

Getting the most out of your vaccinations and parasite resistance update

Benjamin Fletcher

Zoetis



**Advancing
sustainability
in animal
health for a
better future**

zoetis

Zoetis at a Glance

70+

Years of experience

We provide:

Medicines, Vaccines,
Diagnostics, Biodevices,
Genetic tests &
Precision animal health



Kristin Peck
Chief Executive
Officer

\$950M

R&D investment

7

Major product categories

8

Core animal species

100+

Countries where Zoetis
products are sold

29

Manufacturing sites

14,100

Approximate colleagues
worldwide

1,600

Approximate
R&D colleagues

4,100

Approximate
field force members



Note: Facts and figures shown are as of Dec. 31, 2023

zoetis

Key areas of investment for livestock



Genetics



Focus on
prevention with
vaccines



Mitigating
greenhouse gas
emissions



Alternatives
to antibiotics

Zoetis at a Glance - Australia

2 Manufacturing sites

53% Revenue from companion animal products

47% Revenue from livestock products



Optimising the use of
**ANIMAL HEALTH
VACCINES**

Ben Fletcher



Correct Vaccine Storage and Handling

+

Correct Vaccine Administration

+

Correct Vaccination Program

=

IMMUNITY AND PROTECTION





VACCINES

Storage and handling

- ✓ Store vaccine at recommended temperatures
- ✓ Regular vaccines 2 - 8°C - STRIVE FOR 5°C
- ✓ Freezing destroys most killed vaccines
- ✓ Protect from light
- ✓ Most vaccines require regular mixing before and during use as vaccine components can settle and separate
- ✓ Observe broaching once opened – range from day of use to 63 days (most are 30 days)
- ✓ Remove draw off assembly to store in fridge and don't store vaccine in individual syringes
- ✓ Maintain hygienic vaccination equipment and vaccine packs



ALWAYS READ THE LABEL FOR INFORMATION ON STORAGE AND HANDLING

Correct Vaccine Administration

BEST EQUIPMENT TO USE

VACCINATION SITE IS IMPORTANT....



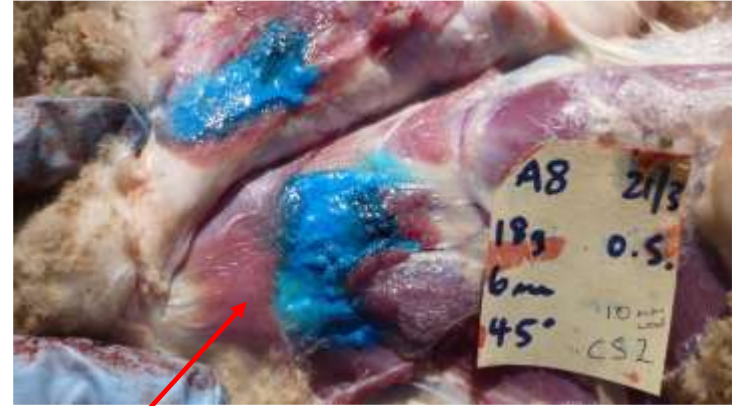
VACCINATION TECHNIQUE IS IMPORTANT.....



Deep intra-muscular vaccine (dyed blue) deposition after vaccination with a 12mm needle at a 45° angle to the skin.

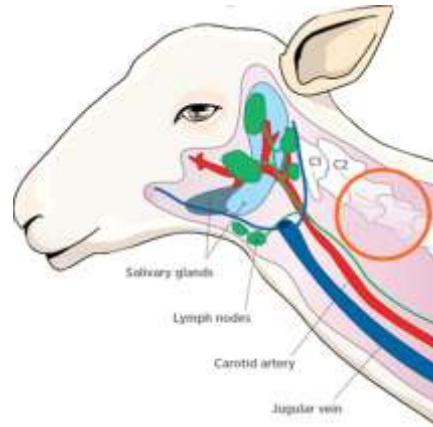
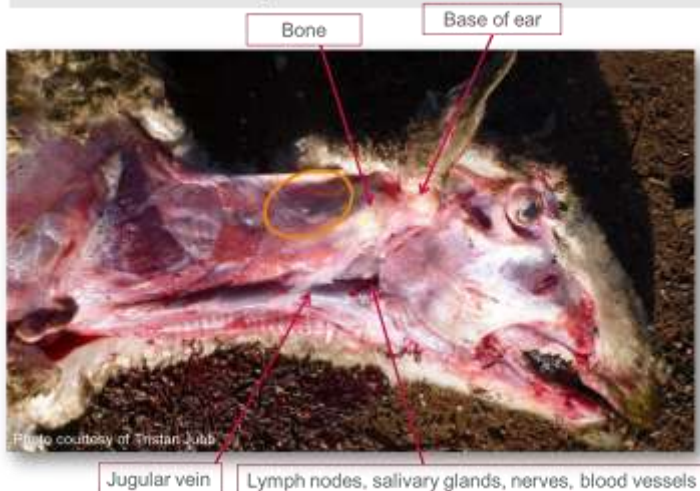
Subcutaneous vaccine (dyed blue) delivery following the use of a 6mm needle at 45°.

Confirmation that vaccine had not entered underlying muscle



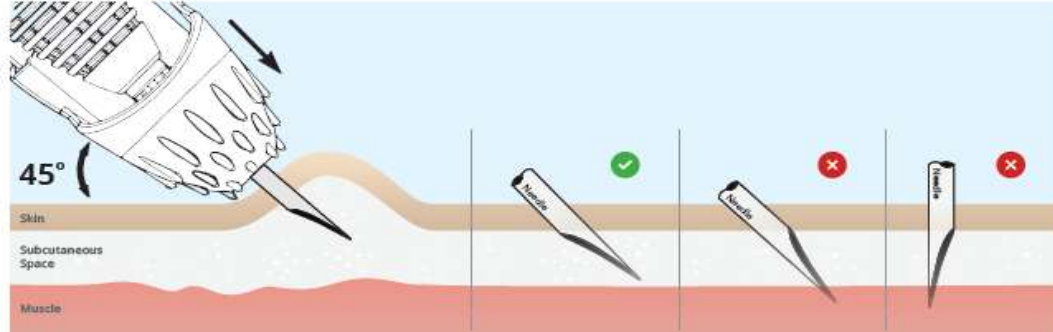
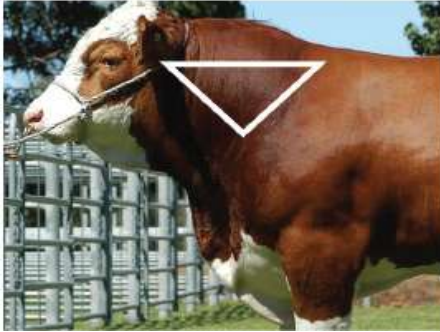
WHERE TO VACCINATE - SHEEP

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°



- Under the skin
- Side of neck
- A hand width back from the ear

WHERE TO VACCINATE - CATTLE



Subcutaneous:

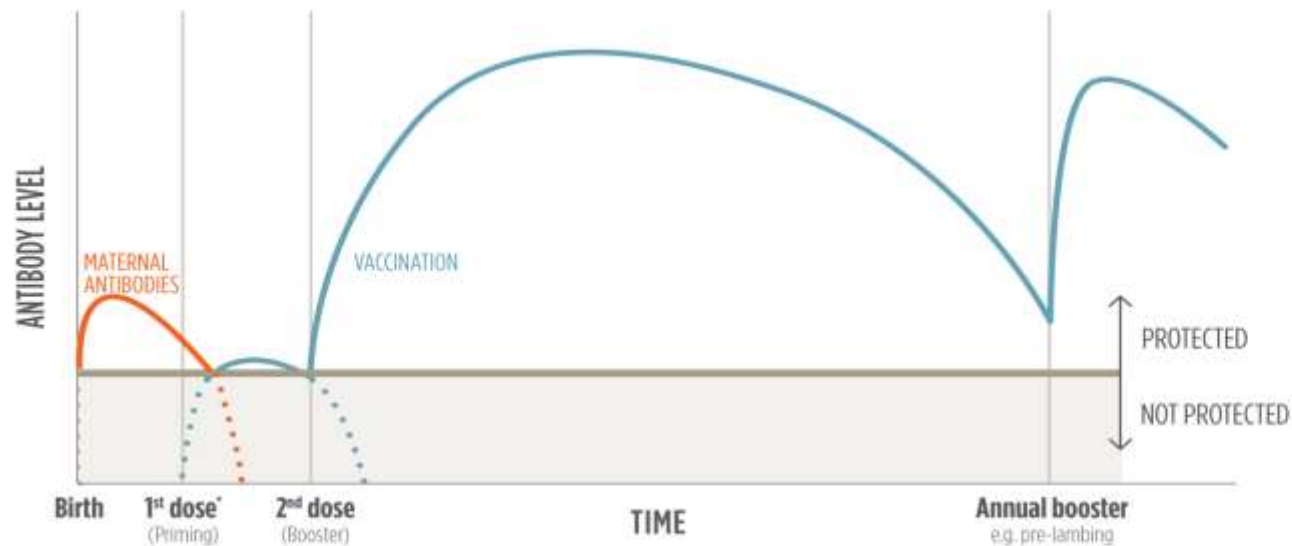
- Avoids unnecessary trim from site reactions when processing
- Reduced injection site inflammation and pain compared to IM infection

Needle length:

- 1/2" 16g – 18g stainless steel for cows
- 1/4" calves BJD vaccination

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



**Anthelmintic resistance
and New FECRT data in
Australian cattle**

ANTHLEMINTIC RESISTANCE IN CATTLE IN AUSTRALIA

DECTOMAX[®]
doramectin and levamisole injection

Representative locations where varying levels of resistance have been reported

KEY TRENDS IN AUSTRALIA*

1. *Cooperia* – resistant to all MLs.
Susceptible to Levamisole

2. *Ostertagia* – some resistance to
Levamisole, MLs, BZs.

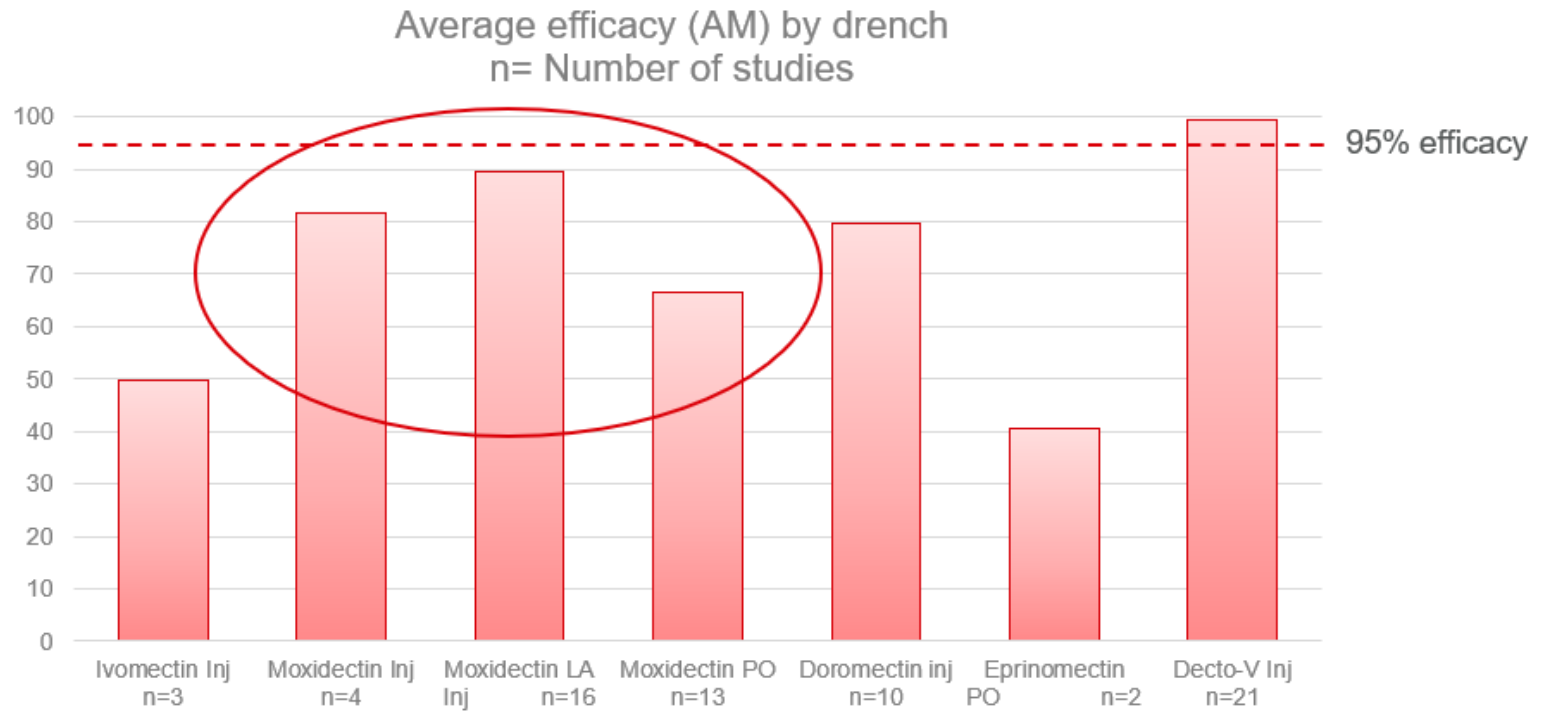
Inhibited (immature) *Ostertagia* -
better efficacy with injectable MLs.

3. *Haemonchus* – some resistance to
MLs Susceptible to Levamisole.



* Zoetis data on file. Contact Zoetis if further information is required.

RESULTS



HOW DO WE MANAGE DRENCH RESISTANCE IN CATTLE INTO THE FUTURE?

DECTOMAX^V
doramectin and levamisole injection

- Use an effective drench (post drench test or drench check)
- Use WEC's in young cattle to assist with the decision if additional drenches are required
- Use combination drenches
- Use injectable or oral drenches for less variable dosing

WHAT ABOUT SHEEP?

Resistance is common to all actives and with all worm species

The results of 50 FECRT's on commercial farms from 2018-2021 showed:

- 94% had resistance to at least 1 active
- 70% had resistance to at least 3 actives (83% farms in SA, 33% in WA)



HOW DO WE MANAGE DRENCH RESISTANCE IN SHEEP INTO THE FUTURE?

- Sheep farms need to use WEC's and drench checks to assess status and select an **effective** drench
- Always use a quarantine drench when bringing in new stock (4 actives, at least one being a new active)
- Use combination drenches to reduce the development of resistance
- Use short-acting drenches whenever possible to reduce the likelihood of resistance development





Thank-you
www.zoetis.com