.
- Confinement feeding during lambing.
- Wet, cold and windy weather.
- Inadequate trace elements and vitamins (usually associated with drought conditions) eg vitamin E and selenium
- Scabby mouth in lambs as a means of lambs passing the infection to the udder, resulting in teat sphincter injury and subsequent mastitis.
- Possibly ewes with pneumonia have a higher incidence of mastitis, due to the spread of bacteria from the lungs to the udder.

If 3 to 5% of the flock has clinical cases of mastitis then it is highly likely there will be 20 to 40% subclinical cases, which will be impacting on ewe and lamb health and production, such as less milk production and decreased lamb growth. The lower milk supply in ewes means lambs tend to begin grazing earlier and have an increase in intestinal parasites and in some cases pneumonia. These animals that develop pneumonia are susceptible to mastitis in their future lambings.

Mastitis is difficult to predict and prevent. Ewes can respond to antibiotics, but the limitation is the timing of treatment. Treatment is usually instigated after permanent damage to the udder has already occurred. Identifying lactating ewes not rushing to grain to feed when trail feeding helps to identify early cases. Treating early leads to potentially less cases. Healthy lambs can carry some bacteria in their pharynx and pass it onto other ewes as they are pirating milk. This is especially prevalent in trail fed ewes, being consumed with feeding and paying no attention to what lamb is feeding. Less healthy lambs and ewes with pneumonia can excrete larger burdens of the bacteria.

Decreasing stocking rates has helped, as increased stocking rates and confinement feeding have led to an increase in the levels of bacteria in feed and water zones.

Mastitis as well as pneumonia are diseases of economic importance for the sheep industry. They are expensive and difficult to treat, therefore prevention is the best option but very difficult. The ideal outcome would be if we could vaccinate for mastitis and pneumonia to reduce the incidence of disease. There has been some work with using cattle vaccines available in Australia to cross-protect against bacterial pneumonia in sheep with success and it is postulated that they may also assist in mastitis cases. MLA funded research in this area is continuing and we will endeavour to keep our clients updated.

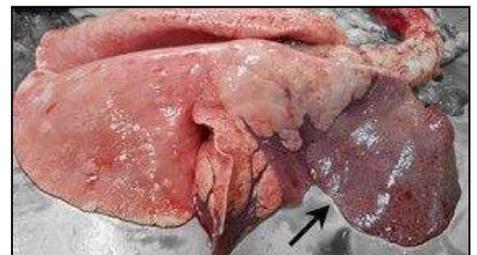
Pneumonia

Pneumonia costs the sheep industry considerably due to deaths, reduced growth rates and pleurisy. It is a complex disease involving interactions between the sheep, environment and different agents (viruses, bacteria and mycoplasmas). Pneumonia is often the results of predisposing agents (viruses and mycoplasmas) leading to secondary bacterial infections. Mycoplasma infections and the parainfluenza virus predisposes animals to bacterial pneumonia. Viruses are a lot more common in cattle than in small ruminants.

Risk factors that predispose animals to developing bacterial pneumonia include extremes of temperature, stress and lung irritants, such as dusty conditions and lung worm infections. Treatment with antibiotics is generally only successful when cases are detected prior to damage to the lung. Please be aware of the with-holding period of the antibiotics that you are using to treat cases (Oxytetracycline – Oxytet 200 LA WHP 42 days, ESI 90 days, Procaine Penicillin – Norocillin SA or Bomacillin SA WHP/ESI 5 days).

As pneumonia is a complex condition prevention should be aimed at minimizing predisposing risk factors, including minimizing stress, providing optimal nutrition and good management. When yarding stock avoid overcrowding and having stock in yards for prolonged periods. Hosing down the yards prior to yarding can greatly minimise the dust that can irritate the lungs and lead to bacterial pneumonia. Yarding should not occur in extreme temperatures and stock should always be moved to and from the paddocks slowly. The health of the stock should be optimised to minimise stress. Avoid changes in diet, dusty feed and ensure appropriate parasitic control. Any nutritional or mineral deficiencies should be avoided.

A vaccine to prevent pneumonia would be ideal but currently there is no vaccine registered for the use in sheep. There has been some antedotal evidence of some feedlots having successful reduction in bacterial pneumonia caused by *Mannheimia haemolytica* using Bovillis MH (Coopers Vaccine). Some research has shown limited cross reaction between the different serotypes of this bacteria and research in this area is continuing.



GENSTOCK: FOR WHEN RESULTS REALLY COUNT

SHEEP HEALTH - Lamb Marking

Gudair Vaccination to control Paratuberculosis (Johnes)

Many clients are vaccinating with Gudair. However, they are reporting lumps behind the animals ears. Please see the recommended practice suggested by Zoetis® below.

Gudair is a critical tool in the management of Ovine Johne's disease (OJD). In accordance with the registered product label, the vaccine should only be administered under the skin (subcutaneously). However, a recent study conducted by Zoetis¹ has revealed that even experienced sheep producers may be unintentionally administering Gudair into muscle, or hitting other structures such as bone, on a regular basis. This increases the risk of carcase trimming, abscesses – and the subsequent risk of fly strike – and, in rare cases, neurological dysfunction (“OJD staggers”).

The Zoetis study indicated that the following measures will assist in achieving correct vaccine placement:

- Vaccinating under the skin, on the side of neck (image 1).
- Only using ¼ inch (6mm needles).
- Using an angle of vaccination suitable for the class of stock (see below table).
- In adults with significant wool growth, use the vaccinator to help part wool.
- Take care to avoid critical structures near the base of the ear.

Class of Stock	Needle Gauge	Needle Length	Needle Angle to Skin
Lambs	18G	¼ inch	45°
Adults off-shears/short wool/low body condition score	18G	¼ inch	45°
Adults with wool growth	18G	¼ inch	90°

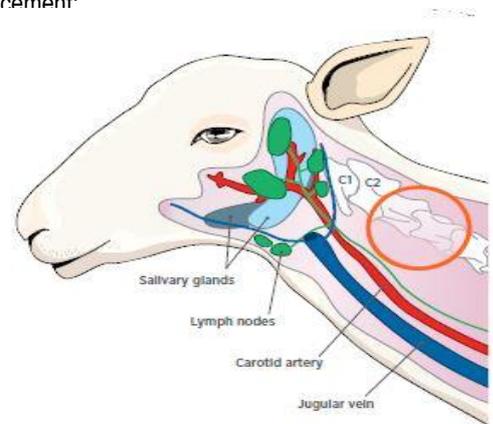


IMAGE 1

In addition, it is recommended to:

- Use clean 18 gauge needles, and change them regularly (every 50-100 sheep, or if dropped or blunted).
- Ensure animals are adequately restrained – lambs in cradles, sheep packed tightly in a race.

What should producers avoid when vaccinating?

The Zoetis study indicated that ½ inch (12mm) needles are likely to deliver the vaccine too deep, into muscle, and should be avoided.

The following points should also be considered:

- Where possible, avoid vaccinating animals in wet or dusty conditions.
- Don't vaccinate at sites other than the neck. For example, if you vaccinate into the cheek or under a leg, and the animal develops an injection site reaction, this could cause the animal to go off feed/become lame and lose condition.
- Be careful to avoid vaccinating into important structures in the head/neck region. These include salivary glands, lymph nodes and blood vessels located directly below the base of the ear.
- In particular, take care to avoid deep, intra-muscular injection near the junction of the head and neck, or the joints of the spine. In rare cases, this has been linked with the development of a neurological condition known as 'OJD staggers'. OJD staggers has not been known to occur when the vaccine is correctly administered under the skin.

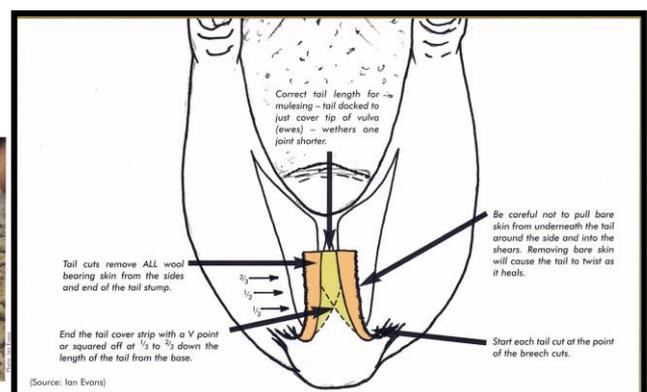
Other tips

- Store and handle vaccines correctly – keep refrigerated (do not freeze) when not in use. During use, keep cool and protect from sunlight.
- Use the correct vaccinator - the Sekurus safety vaccinator – its unique safety features minimise the risk of human exposure.

Mulesing / Tail Docking

The aim of the mulesing operation is to remove wool producing skin beside and below the anus to prevent dag accumulation that can lead to flystrike. Unfortunately, too many operators are excessively removing skin especially over the top of the tail which leads to increased incidence of skin cancer.

Tails should not be docked too short. Ewes should still have a tail length to the tip of the vulva which helps prevent vulva cancer. Short tails are often the cause of rectal prolapse which is a significant issue in lot fed lambs



Wet / drying of ewes

With the tight feed conditions being experienced throughout the majority of agricultural areas of our state, removing non-performing ewes from lamb rearing mobs is vital. Palpating udders at lamb marking and removing dry ewes from the mob will ensure only lactating ewes remain on the best feed. These dry ewes should be sold into the current very buoyant mutton market. Whilst feeling the udders, any ewes that are only milking from one side should also be identified and culled post weaning. Damaged teats from shearing still account for a significant percentage of lamb losses. Early weaning of lambs should also be considered if feed conditions remain below optimal. The combined nutritional requirement of ewes and lambs will reduce by 30% post weaning. Lambs can successfully be weaned at six weeks of age. With the extremely tight start to the season, most ewes will be at risk of potential heavier worm infestations. Regular monitoring of FWEC (faecal worm egg counts) is essential.

GENSTOCK: FOR WHEN RESULTS REALLY COUNT

SHEEP HEALTH - Lamb Marking

Marking – Pain Relief Options

Buccalgesic – It was developed/registered for the dehorning of calves and is now registered for sheep. It is a non-steroidal anti-inflammatory drug (NSAID) that requires a veterinary prescription. It is administered orally but rather than drenching the animal it is administered near the cheek (buccal) region in the mouth. Buccalgesic is very easy for clients to administer (a few of our clients have been using it in conjunction with Trisolfen). It has a WHP and ESI of 10 days.

Meloxicam 20 – has the same active ingredient as Buccalgesic but is administered by a subcutaneous injection. It has a WHP and ESI of 11 days.

Both of the NSAID (Buccalgesic and Meloxicam 20) are absorbed rapidly and deliver pain relief in 15 to 30 minutes by reducing the production of prostaglandins that cause tissue inflammation and pain. The efficacy lasts for 6 hours or longer. Therefore, their application is best suited to reducing chronic pain, once the initial intense phase of pain has past.

Numnuts – is a ring applicator that injects a local anaesthetic at the time of application. 1.5ml is administered to the tail and 1.5ml is administered to the scrotum. It has no WHP. This product is also a S4 drug so can only be purchased from veterinarians (requires a prescription). Local anaesthetics are short acting (not lasts long in the body for long) but are fast acting blocking the pain signals of nerves, thus alleviating acute pain. In marking pain develops in 2-5 minutes after application of ring, therefore numnuts works to alleviate the pain at marking due to the application of a ring.

In studies performed to date, Numnuts relieved pain related behaviours and postures associated with ring castration and tail docking for 20 to 50 minutes post marking. Therefore, it only improved welfare in the period of most intense pain and not in 1 – 3 hours following marking and had no impact on growth rates. It is postulated to improve mothering up post marking as the period of most intense pain has improved welfare outcomes. NSAID have not been extensively studied in ring application trials. Mulesing studies combining Trisolfen and a NSAID showed that lambs that received the combination had significantly less pain-related behaviour than those that did not receive any. Also, lambs that only received one or the other had minimal, if any significant, effect on pain related behaviours on the day of mulesing.

In regard to Numnuts, we have not fully formulated our opinion on the product and would like more data from field trials. There have been some issues in regard to large testicles, difficulty for small hands, and blunt needles resulting in the local anaesthetic not being administered properly. Care needs to be taken to ensure the drug administered properly in the correct location and not in the epidural region. It can result in the lambs being unable to walk for a period due to the drug affecting the nerves that supply the limbs.

It is important to note that in all trials nothing has stopped all pain from marking and mulesing. Studies showed that pain relief does improve pain behaviours but there has been no improvement in production parameters. Animals are extremely resilient to pain affecting production parameters. Also studies showed that good management and having lambs back with mothers as soon as possible demonstrated that there was less of a difference between treated and un treated – therefore good husbandry is very important.

Options in pain relief;

Rings only – Numnuts possibly with NSAID

Hot Knife (tail) and rings (castration) – Numnuts and possibly trisolfen on tail

Hot Knife (tail) and Knife (castration) – Trisolfen or NSAID or both

Mulesing – Trisolfen or NSAID or both



Dr Michylla Seal's work in the Falkland Islands

For the last 14 years during May and June Michylla has travelled to the Falkland Islands to perform their artificial breeding programs.

The Falkland Islands has approximately half a million sheep grazing mainly native pastures at 0.5 DSE. There are approximately 80 owner-occupier farms & several large government owned farms. The sheep enterprises are largely focused on wool production. When Michylla first travelled to the Falkland Islands the flock was largely based on a Corriedale/Polwarth cross and had a coarse wool clip. Over the years there has been the importation of Merino, Dohne, SAMM, Afrino and several other breeds largely from Australia but also shipments from New Zealand and South Africa. It has been amazing to see the flock profile of the Falkland Islands develop over this time, with the country's wool clip benefiting from great returns at the current market prices. One client this year alone would have earned approximately \$70 000 less from their wool clip if they had not improved the wool profile of their flock in the last 9 years. It is an amazing country to visit and the farming community is extremely welcoming.

There is a great variety in the seasons and climate. Some years Michylla is driving on icy roads through snow blizzards, other years on boats to get to remote islands through thick fog as the planes are unable to fly and, then this year it was very mild with temperatures approximately 7°C.

Other enterprises that are important to the Falkland Islands community is tourism and fisheries. During the summer months there is an abundance of penguin colonies, which have largely vacated the Islands during May and June.

Travelling internationally performing artificial breeding programs has given Michylla the opportunity to understand farming practices in extremely different environments and the elements that farming communities must overcome to have a profitable enterprise.



GENSTOCK: FOR WHEN RESULTS REALLY COUNT



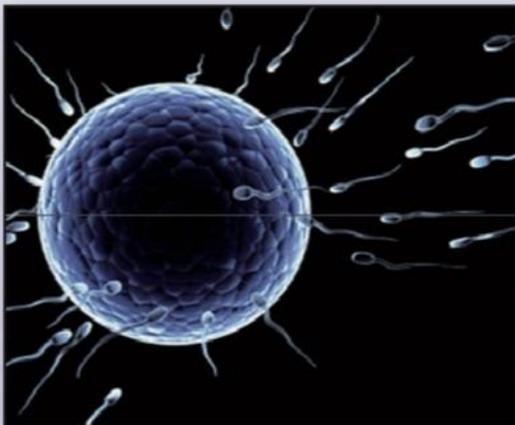
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ANIMAL BREEDING SERVICES

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EXPORT ACCREDITED – Semen & Embryos

Servicing & Specialising in small ruminant:

- Ⓜ Laparoscopic artificial insemination
- Ⓜ Embryo transfer and freezing
- Ⓜ Semen Collection, Freezing & Storage
- Ⓜ Collection of genetic material for export
- Ⓜ Pregnancy diagnosis – singles / multiples / aging
- Ⓜ Accredited Sheep Genetics Australia carcass scanner
- Ⓜ Fleece testing utilising O.F.D.A. technology
- Ⓜ On farm ruminant health services, including disease investigations, Brucellosis testing and ram vasectomies
- Ⓜ Two SheepMAP accredited OJD veterinarians
- Ⓜ AAV accredited veterinarian for preparation of livestock for export



GENSTOCK is Australia's longest serving sheep artificial breeding company. Our experienced team has more than 125 years of combined knowledge, unmatched anywhere in the world.

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