To get the best possible start at weaning, lambs should be:

1. Drenched;
2. Vaccinated; and
3. Topped-up with essential trace minerals.

Virbac, the maker of Cydectin®, Webster’s Vaccines and Multimin, understand this and have developed a range of solutions just right for you.
WEANER LAMB HEALTH TREATMENTS

At weaning there are many health treatment factors that sheep producers need to consider; and given that no one season, farm, or lamb flock is ever the same, there is no “one size fits all” protocol.

Nonetheless, at a minimum, sheep health experts recommend that you:

• Drench your lambs to protect them from worms.
• Vaccinate for clostridial diseases relevant to your property; and
• Top-up your lambs with essential trace minerals.

Fortunately, for sheep producers, there are a wide variety of products available that meet these needs. This abundance of options, however, can create a bewildering decision-making process, but it doesn’t have to.

The first and most important decision is:

• Drench selection.

Once you have determined the drench to use, your vaccine and mineral supplementation options will flow from that.
At weaning, lambs are particularly susceptible to attack from gastrointestinal worms. This is due to:

1. Lambs being too young to have a robust immunity to parasites; and

2. The process of being weaned causes stress which affects the lamb’s immune system and its ability to respond to threats of disease and parasitism.

Consequently, it is considered best practice to always drench your lambs at weaning.

To drench lambs at weaning there are four important factors to consider:

1. Are lambs prone to persistent attack?
   - Will weaners be put into a contaminated paddock?
   - Are you are expecting moderate to high rainfall for the next couple of months?

2. Will the lambs be exposed to Tapeworm?
   - Some drenches are more effective in killing all segments of Tapeworm

3. What drench actives are effective on your property?
   - It is recommended that sheep producers undertake drench active efficacy testing once every two years

4. What type of drench resistance management strategy have you adopted on your farm (e.g. drench rotation, combination drenches)?
   - Have you considered the benefits of combination drenching?

It is recommended to work through these four considerations with a trusted animal health advisor familiar with your property. Alternatively, you can consult a Virbac area manager by contacting our customer service hotline on 1800 242 100.
VACCINATION

There are several different vaccines that can be administered to lambs at weaning. The vaccines relevant for your lambs will be dependent upon the disease profile related to your property.

At a minimum when being weaned, your lambs should receive a vaccine booster applicable to the clostridial vaccine received at marking. The clostridial vaccines applicable to sheep in Australia are listed here.

3 in 1 Vaccine
Prevents
- Tetanus
- Pulpy Kidney
- Cheesy gland

5 in 1 Vaccine
Prevents
- Tetanus
- Pulpy Kidney
- Malignant oedema
- Blackleg
- Black disease

6 in 1 Vaccine
Prevents
- Tetanus
- Pulpy Kidney
- Malignant oedema
- Blackleg
- Black disease
- Cheesy gland
MINERAL TOP-UP

The latest research into mineral science has found that livestock exhibit performance benefits as a result of a rapid and balanced trace mineral top up, even in areas absent of trace mineral deficiencies. This is because trace mineral demands are not constant in an animal’s lifecycle and are drawn down during times of stress.

Weaning is a critical lifecycle event that will increase an animal’s demand for essential trace minerals.

To avoid economic losses associated with weaning, Virbac recommends sheep producers consider the benefits provided by the trace minerals listed here.

**Vitamin B₁₂ (Cobalt)**
Vitamin B₁₂ has a role in maintaining lamb appetite and is essential for energy production. Vitamin B₁₂ also helps protect animals from disease and parasites. (Rumen micro-organisms use Cobalt to synthesise Vitamin B₁₂).

**Selenium**
Selenium is essential for growth and the health of the immune system. It has a role in fighting infectious diseases, especially in cold climates.

**Zinc**
Is essential for wool growth, healthy skin and healthy hooves and has a role in maintaining lamb appetite.

**Manganese**
Manganese is required for growth, reproduction and skeletal development.

**Copper**
Copper aids in the function of white blood cells – which help fight infection and parasites. Copper is also important for the body, bone, and wool development.

**Iodine**
Iodine is needed for lambs to maintain their optimal metabolic rate and growth. Deficient lambs can exhibit goitre and may be prone to cold intolerance and death.

Virbac manufactures a range of drenches and vaccines combined with essential trace minerals. Virbac also makes two specialised trace mineral products that are suitable for sheep:

Multimin (Copper Free) and Hy-B12. For further information see the trace mineral quick reference guide.
<table>
<thead>
<tr>
<th>Product</th>
<th>Se</th>
<th>Vitamin B12</th>
<th>Copper</th>
<th>Zinc</th>
<th>Iodine</th>
<th>Manganese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cydectin® Long Acting Injection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cydectin® Weanerguard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cydectin® Weanerguard Se B12</td>
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<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cydectin® + Tape</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Cydectin® Oral with Selenium</td>
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<td></td>
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<td></td>
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<tr>
<td>Cydectin® Mineralised</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Websters® LV 3 in 1 with Vitamin B12</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Websters® LV 3 in 1 with Se and Vitamin B12</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Websters® LV 3 in 1 with Se</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Websters® 5 in 1 with Vitamin B12</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Websters® LV 5 in 1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Websters® 5 in 1 with Se</td>
<td>Yes</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Multimin (Copper Free)</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hy-B12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>
The basic principle underpinning strategic drenching programmes is the reduction in the larvae contaminating the pasture (Brunsdon, 1980). The most important aspect of a drench in achieving this is its potency. Potency relates to the effectiveness of the drench in killing worms.

Moreover, a study performed by the CSIRO using a computer simulation model showed that the most important factor in delaying resistance was the initial kill of resident worms, the ‘head kill’. Therefore, potency protects your sheep in the short term by killing more worms and in the long term by helping delay the onset of resistance.

Cydectin® is the most potent of all the macrocyclic lactones (MLs). Cydectin® is more potent than abamectin. It has five times the potency of ivermectin on Teladorsagia spp (small brown stomach worm) (Shoop et al., 1993), four times the potency on Haemonchus contortus (barber’s pole worm) (Molento et al., 1999) and twice the potency on Trichostrongylus colubriformis (black scour worm) (Shoop et al., 1993).

Cydectin® is the most persistent drench in its class.

Increasing evidence suggests that most production losses associated with worm infections are a result of the animal mounting an immune response. By preventing infection for an extended period, Cydectin® products can reduce this immune response as well as prevent the tissue damage and blood loss associated with some species, enabling greater levels of production.

The second advantage of using a persistent product is that fewer treatments and therefore less labour, may be required because pasture contamination and the resulting parasite challenge will be reduced.

Which Cydectin® is right for you?
You now know about Cydecin’s potency and persistency, and we have described the benefits of using a

- long acting drench;
- a combination drench; and/or
- A tapeworm drench.

Now it’s time for you to consider which Cydectin® products best meet the needs of your individual circumstances.

To assist you in this process, the following pages contain further details on the five Cydectin® products listed below.

- Cydectin® Long Acting Injection for Sheep
- Cydectin® Weanerguard Se B12
- Cydectin® + Tape
- Cydectin® Mineralised
- Cydectin® Triple Active Pack
Cydectin® Long Acting Injection for Sheep

Weaners and prime lambs are highly susceptible to worms and can remain susceptible for several months post-weaning. Cydectin® Long Acting Injection is an ideal drench for vulnerable and high value lambs. It offers outstanding control and long term protection necessary to maximise production.

Cydectin® Long Acting Injection is a suitable weaning drench for lambs being retained on farm and as a treatment for the following prime lamb production systems:

- Autumn lambs produced for the heavy end of the domestic market. These lambs usually require 170 to 190 days from lambing to sale.
- Winter tail end lambs usually carried over through to the following autumn.
- Late winter/spring lambs that are maintained over summer and finished in late autumn and early winter of the following year.

**DOSAGE**

1 mL per 20 kg (liveweight).
Do not treat animals less than 20 kg (liveweight).

WITHHOLDING PERIODS/ESI - Meat: 91 days; ESI: 133 days.

Cydectin® Long Acting Injection for Sheep provides:

- At least 91 days of control for both:
  - barber’s pole worm (*Haemonchus contortus*); and
  - small brown stomach worm (*Teladorsagia (Ostergia) circumcinta*); and
- Up to 49 days, control of black scour worm (*Trichostrongylus colubriformis*).
The relationship between head kill and potency

Cydectin® Long Acting Injection for Sheep (Cydectin® LA) is given at five times the oral dose of Cydectin® (1mg/kg vs 0.2 mg/kg) and is at its most potent at the start of the treatment.

By contrast, Controlled Release Capsules (capsules) release a daily dose that is only one tenth of the oral drench dose of the same active, so they are unlikely to provide a highly effective clean out immediately after application. This will result in greater head selection.

The importance of potency and removing as many adult worms as possible at the very beginning is that it reduces the opportunity for resistant worms to lay eggs and thus prevents resistant parasites becoming dominant in the population.

Persistent anthelmintics provide protection by killing infective larvae (L3s) as they are taken up by the sheep. This is the principle by which the capsules aim to function, maintaining a consistent low level of active over a long period. This is fraught with danger as once resistance to that dose is established (Figure 1) (Barger, I., et al., 2005) resistant parasites will continually lay eggs and resistant L3s will be maturing into egg laying adults for the full 100 days. This will result in pastures heavily contaminated by resistant parasites.

In contrast, the high initial dose of Cydectin® LA means that there is only a short window in which there is an opportunity for similarly resistant parasites to establish (Barger, I., et al., 2005). Before this time the moxidectin is killing the parasites and after this window little selection is occurring as neither resistant nor susceptible larvae are killed. Figure 2 indicates how the window of selection is of similar length between Cydectin® Oral and Cydectin® LA.
Cydectin® Weanerguard Se B12

Keep their stress levels down and their appetite up!

We all know that lambs start growing right from conception. But, from conception to weaning their growth rates are very much dependent upon the sustenance that mum can provide.

At weaning they are suddenly on their own and the stress associated with this separation can detrimentally affect their appetite and make them more prone to disease and attack from parasites.

For no worries weaning, Cydectin® Weanerguard Se B12 delivers:

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cydectin®</td>
<td>The most potent and persistent ML drench:</td>
</tr>
<tr>
<td></td>
<td>• At least 21 days persistent activity against barber’s pole worm</td>
</tr>
<tr>
<td></td>
<td>• Up to 21 days persistent activity against small brown stomach worm</td>
</tr>
<tr>
<td></td>
<td>• At least 7 days persistent activity against black scour worm and small intestinal worm</td>
</tr>
<tr>
<td>6 in 1 Vaccine</td>
<td>For the prevention of five clostridial diseases and cheesy gland</td>
</tr>
<tr>
<td>Vitamin B12</td>
<td>Maintains lamb’s appetite and is essential for energy production</td>
</tr>
<tr>
<td>Selenium</td>
<td>Essential for growth and health of the immune system, fights free radicals</td>
</tr>
</tbody>
</table>

**DOSAGE**

Cydectin® Weanerguard® Se B12 must be injected subcutaneously.

- For animals 15-25 kg liveweight give 2mL
- For animals 26-31 kg liveweight give 2.5mL
- For animals 32-37 kg liveweight give 3mL
- For animals above 37kg administer at the rate of 1mL/12.5 kg or use Cydectin® Eweguard® Se B12

**WITHHOLDING PERIODS/ESI** - Meat: 28 days; ESI: 28 days

To help keep them on a growth curve, treat them with Cydectin® Weanerguard Se B12, the most potent and persistent ML drench, vaccination and mineral top-up* in 1!

Treating your lambs with Cydectin® Weanerguard Se B12 will help address their, parasite, disease and nutritional needs in one simple injection. This convenient no worries treatment option will help make for happier, healthier and ultimately more productive weaners.

For convenient, no worries weaning that delivers productivity, use Cydectin® Weanerguard Se B12
Cydececin® plus Tape

- Contains moxidectin – the most potent and persistent macrocyclic lactone (ML)
- Broad spectrum roundworm control
- 14 days persistent activity against small brown stomach worm
- Controls tapeworm (both heads and segments)
- Recommended for highly contaminated pastures
- Recommended for lambs infected with roundworms and tapeworms
- Unselenised – suitable for use with mineral top-up products e.g. Multimin (Copper Free)

Contains moxidectin

Moxidectin is the most potent member of the macrocyclic lactone (ML) family of drenches, meaning it can kill worms resistant to ivermectin and abamectin.

Contains praziquantel

Praziquantel is the only available chemical that controls both the segments and heads of tapeworm at registered doses. It makes sense to remove tapeworms to reduce the overall worm burden of your lambs, giving them the best opportunity to achieve peak performance.

It was demonstrated that lambs treated with a drench that included praziquantel to control Tapeworm (Moniezia expansa), gained significantly more weight than an untreated control group and a group just treated with a drench that did not include praziquantel1.

Broad spectrum parasite control

Cydececin® plus Tape is highly effective against all major internal parasites that are susceptible to an ML drench, including gastrointestinal roundworms and large lungworm. These worms can reduce overall productivity, especially in young animals. Weight gains and wool growth can be reduced significantly. Cydececin® plus Tape also controls tapeworm and itch mite.

Persistent activity

Cydececin® plus Tape prevents reinfection with Teladorsagia (Ostertagia) circumcincta (small brown stomach worm) for at least 14 days. It prevents pasture contamination by Teladorsagia (Ostertagia) circumcincta eggs for at least 35 days.

Persistent activity is important when there is significant pasture contamination, as it can delay the need for subsequent drenching.

DOSAGE

1 mL per 5 kg (liveweight).

WITHOLDING PERIODS/ESI -
Meat: 7 days; ESI: 7 days.

Cydectin® Mineralised

Cydectin® Mineralised contains moxidectin the most potent ML and it comes packed with 5 essential trace elements, making it a drench and mineral supplement in one.

Cobalt
Rumen micro-organisms use Cobalt to synthesise Vitamin B12. Vitamin B12 has a role in maintaining lamb appetite and is essential for energy production. Vitamin B12 also helps protect animals from disease and parasites.

Selenium
Selenium is essential for growth and the health of the immune system. It has a role in fighting infectious diseases, especially in cold climates.

Zinc
Is essential for wool growth, healthy skin and healthy hooves and has a role in maintaining lamb appetite.

Copper
Copper aids in the function of white blood cells – which help fight infection and parasites. Copper is also important for body, bone, and wool development.

Iodine
Iodine is needed for lambs to maintain their optimal metabolic rate and growth. Deficient lambs can exhibit goitre and may be prone to cold intolerance and death.

When to use Cydectin® Mineralised
An ideal drench for many situations including:
- Pre-lambing;
- Weaning;
- Drenching onto stubble; and
- Salvage drenching.

So next time you drench your sheep, don’t just drench them, give ‘em a boost!

DOSAGE
1 mL per 5 kg (liveweight).

WITHHOLDING PERIODS/ESI - Meat: 7 days; ESI: 7 days
Cydecticin® Triple Active Pack

Why combination drenching?

Combinations increase drench potency because an active will kill worms resistant to other actives in the drench.

Other benefits of combination drenches include:

- Helping to delay the onset of resistance;
- Managing resistance, triple combinations can control single active and double active resistant worms;
- In conjunction with good parasite management practices, an effective drench program can increase productivity.

Why Cydecticin®

Cydecticin® is the most potent and persistent ML drench. Its performance compared to other ML drenches against resistant strains of barbers pole is demonstrated in the chart below.

Cydecticin has also developed the least resistance of any broad spectrum single active that has been in the market for twenty years or more.

Cydecticin® is the most potent ML against resistant barber’s pole worm*

Compare the pair

The key factor is Cydecticin’s potency advantage against the other ML actives.

Cydecticin’s potency will provide a better outcome through the following process:

1. The higher potency of Cydecticin® will mean that more adult worms are killed;
2. With less adult worms able to breed, fewer larvae are produced;
3. A reduction in overall numbers of larvae means cleaner pastures post drenching.

# Playford, MC; Smith, AN; Love, S; Besier, RB; Kluver, P and Bailey, JN; Prevalence of anthelmintic resistance in sheep nematodes in Australia 2009-2012, International Sheep Veterinarians Conference, Rotorua, New Zealand Feb 2013.

* Proceedings of the 24th International Conference of the World Association for the advancement of Veterinary Parasitology (Perth, 2013)
This process is extremely important because even small percentage improvements in efficacy can have a dramatic impact on the real numbers of eggs returning to pasture.

How the process works in a combination drench is demonstrated below.

In the example below, Cydectin’s higher potency will mean an increase in efficacy of 1.7% and this equates to 19,442 fewer eggs per sheep per day; that is 82% less larvae on the ground!

### COMBINATION DRENCH CALCULATOR *

<table>
<thead>
<tr>
<th>Drench 1</th>
<th>Efficacy</th>
<th>Drench 2</th>
<th>Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVE 1</td>
<td>BZ</td>
<td>74.0%</td>
<td>BZ</td>
</tr>
<tr>
<td>ACTIVE 2</td>
<td>LEV</td>
<td>67.0%</td>
<td>LEV</td>
</tr>
<tr>
<td>ACTIVE 3</td>
<td>ABA</td>
<td>75.0%</td>
<td>CYD</td>
</tr>
<tr>
<td>WEC</td>
<td>1,000 (eggs/g)</td>
<td>1,000 (eggs/g)</td>
<td></td>
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</table>

Calculated WEC post drench

<table>
<thead>
<tr>
<th></th>
<th>BZ</th>
<th>260</th>
<th>BZ</th>
<th>260</th>
</tr>
</thead>
<tbody>
<tr>
<td>BZ &amp; LEV</td>
<td>86</td>
<td>BZ &amp; LEV</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>BZ, LEV &amp; ABA</td>
<td>22</td>
<td>BZ, LEV &amp; CYD</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Efficacy</td>
<td>97.9%</td>
<td>99.6%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Estimated eggs per day per sheep

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>23,595</td>
<td>4,153</td>
</tr>
</tbody>
</table>

* Assumes each active acts independently

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**The Cydectin® Triple Active Pack contains:**

**Cydectin® LV Low Volume Drench for Sheep** containing moxidectin, the most potent member of the macrocyclic lactone (ML) drench family, making it the ML of choice when used in combination with other drench families.

---

**Duocare® LV Plus Selenium Oral Anthelmintic for Sheep** containing:

Levamisole – a member of the clear drench family that is short acting and usually highly effective against barber’s pole worm and Nematodirus.

Fenbendazole – a member of the benzimidazole (white) drench family with broadspectrum worm control, including inhibited larvae.

---

**MIXING DIRECTIONS**

Mix Cydectin LV with Duocare LV in a ratio of 1:1 and shake well.

<table>
<thead>
<tr>
<th>Weight Range (kg)</th>
<th>Dose Volume (mL)</th>
<th>Doses after mixing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>10L Pack</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>5000</td>
</tr>
<tr>
<td>11-20</td>
<td>4</td>
<td>2500</td>
</tr>
<tr>
<td>21-30</td>
<td>6</td>
<td>1666</td>
</tr>
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<td>31-40</td>
<td>8</td>
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<td>1000</td>
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<td>61-70</td>
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<tr>
<td>71-80</td>
<td>16</td>
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</tbody>
</table>

For animals above 80kg, dose at 1mL per 5kg body weight

Withholding: Meat/ESI = 14 days

Shake well before use and during application to keep the drench well mixed. Use the mixture within 48 hours of mixing, and store the mixture below 30°C (Room temperature).
References:


