

Being parasite-free means more protein and energy allowances are channelled into milk production rather than into fighting off worm infection. The result is better nourished lambs, better lamb survival rates, and healthier, heavier ewes at weaning.

Other possible benefits include less crutching of ewes and weaners, no tail-end in mobs, the prevention of dag formation and therefore reduced flystrike.

The financial benefits of using capsules have been well researched and documented. Field trials and responses measured on commercial properties have shown high productivity gains from the use of *CRCs* to control internal parasites in sheep flocks<sup>6</sup>.

EWES	Increase	Value
Retained bodyweight over lambing	5 kg	\$5.00
Increased wool growth	0.25 kg	\$2.00
Retained wool tensile strength	10 N/ktex	\$4.00
Increased lambing percentage	5%	\$2.50
Reduced dag formation	2 score	\$0.70
Increased weight of lambs at weaning	3-5 kg	\$8.80
<b>TOTAL INCREASE IN VALUE PER TREATED EWE</b>		<b>\$23.00</b>

*Potential returns from using CRCs (values current Dec 2009)*

## CLEANER PASTURES

Use of controlled release capsules reduces pasture contamination, allowing greater flexibility for stock and pasture management. Graziers can utilise pasture to its maximum potential and not be compromised by worm burdens.

When treated with *CRCs* prior to lambing, ewes contaminate pastures less, which means weaners can be weaned onto the lambing paddock, making use of the most productive pastures. With access to the best feed, weaners gain condition and live weight faster. Also, as *CRC* treated ewes have retained better condition throughout the lambing period, they can be put onto maintenance pasture after weaning.

## MANAGEMENT ADVANTAGES OF CONTROLLED RELEASE CAPSULES

- Reduced parasite contamination of lambing paddocks
- Early sale of lambs
- Better utilisation of pasture
- Peace of mind with good parasite control
- Drenching at weaning may not be required
- Less crutching of ewes and weaners
- No tail-end in mobs

## SELENIUM AND COBALT

The CENTAGARD *CRC* provides a selenium and cobalt supplement for sheep raised in selenium and/or cobalt deficient areas. Mineral supplementation will last for at least 210 days for selenium and for 100 days for cobalt.

Effects of selenium deficiency in sheep

- reduced fertility in ewes
- ill thrift in weaners and lambs
- white muscle disease in extreme cases

Effects of cobalt deficiency in sheep

- depression of appetite
- lower than expected growth rates
- increased mortality in lambs born to cobalt deficient ewes
- reduction in ewe fertility
- poor wool production
- weakened immune system increasing risk of infection

## ACTIVE INGREDIENTS

Each CENTAGARD *CRC* contains 4.62g albendazole, 24mg selenium and 118mg cobalt

## DOSAGE GUIDE

Administer one controlled release capsule per animal weighing 40kg to 80kg.

Live weight	Dose	100 capsule pack treats	500 capsule pack treats
40 to 80kg	1 capsule	100	500
Above 80kg	2 capsules	50	250

## APPLICATORS

The CENTAGARD *CRC* and the BIONIC<sup>®</sup> *CRC* can be administered using either the BIONIC applicator or existing capsule applicators designed for the EXTENDER<sup>®</sup> capsule.

Read the instruction leaflet carefully. It is advisable to obtain instruction in the correct dosing technique prior to administering controlled release capsules.

## PACK SIZES AVAILABLE

- Bags of 100 capsules
- Buckets of 5 x bags



# CENTAGARD

## 100 DAYS PROTECTION

**A CONTROLLED RELEASE WORM CONTROL CAPSULE WITH SELENIUM AND COBALT FOR ADULT SHEEP**

Active constituents: Each capsule contains: 4.62g albendazole, 24mg selenium (as sodium selenate), 118mg cobalt (as cobalt sulphate heptahydrate)



## CENTAGARD - 100 DAY CONTROLLED RELEASE ALBENDAZOLE CAPSULE

CENTAGARD is a 100 day controlled release capsule (CRC) delivering the active ingredient albendazole, a member of the white or benzimidazole (BZ) family of drenches.

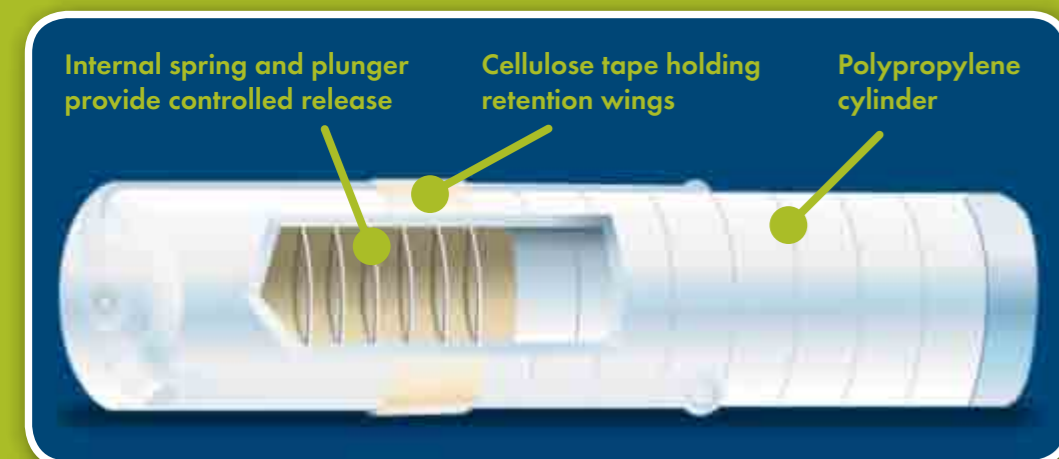
Unlike many other anthelmintic families, benzimidazoles kill parasitic roundworms by interfering with the parasites' energy metabolism and cellular processes, effectively "starving" them of energy. Long periods of exposure to albendazole, as occurs during the payout period of the CENTAGARD CRC, can result in the death of parasites which are known to be resistant to white drenches. Use of an effective primer drench such as HAT-TRICK® Triple Combination Drench for Sheep to remove established adult worm infections is recommended prior to using the CENTAGARD CRC\*.

The CENTAGARD CRC provides 100 days of continuous protection for adult sheep against the following BZ sensitive strains of parasitic nematodes: Barber's Pole Worm (*Haemonchus* spp.), Small Brown Stomach Worm (*Teladorsagia* [*Ostertagia*] spp.), Black Scour Worm and Stomach Hair Worm (*Trichostrongylus* spp.), Thin Necked Intestinal Worm (*Nematodirus* spp.), Nodule Worm (*Oesophagostomum* spp.) and Whipworm (*Trichuris* spp.).

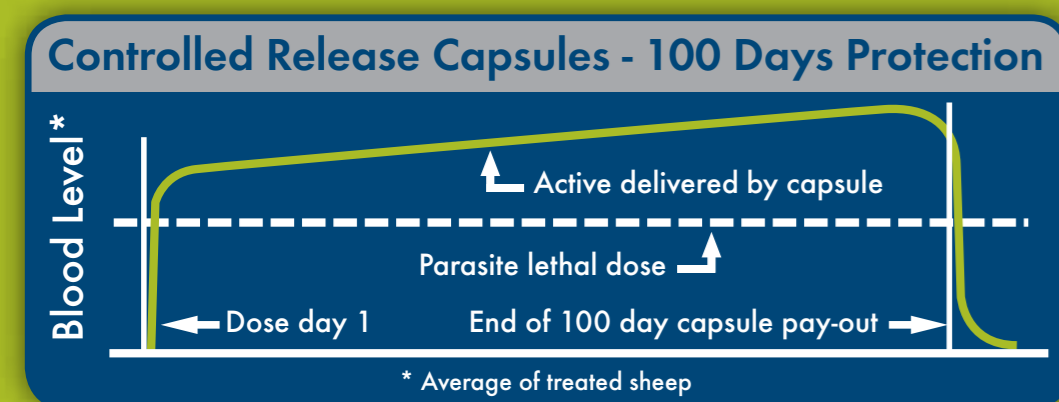
The CENTAGARD CRC also provides 100 days continuous prevention of pasture contamination with nematode eggs of susceptible parasites.

The continuous and long lasting protection offered by CENTAGARD is an alternative to the use of macrocyclic lactone (ML) products. Studies have shown that CENTAGARD can control ML and BZ resistant worms<sup>1</sup>. It is advisable that a drench-resistance test be conducted before any treatment is used.

### HOW DO CONTROLLED RELEASE CAPSULES WORK?



CRCs supply a measured dose of short-acting ingredients every day to ensure reliable and consistent efficacy. The graphic below demonstrates the broad spectrum protection against worms of a single capsule treatment over 100 days, followed by a quick shut down at the end of the payout period.



## RESISTANCE MANAGEMENT

As opposed to long acting injectable anthelmintics, the CRC has a short chemical 'tail' as a result of a rapid shutdown of delivery of short acting ingredients at the end of the payout period. A CRC therefore provides the benefit of long lasting protection, reducing the need for repeated drenching with short acting compounds, while also minimising resistance selection due to not having a long chemical tail.

Strategic use of CRCs can assist in ensuring worm control programs are sustainable. Achieving effective worm control and reducing pasture contamination earlier in the season reduces reliance on subsequent treatments often required in parasite control programs. Reducing drench frequency can be an important way of reducing selection for chemical resistance.

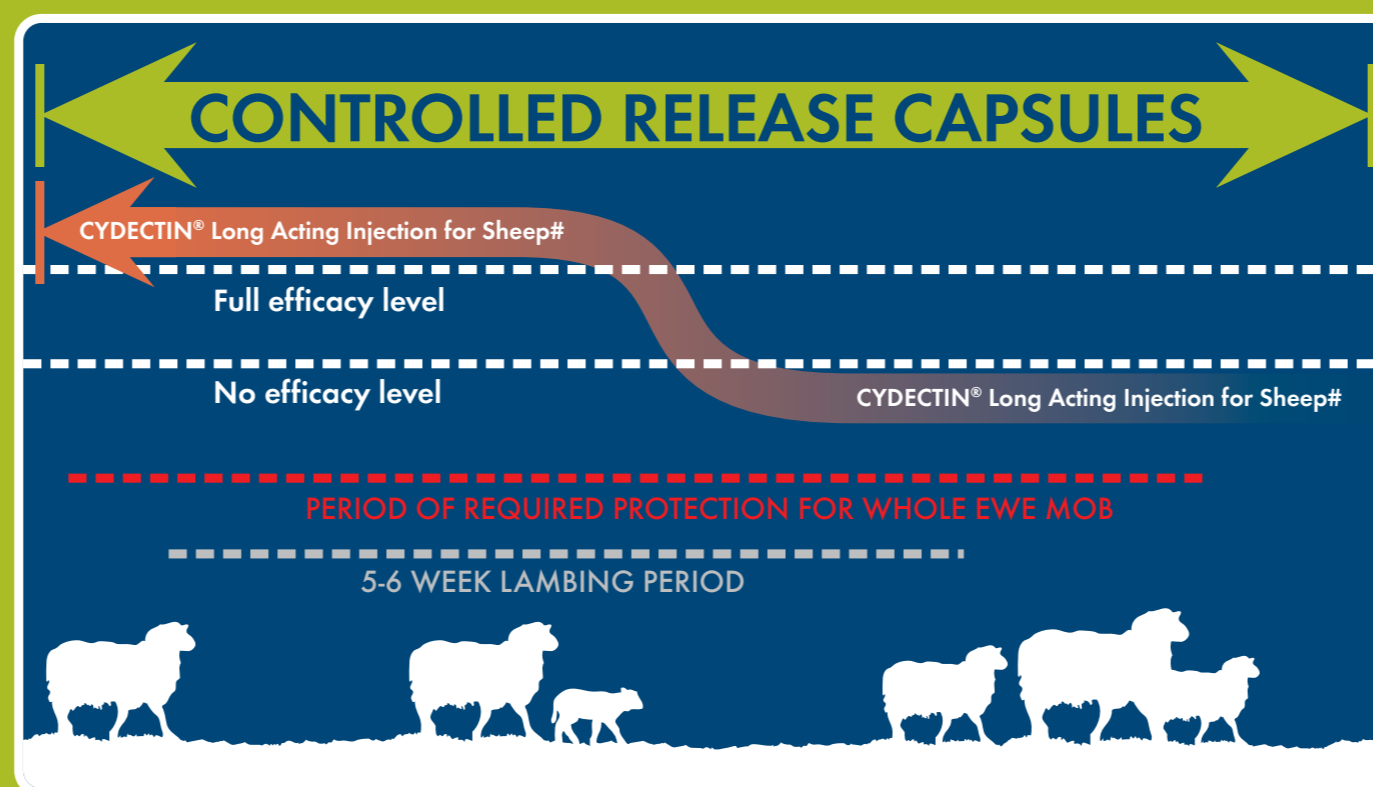
Studies have shown that CRCs containing albendazole can inhibit the development of resistant eggs and larvae<sup>2,3</sup>, and interfere with egg laying of adult female worms<sup>4,5</sup>. The end result is less contamination of pasture with eggs from resistant worms and those eggs that are laid are less likely to hatch and develop into resistant larvae.

### WHY USE AN ANTHELMINTIC CAPSULE?

Controlled release capsules are commonly used to control the parasite infection that ewes tend to pick up over lambing. Use of a CRC provides the following benefits:

- Increased productivity
- Increased milk production resulting in better lamb weights at weaning
- Less dagging and therefore less crutching and reduced flystrike
- Increased lambing percentage
- Bigger lambs that reach target weights earlier
- Increased wool production
- Ewes in better condition for mating

Around the time of lambing, great stress is placed on the ewe and her immune system relaxes, allowing a population of parasites to establish. CENTAGARD provides 100 days broad spectrum protection at this critical time.



#See product label for full claim details including minimum persistent efficacy period.

**Control throughout the lambing period.** Controlled Release Capsules provide protection for lambing ewes when they need it most. Unlike injectable anthelmintics, CRCs provide a controlled, effective dose of anthelmintic throughout the lambing period, well into lactation.



# CENTAGARD

100 DAYS PROTECTION

## CENTAGARD - 100 DAY CONTROLLED RELEASE ALBENDAZOLE CAPSULE

### CENTAGARD CRC WITHHOLDING PERIODS

MEAT: NIL.

MILK: DO NOT USE in ewes which are producing, or may in the future produce, milk or milk products for human consumption. EXPORT SLAUGHTER INTERVAL (ESI): DO NOT USE less than 60 days before slaughter for export. Before using CENTAGARD, confirm the current ESI by contacting Ancare on 1 800 001 973 or refer to the APVMA website.

### PRECAUTIONS AND CONTRAINDICATIONS

Selenium can have toxic effects, particularly in sheep with liver damage that graze in areas where plants containing pyrrolizidine alkaloids are present. Subsequent doses of CENTAGARD CRC should not be administered within 270 days. CENTAGARD CRC should not be used when selenium intake from pasture is high or selenium is provided by other means (such as pasture top dressing, vaccine, pellets or selenium drenches) if blood selenium levels at treatment exceed 2000 nmol/L. Users can determine selenium status by consulting their veterinarian. Do not use CENTAGARD CRC unless cobalt deficiency is confirmed. Do not administer CENTAGARD CRC to sheep that are dehydrated or unwell. Resistance may develop to any anthelmintic. Local veterinarians or animal health advisers may provide more information on local parasite management programs to reduce the development of resistance. It is advisable that a drench-resistance test be conducted before any treatment is used.

1. Data on file. 2. Fisher MA, Jacobs DE, Jones PA (1992) *Veterinary Record* 130, 351-2. 3. Data on file. 4. Anderson N *et al.* (1988) *Australian Advances in Veterinary Science*. Pp 60-1. AVA, Sydney, Australia. 5. Sutherland IA *et al.* (1998) *Veterinary Research Communications* 22, 305-14. 6. Data on file. \*See product label for full details. HAT-TRICK and BIONIC are registered trademarks of Ancare Pty Limited. \*EXTENDER is a registered trademark of Merial Australia Pty Limited. ©CYDECTIN is a registered trademark of Virbac (Australia) Pty Ltd. CENT-10-000