

SURVIVE TO THRIVE

YOUR COMPLETE SHEEP HEALTH PROGRAM FOR OPTIMAL PRODUCTION

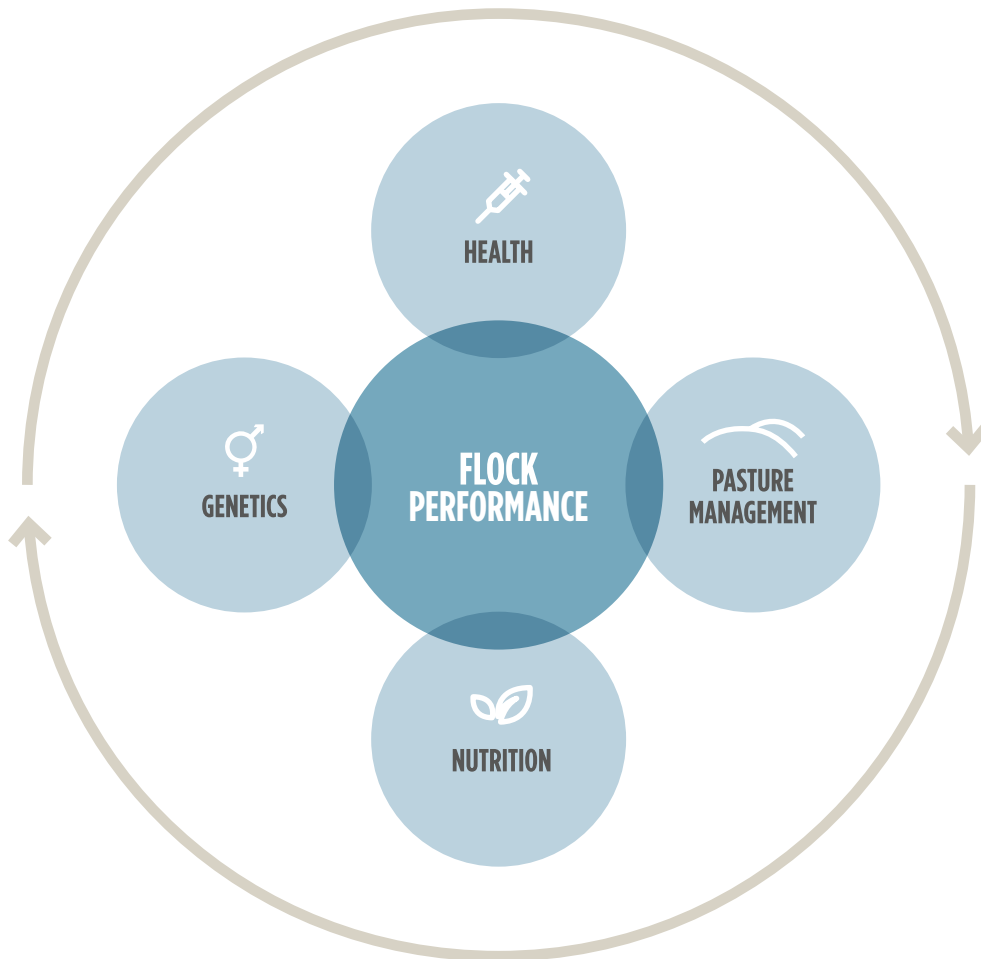
**PRE-LAMB
PROGRAM**

**100-DAY
PLAN**



SURVIVING TO THRIVING: THE SHEEP PRODUCTION SYSTEM

In high-performing sheep operations, the 4 main elements within the production system are aligned and in balance.



1. Nutrition

- Energy requirements by class at different stages & seasons
- Vitamin & mineral supplementation
- Additional feed requirements



3. Pasture Management

- Stocking rate
- Pasture improvement including use of fertiliser
- Paddock rotation & grazing plans
- Cropping within the enterprise



2. Health

- Core disease prevention programs & products
- Risk management position
- Disease diagnosis & prevalence



4. Genetics

- Ram selection
- Sheep classing to improve flock structure
- Longer term strategic direction

**THE ZOETIS PRODUCT RANGE HELPS TO SIMPLIFY THE HEALTH,
NUTRITION AND GENETIC ELEMENTS OF YOUR OPERATION**

LAMB HEALTH STARTS IN THE PRE-LAMBING PERIOD

A comprehensive pre-lamb plan, including ewe vaccination & effective drenching, will get more lambs through to marking.

APPROX
90%

OF LAMB MORTALITY OCCURS
WITHIN THE FIRST 48 HOURS
OF BIRTH¹

DEATH OF LAMBS WITHIN THEIR
FIRST WEEK COSTS THE INDUSTRY
AN ESTIMATED

\$540 MIL
EVERY YEAR²

Enhance lamb survival with your pre-lambing efforts

By looking after your ewes at pre-lambing, you've set a solid platform

Then get your lambs thriving

Protect and build on this foundation with a comprehensive lamb health program

As the number and quality of lambs determines your future, it's important to get lamb health right






THREE KEY STEPS:

- 1 PLAN AHEAD.** Preventing disease is better than treating sick lambs
- 2 FOLLOW THE VACCINATION PROGRAM.** To ensure complete protection, lambs need:
 - 1st "priming" vaccine dose at marking
 - 2nd "booster" dose at weaning
 - Annual booster (preferably at pre-lambing for ewes)
- 3 SELECT THE RIGHT DRENCH.** An effective drench will:
 - Minimise the impact of worms
 - Reduce the development of resistance
 - Reduce the number of treatments required

PRE-LAMB PROGRAM

EVERY EWE, EVERY YEAR

Your Pre-lamb Program from Zoetis contains 1 x Startect 15 L, 2 x Glanvac 6S B12 500 mL and 2 x Eryvac 500 mL. The product in the program will protect 1,000 ewes and their unborn lambs i.e. it contains 1,000 doses of each product (for Startect 1,000 71-75 kg doses).

PREVIOUSLY UNVACCINATED EWES	ALL EWES
8 WEEKS BEFORE LAMBING	4 WEEKS BEFORE LAMBING
 Glanvac® 6S B12 "Priming" dose	 Glanvac® 6S B12 "Booster" dose
 Eryvac® "Priming" dose	 Eryvac® "Booster" dose
	 STARTECT® Drench all ewes* OR SheepGuard LA + Startect if extended worm protection is required*. Drench all ewes

^RESPONSIBLE USE OF STARTECT + SHEEPGUARD LA AT PRE-LAMBING



*Rotate drenches to minimise drench resistance.

THE IMPORTANCE OF MAINTAINING AN ANNUAL PRE-LAMB PROGRAM

You should be aiming to increase the number of healthy lambs weaned each year. It is therefore vital to optimise the health of the ewe at pre-lambing to set a solid platform for the future of your flock. That's why annual vaccination is crucial.

100-DAY PLAN

FOR HEALTHIER AND HEAVIER LAMBS

The first 100 days of a lamb's life are when they are at the highest risk of disease and death.

By including this simple yet comprehensive health plan at marking and weaning, you will optimise weaning percentages and lamb performance.

Health status has a significant impact on lamb growth rates because:

- Diseases often go unnoticed until deaths occur
- Effective worm control and adequate trace mineral levels allow lambs to achieve their potential growth rate¹
- Management choices will determine the risk of death and disease in your flock

AIM TO INCREASE THE NUMBER OF HEALTHY LAMBS WEANED EVERY YEAR

MARKING	WEANING
 Glanvac® 6S B12 1st "priming" dose	 Glanvac® 6S B12 2nd "booster" dose
 Eryvac® 1st "priming" dose	 Eryvac® 2nd "booster" dose
 Gudair® Single dose (if OJD risk dictates)	 STARTECT® Drench all lambs
 Scabigard® Single scratch (if scabby mouth risk exists)	

ADDITIONAL PRODUCTS FROM ZOETIS

Shepherd® with **MyoM-X®**

For successful breeding and maximised genetic gain

BOVATEC®

For improved feed-conversion efficiency and daily gain.

GLANVAC RANGE

Glanvac forms part of both:



Protect your sheep against the major clostridial diseases and cheesy gland (CLA) with **Glanvac**. Supplement with vitamin B12 and selenium for added benefits.

Use for up to 30 days after opening. Simply follow label instructions.

GLANVAC IS FOR...



1. Ewes

When?

Annually 4 weeks pre-lambing*

Why?

- Prevent loss of ewes at lambing due to clostridial diseases
- Protect against CLA to maximise wool cut
- Confer protective antibodies to newborn lambs through the ewes' colostrum
- Added vitamin B12 for:
 - optimal lamb growth in late pregnancy
 - maximal growth in newborn lambs

* Previously unvaccinated ewes require 2 doses, 4 weeks apart followed by annual boosters.



2. Lambs

When?

Once at marking, once at weaning

Why?

- Prevent loss from clostridial diseases in the first year of life
- Provide optimal CLA protection (when administered within 6 months of shearing)
- Added vitamin B12:
 - to correct cobalt deficiency
 - to improve growth rates
 - to improve fleece weights



3. Rams

When?

Annually pre-joining*

Why?

- Prevent loss from fatal clostridial diseases and CLA
- Protect reproductive function on selenium-deficient pastures
- Added vitamin B12 helps maximise wool cut

* Previously unvaccinated rams require 2 doses, 4 weeks apart followed by annual boosters.



4. Wethers

When?

Annually pre-shearing*

Why?

- Prevent loss from clostridial diseases such as pulpy kidney and tetanus
- CLA protection helps increase wool production and returns
- Added vitamin B12 helps increase wool production and returns

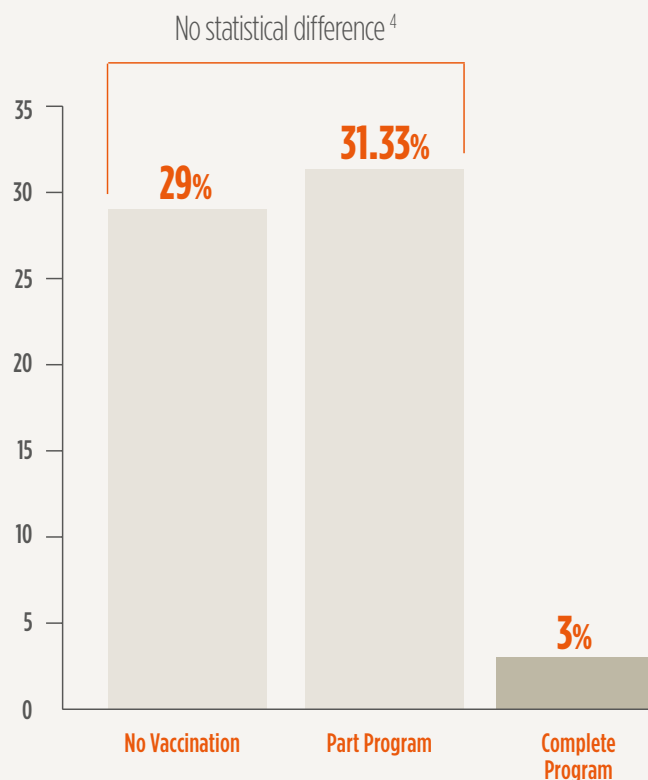
* Previously unvaccinated wethers require 2 doses, 4 weeks apart followed by annual boosters.

PROBLEM: CHEESY GLAND (CLA)

- Costs the Australian sheep industry \$18 million annually due to:⁶
 - carcass condemnations
 - abattoir trimmings
 - reduced wool production
- Affects sheep in all regions⁶
- Most commonly spread at shearing and after mustering and yarding sheep
- Infected sheep have a 4-7% reduction in clean wool cut in the first year of infection⁷

Cost to local sheep industry per year⁶

**CLA
\$18M**



A complete Glanvac vaccination program protects against cheesy gland

Benefits of Glanvac:

- ✓ Reduces the flock prevalence of cheesy gland from 31% to 3% when used annually following the two lamb doses⁷
- ✓ CLA prevalence in flocks receiving an incomplete vaccination program was similar to unvaccinated flocks

PROBLEM: CLOSTRIDIAL DISEASES

- Five fatal diseases that affect Australian sheep: pulpy kidney, tetanus, blackleg, black disease and malignant oedema
- Cost Australian sheep producers \$32 million annually⁶
- Caused by bacteria which are widespread and can survive in the environment for long periods⁶

Benefits of Glanvac:

- ✓ Proven protection against all five major clostridial diseases
- ✓ Tried and tested in Australian grazing conditions over many years
- ✓ Helps insure your flock against sudden death from clostridial diseases

Cost to local sheep industry per year⁶

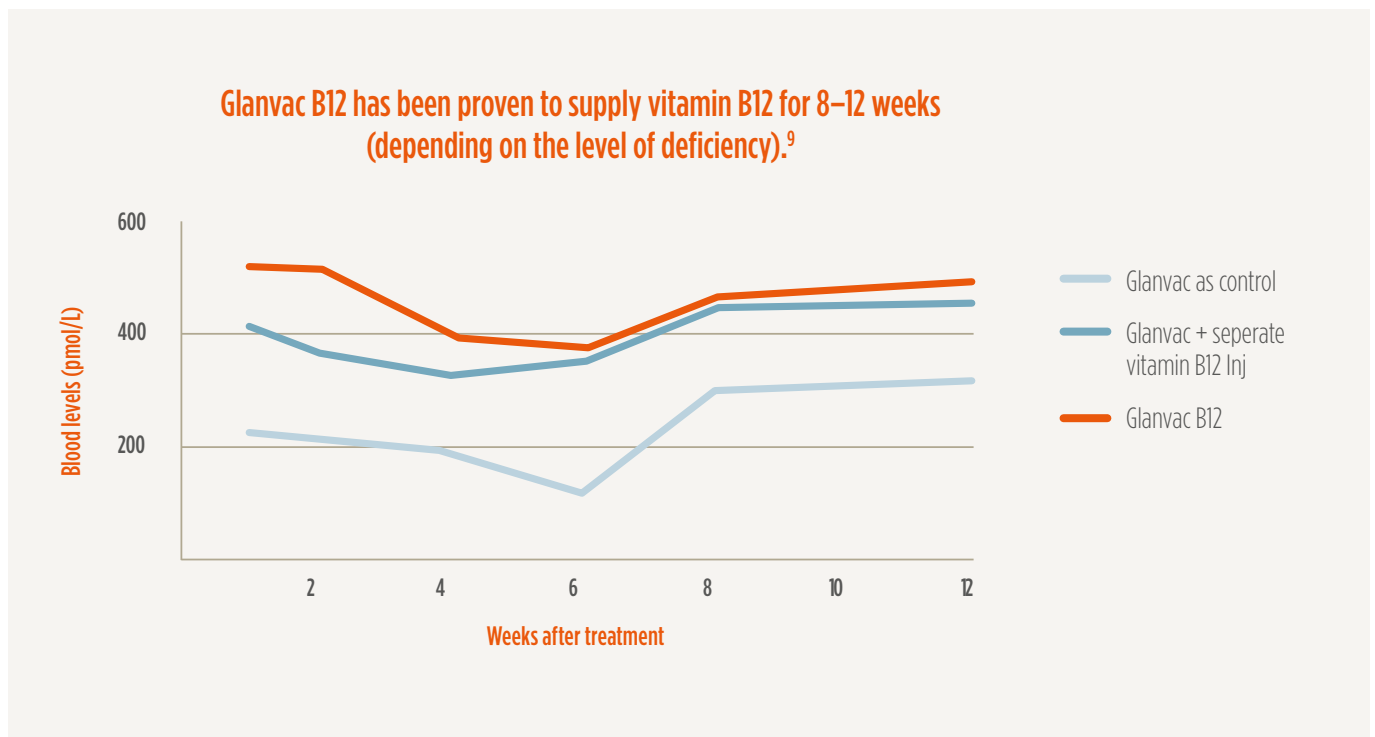
**CLOSTRIDIAL DISEASES
\$32M**

IF YOU SAVE 1 IN 140 LAMBS, A COMPLETE 2-SHOT PROGRAM OF GLANVAC 6S B12 HAS PAID FOR ITSELF⁸

GLANVAC OFFERS THE BENEFITS OF B12 SUPPLEMENTATION

ABOUT VITAMIN B12:

- Vital for energy production and body and wool growth
- Rapidly-growing sheep have the highest demands
- Levels in sheep are dependent on ingestion of cobalt
- Cobalt deficiency depends on soil type, but can also occur in rapidly growing pastures



(Adapted from Judson, 1999⁹)

Benefits of B12 supplementation:

- ✓ Corrects vitamin B12 deficiency and improves growth rates in young, growing sheep¹⁰
- ✓ **Improves weight gain in lambs by up to 2.8kg over 12 weeks¹¹**
- ✓ Even in non-deficient areas B12 has been shown to deliver an additional 0.5 kg over 106 days¹²



GLANVAC OFFERS THE BENEFITS OF SELENIUM SUPPLEMENTATION

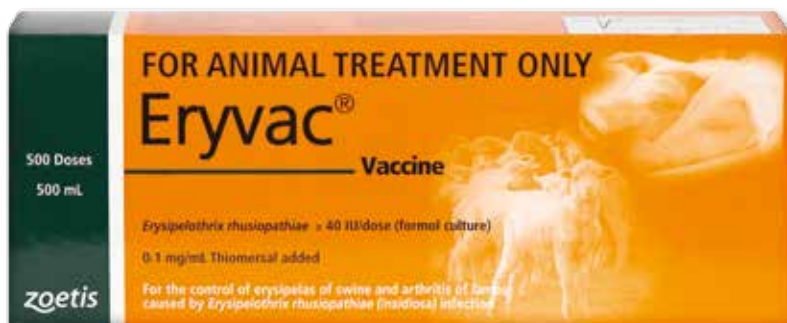
ABOUT SELENIUM:

- An essential antioxidant necessary for:
 - optimum weight gain in lambs
 - fertility in ewes and rams
 - wool growth
- Selenium deficiency is common in coastal and improved pasture regions of Australia
- Selenium deficiency is associated with white muscle disease, a fatal condition in lambs
- Supplementation with selenium improves lamb survival, lamb growth and wool production¹³

GLANVAC 6S B12 CONTAINS VITAMIN B12 AND SELENIUM TO ENHANCE BOTH LIVEWEIGHT AND FLEECE WEIGHT

THE GLANVAC RANGE

	PROTECTION AGAINST PULPY KIDNEY, TETANUS & CLA	PROTECTION AGAINST BLACK DISEASE, BLACKLEG & MALIGNANT OEDEMA	ADDED BENEFITS OF VITAMIN B12	ADDED BENEFITS OF SELENIUM
 Glanvac® 6S B12	✓	✓	✓	✓
Glanvac 6 B12	✓	✓	✓	
Glanvac 6S	✓	✓		✓
Glanvac 6	✓	✓		
 Glanvac® 3S B12	✓		✓	✓
Glanvac 3 B12	✓		✓	
Glanvac 3S	✓			✓
Glanvac 3	✓			



Reduce crippling production losses with Eryvac – **the only vaccine to control erysipelas arthritis.***

Use for up to 30 days after opening. Simply follow label instructions.

PROBLEM: ERYSIPELAS ARTHRITIS

- Cripples lambs by causing lameness, hot and swollen joints and a reluctance to walk or stand
- Costs the Australian sheep industry **\$39 million each year**⁶
- Affects all the sheep producing regions (not restricted by geography)
- Is a common cause of carcass trimming:
 - average **trim of 3 kg** per arthritis-affected carcass⁵
 - costing producers **\$17.25** per carcass⁸
- Has significant welfare and financial impact on meat and wool producers³

Cost to local sheep industry per year⁶

**ARTHRITIS
\$39M**



Trim due to arthritis



Trim due to arthritis

*Erysipelas is one of a number of causes of arthritis in sheep

Benefits of Eryvac:

- ✓ Ewes and lambs protected against erysipelas arthritis – a common cause of lameness and carcass trimming⁵
- ✓ Lambs receive protective antibodies through the ewes' colostrum for the first few weeks of life – a high risk period
- ✓ Financial gains from increased productivity³
- ✓ On the average-sized farm, annual farm profit has been shown to increase:²⁴
 - Prime lamb producers up to **\$10,974**
 - Fine wool producers up to **\$15,810**

IF YOU SAVE 1 IN 200 LAMBS FROM ARTHRITIS, A COMPLETE ERYVAC PROGRAM HAS PAID FOR ITSELF³

PRE-LAMB PROGRAM

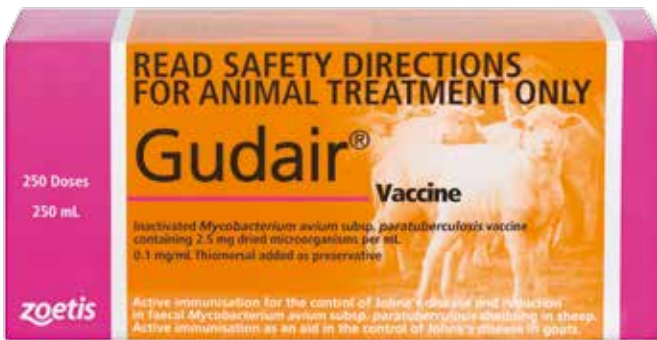
Vaccinate the ewe to protect the lamb

Vaccinating your ewes pre-lambing can protect your lambs from erysipelas arthritis – and reduce production losses.

100-DAY PLAN

Vaccinate the lamb for long lasting protection

Vaccinate your lambs at marking with a follow up dose at weaning to provide 12 months protection against post-marking and post-shearing erysipelas arthritis.



Highly effective vaccine to control Ovine Johne’s Disease (OJD).

One 1 mL dose at marking provides **lifetime protection**.

Use for up to 30 days after opening. Simply follow label instructions.

PROBLEM: OVINE JOHNE’S DISEASE (OJD)

- Costs the Australian sheep industry **\$35 million each year through:**⁶
 - **Sheep deaths** – up to 25% deaths per year in heavily infected flocks
 - **Lost production** – the average annual economic loss is \$65.92 per hectare, but can go as high as \$244.80 per hectare
 - **Trading restrictions** – flocks with OJD, or those that have not been tested for OJD, cannot trade into SA, QLD or certain areas with Regional Biosecurity Plans
- Infected sheep can begin passing on the disease (shedding) as young as 8 months of age, but clinical signs of disease may not show for 2–3 years
- Often not diagnosed until a significant proportion of the flock is already infected and deaths are occurring

Cost to local sheep industry per year⁶

OJD
\$35M



Emaciated carcass caused by OJD

Image courtesy of Heidi Sutherland, Zoetis 2015

MEAT AND LIVESTOCK AUSTRALIA HAVE STATED: “NOT ALL PROPERTIES IN HIGH RISK REGIONS VACCINATE FOR OJD.”⁶ **THIS RISKS THE CONTINUED SPREAD OF THE DISEASE.**

Benefits of Gudair:

- ✓ Reduces both OJD-related deaths and shedding of OJD bacteria by 90%¹⁹
- ✓ One 1 mL dose at marking provides lifetime protection from OJD — no booster required
- ✓ Gudair vaccinated sheep have attracted up to \$40 price premium per head at market in the past²⁰

100-DAY PLAN

Vaccinate all lambs between 4 & 16 weeks of age, ideally at marking

- One 1 mL dose provides lifetime protection from OJD – no booster is required
- Each cohort of lambs needs to be vaccinated for ongoing disease protection

Vaccinate all previously unvaccinated sheep, including wethers

- Once an OJD infection is established within a flock, it takes many years to recover
- Studies show that leaving wethers unvaccinated may increase OJD contamination²¹

GUDAIR PACK SIZES

GUDAIR 250 ML PACK

Contains 250 doses

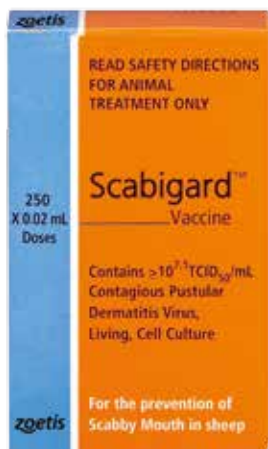
GUDAIR 100 ML PACK

Contains 100 doses



WE RECOMMEND THAT YOU USE THE SEKURUS SAFETY VACCINATOR TO ADMINISTER GUDAIR, BECAUSE **ITS UNIQUE SAFETY FEATURES MINIMISE THE RISK OF SELF-INJECTION.**

ASK YOUR RETAILER FOR MORE **INFORMATION ON SEKURUS.**



Control scabby mouth **in lambs & sheep.**
Single scratch at marking.

PROBLEM: SCABBY MOUTH

- An easily-transmitted viral disease which causes **lost productivity**, through loss of condition
- Forms painful lesions on the lips and face of lambs and around the udder in nursing ewes
- Affected lambs are reluctant to eat and rapidly **lose condition at this critical time**
- Prime lambs failing to gain 0.5 kg/week equates to at least \$7.19 (dressed) lost meat per lamb*



Painful lesions on lips and nose caused by scabby mouth can make lambs reluctant to eat, leading to loss of condition and/or decreased growth rates



Scabby mouth lesions on the teats mean ewes won't let lambs feed due to pain, leading to loss of condition/decreased growth rates in the lambs

*Based on per kg price of 575c, dressed out at 50% live weight.

Benefits of Scabigard:

- ✓ One scratch at marking
- ✓ Proven to prevent scabs that commonly form on the lips, face, feet, teats, udders and the poll of rams caused by scabby mouth
- ✓ Opens up live export trading options for lambs protected from scabby mouth

Vaccinate all stock if scabby mouth risk exists

- Vaccinate lambs at marking each year
- When beginning a vaccination program, it is advisable to vaccinate all stock, as vaccinated sheep can act as a source of infection for non-vaccinates
- Vaccinate all newly purchased sheep prior to introduction to the property
- Scabby Mouth is a zoonotic disease transmissible to humans, so care should be taken when handling the live Scabigard vaccine

**100-DAY
PLAN**



SCABIGARD PACK

SCABIGARD VACCINE

Contains 250 doses

Dose: 1 scratch at marking

SCRATCH OUT SCABBY MOUTH WITH SCABIGARD

STARTECT

Startect forms part of both:



Dosing is Simple: 1 mL per 5 kg.

The newest class of sheep drench available in Australia.

Combines derquantel (10 mg/mL), a revolutionary new active ingredient, with the established potency of abamectin (1 mg/mL).

Proven efficacy in over 200 Australian farm trials.^{15,16}

Short ESI (Export Slaughter Interval) and meat withhold period won't limit trading options.

SUPPLIED AS A READY-TO-USE, FREE-FLOWING SOLUTION FOR RELIABLE AND ACCURATE DOSING. **NO NEED FOR CONTINUAL MIXING OR SHAKING.**

THE PROBLEM WITH WORMS:

- Worm burdens cost the **Australian sheep industry** approximately **\$436 million each year**⁶
- Worm burdens lead to reduced²⁷:
 - i) liveweight gains
 - ii) wool growth
 - iii) lactation
- Drench resistance is a common and increasing issue in Australia
- Drench resistance can be managed if the right steps are taken

Startect is the first drench in history with Pro-Active Dual Drench Technology: built-in protection against worm resistance.¹⁷

- **Proven to be 99% effective in over 200 local farm trials, even killing worms resistant to other drench classes**^{15,16}
- **28 day ESI provides speed to market and trading flexibility**¹⁴
- Delivers a new level of confidence when it comes to drenching and staying a step ahead of resistance

Cost to local sheep industry per year⁶

**INTERNAL PARASITES
\$436M**



Roundworms

28
DAYS

Export Slaughter Interval (ESI)¹⁴

14
DAYS

Meat Withhold Period¹⁴

28
DAYS

Re-treatment interval¹⁴

WHAT MAKES STARTECT STAND OUT FROM OTHER SHEEP DRENCHES?

IT'S DIFFERENT

- Startect represents the first time a new class of sheep drench has been released in combination to better protect itself against resistance from the beginning^{17,18}
- Startect combines derquante (10 mg/mL), a revolutionary new active ingredient, with the established potency of abamectin (1 mg/mL)
- By pro-actively releasing derquante in a combination drench, the development of resistance will be delayed^{18,25}
- Two modes of action to kill production-limiting worms, including those resistant to other classes of drench¹⁷

IT'S PROVEN

- Startect was extensively road tested across Australia in over 200 farm trials and delivered 99% efficacy^{15,16}
- Startect has been proven to work where other drench classes are failing^{15,16}

PRE-LAMB

PROGRAM

Drench pre-lambing

- Ideal for use pre-lambing to protect ewes from worms when their immune system weakens during pregnancy and early lactation
- Control worm burdens in ewes to protect their young lambs from exposure to worm larvae on pasture
 - Safe to use in pregnant and lactating ewes

Rotate drenches to minimise drench resistance.

100-DAY PLAN

Drench at weaning

- Manage worm burdens to optimise weight gain

The Startect Range

STARTECT 5 L CONTAINER WITH BACK STRAPS	Contains 500 adult doses (50 kg) or 1,000 lamb doses (25 kg)
STARTECT 15 L DRUM	Contains 1,500 adult doses (50 kg) or 3,000 lamb doses (25 kg)
STARTECT 20 ML ST DRENCH GUN	Doses sheep weighing up to 100 kg It is recommended that the Startect Drench Gun be used with Startect

A NEW LEVEL OF CONFIDENCE
WHEN IT COMES TO DRENCHING
AND STAYING A STEP AHEAD OF
RESISTANCE

FIND OUT MORE AT
WWW.STARTECT.COM.AU

SHEEPGUARD

SheepGuard forms part of both:



SHEEPGUARD SE

- A new high-quality broad-spectrum drench that controls roundworms, nasal bot and itchmite in sheep
- Contains the powerful second-generation ML, moxidectin
- Effective against benzimidazole/levamisole resistant roundworms
- Added selenium for improved lamb survival, lamb growth and wool production⁵



SHEEPGUARD LA

- The new long-acting injection that controls roundworms, nasal bot and itchmite in sheep
- Protects against severe challenge by *Haemonchus* (barber's pole worm) for up to 4 months
- Use in ewes pre-lambing where extended protection is required

IF LONG-ACTING DRENCHES ARE BEING USED, IT IS VITAL THEY ARE USED RESPONSIBLY TO MINIMISE THE DEVELOPMENT OF RESISTANCE.

SheepGuard LA kills worms in the sheep at the time of treatment, as well as worm larvae picked up from pasture for up to 4 months after treatment.

- Irresponsible use of long-acting drench products may render that drench class ineffective due to selection for drench resistance

Long-acting treatments increase selection for drench resistance for two reasons:²⁶

- Worms are exposed to the active for longer. This favours surviving resistant worms, which then reproduce in the absence of susceptible ones
- Long-acting treatments have a longer time at the end of their protection period where the concentration of drench chemical has dropped to a sub-lethal level allowing partially resistant worms to survive and start reproducing

Responsible use of SheepGuard LA means:

- Greater productivity, increased sustainability and overall better value-for-money
- Being able to continue using long-acting ML treatments into the future

How to use SheepGuard LA responsibly:²⁶

- Seek professional advice to determine if long-acting products are required in your area
- Conduct regular drench resistance tests on your property so you know which drenches are working
- Conduct Worm Egg Count (WEC) tests at monthly intervals throughout the period of protection after using a long-acting drench to monitor the actual length of protection and determine the need for a tail-cutter exit drench (see below)
- Use Startect as a priming drench to clear the sheep of any worms that are resistant to the long-acting treatment
- Where WEC tests indicate, use a highly-effective short-acting drench as a tail-cutter exit drench two weeks after the end of the long-acting protection period. The exit drench kills any worms that may have survived the long-acting treatment

Cost to local sheep industry per year⁶

INTERNAL PARASITES
\$436M

NOTE: Capsules are another type of long-acting drench product and they should also be used responsibly

GENETICS

ACCURATE PEDIGREE RECORDS ARE A CRUCIAL INGREDIENT IN MAXIMISING GENETIC GAIN AND PROFITABILITY IN SHEEP BREEDING OPERATIONS.



SHEPHERD: DNA PARENTAGE SOLUTION

Shepherd assists you in easily identifying the individual sire and dam of a lamb, making educated breeding decisions and selecting genetically superior breeding stock.

- ✓ Take the guesswork out of parentage assignment
- ✓ Save time and money on mothering up – let the DNA do the work
- ✓ Increase the accuracy of performance recording with accurate pedigree information
- ✓ Harness the rewards of multiple-sire mating and identification of superior rams
- ✓ Access infield support and tailored analyses to suit your management system

MYOMAX: DNA MARKER TECHNOLOGY TO INCREASE CARCASS WEIGHT AND MUSCLE YIELD IN SHEEP

- ✓ Sheep that carry the MyoMax markers have increased muscling in the leg and loin, less carcass fat and improved carcass weight compared to sheep that do not carry the MyoMax markers
- ✓ Rams that have been tested MyoMaxGOLD® will always pass one copy of the MyoMax marker to their progeny. Their progeny will have increased carcass dress %, increased carcass muscle and decreased fat % compared with progeny from Non-Carrier rams run under the same conditions²²
- ✓ No negative impact on other traits such as growth or survival is associated with the MyoMax markers



**FOR MORE INFORMATION ON GENETIC TESTING
PLEASE CONTACT ZOETIS CUSTOMER SERVICE
ON 1300 768 400**

OR

www.genetics.zoetis.com/Australia Email: genetics.au@zoetis.com
PO Box 75, Banyo QLD 4014

BOVATEC®

Lasalocid sodium premix

The ideal solution for a **free-choice, mineral-based supplement system.**

Promotes certain beneficial bacteria in the rumen to **boost feed conversion efficiency and weight gain in sheep.**

Aids with the control of coccidiosis.

HEALTHIER EWES PRODUCE MORE LAMB

Nutrition plays a key role in the fertility and productivity of ewes. Grazing ewes that are fed a supplement during gestation such as Bovatec wean more lambs.²³ Bovatec increases the feed efficiency of pasture and grain fed ewes by increasing the available energy for protein production, while reducing waste by-products such as methane.

BOVATEC CAN INCREASE THE KG OF LAMB WEANED PER EWE

ADDITIVE	BOVATEC	CONTROL
Lambing %	89.3%	87.7%
Lambs born per 100 ewes	120.7	112.1
Lambs weaned per 100 ewes	93.4	83.7
KG of lamb weaned per 100 ewes	2,643.22	2,343.6
Value of lamb sold per 100 ewes ²⁷	\$15,304.24	\$13,569.44

Adapted from Thomas *et al* 1990²⁹

LAMBS THAT EAT MORE, GAIN MORE

Trials have shown that Bovatec can increase dry matter intake, increase total rumination and increase volatile fatty acid production, leading to:

- Greater liveweight gain
- Higher feed intake efficiency
- Increased muscle to bone ratio²³

YOUR LAMBS WILL EAT MORE ON BOVATEC

ADDITIVE	BOVATEC	MONENSIN	CONTROL
Total chewing (min/day)	317	247	310
DM intake (g/day)	710	624	704

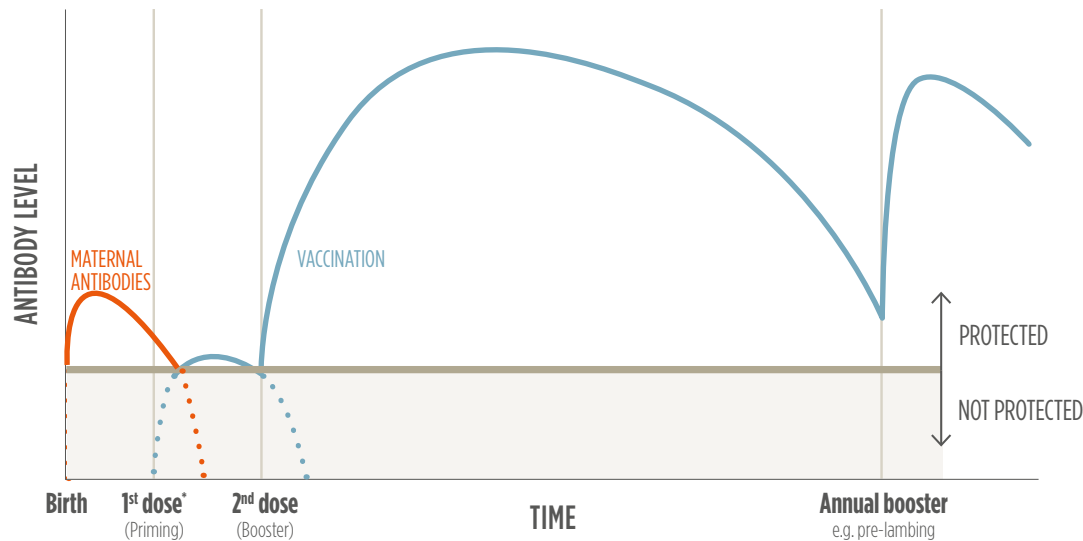
Adapted from Gonzalez-Momita *et al* 2009³⁰



VACCINATION INFORMATION

WHY TWO DOSES OF VACCINE?

- The first “priming” dose stimulates the immune system but **doesn’t give long-term protection against disease**
- The second “booster” dose produces antibodies that gives lambs up to 12 month’s protection



The orange line indicates a pre-lambing vaccination has been given to increase antibodies in the ewe to a level that will offer adequate protection to her lamb(s) through her first milk, or colostrum. This will protect the lamb through to marking.

This is a schematic representation to demonstrate the principles of vaccination. Actual levels of antibody following vaccination will vary from vaccine to vaccine and animal to animal
*The first dose of vaccine may not confer protective immunity

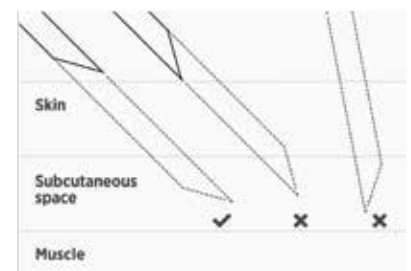
VACCINATION TECHNIQUE

Zoetis sheep vaccines are given by subcutaneous injection, except Scabigard, which is scratched onto a bare area of skin.

For subcutaneous injections:

- Lift a fold of loose skin with your free hand, inject at the base of the ‘tented’ skin, ensuring the needle does not pass straight through the fold of skin
- Care is required to ensure the hand holding the skin fold is placed to avoid accidental self-injection. It is possible to vaccinate animals without raising the skin fold to reduce the risk of self-injection
- Care with needle placement is required to ensure the vaccine goes under the skin (Figure 1)
- Place the needle at about a 45° angle to the skin
- Have the bevelled edge (flat open edge) of the needle parallel to the skin. Ensure the vaccine is placed under the skin, not into the top layer of muscle.

Figure 1:



PRE-LAMBING

- Ensure ewes maintain an optimal body condition score throughout pregnancy to lamb with a BCS of 3
- Perform Worm Egg Count (WEC) tests
- Use the Pre-Lamb Program for effective worm control and a complete vaccination program

MARKING

- Plan to mark lambs at 2–8 weeks of age. This should be possible with a 5–6 week joining period and marking two weeks after the end of lambing
- Maximise hygiene during lamb marking to prevent infection and spread of disease
- Implement a comprehensive vaccination program with:
 - **Glanvac 6S B12 1st “priming” dose**
 - **Eryvac 1st “priming” dose**
 - To control OJD, **vaccinate once-for-life with Gudair**
 - Manage scabby mouth by giving **one-scratch of Scabigard**
- Reduce stress on the lambs during lamb marking
- Where appropriate consider fly control and pain management
- Monitor lambs after marking

WEANING

- Ensure all weaners have reached targeted weights as weaner survival is directly related to bodyweight
- Provide complete protection with the following vaccines:
 - **Glanvac 6S B12 2nd “booster” dose** to protect against cheesy gland and the fatal clostridial diseases with the added benefits of vitamin B₁₂ and selenium supplementation
 - **Eryvac 2nd “booster” dose** to protect against erysipelas arthritis
- Drench with Startect** to optimise lamb weight gain
- Prioritise feed to ewes with low body condition score and the tail of the weaners
- Monitor weaners as they transition to a pasture-based diet as disrupting digestion can result in fatal diseases such as pulpy kidney

THROUGHOUT

- Match annual animal feed demand with pasture supply
- Build flexibility into the operation to allow you to adapt fast to seasonal conditions and changes in the market

YOUR COMPLETE SHEEP HEALTH PROGRAM FOR OPTIMAL PRODUCTION



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