Worms in sheep. 4. Drenches for treatment and control of worms in sheep

W. A. Halhead

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4. DRENCHES FOR TREATMENT AND CONTROL OF WORMS IN SHEEP

By W. A. HALHEAD, B.V.Sc., Veterinary Parasitologist

PREVIOUS articles in this series have described the species of worms affecting sheep in Western Australia, their life histories and the factors which lead to the seasonal rise and fall in worm burdens. A programme of strategic (preventative) drenching has been outlined which is based on a knowledge of these seasonal changes in worm burdens.

This article describes the efficiency, cost and safety of some anthelmintic drenches currently available. This information has been summarised in the table.

There is a wide variation in the efficiency and cost of these products. Broadly speaking, the higher the efficiency, the higher the cost. It is convenient to divide these drenches into three groups:

Group I—“Thibenzole,” “Nilverm,” “Ripercol” and “Banminth”

Products in Group I have a very high efficiency against a wide variety of species, are safe or very safe to use and are easy to administer. They have a high efficiency against parasitic immature worms. There is little or no difference in price between these drenches. Since the efficiency and cost are very similar, the choice becomes a matter of personal preference.

Group II—Organo-phosphorus compounds. “Kempak,” “Co-Ral” and “Rametin”

Drenches in Group II are efficient. They have a lower safety margin than those in Group I. They have a limited action against parasitic immature worms and no effect on parasites of the large intestine. They are, however, relatively cheap.

Group III—Coopers “Summer Drench” and Rametin “H”

Drenches in Group III are reformulations of organo-phosphorus compounds previously marketed as wide spectrum anthelmintics. A standard dose is given for every age and weight of sheep. The efficiency varies—depending on the weight of the animal. In weaners, they have a reasonably high efficiency against worms of the fourth stomach and small intestine. In adult sheep they are active against Barbers Pole worm. They are marketed specifically for use as tactical drenches for the control of Barbers Pole worm.

A drench which is used for preventative purposes in a strategic drenching programme must be highly efficient against a wide range of worm species and have very good activity against immature forms. The drenches in Group I fulfill these requirements. Where Barbers Pole worm is a problem and frequent tactical drenching is necessary, it is needlessly expensive to use a high efficiency drench. Adequate control can be obtained by using one of the cheaper products.

Precautions when drenching

Whatever drench is being used, there are several basic precautions which should be taken.

- Follow the manufacturer’s instructions exactly.
## ANTHELMINTICS FOR SHEEP — EFFICIENCY AND COSTS

<table>
<thead>
<tr>
<th>Drench</th>
<th>Barbers Pole Worm</th>
<th>Stomach Hair Worm</th>
<th>Brown Stomach Worm</th>
<th>Black Scour Worm</th>
<th>Thin Neck Bowel Worm</th>
<th>Small Intestinal Worm</th>
<th>Tape Worm</th>
<th>Large Bowel Worm</th>
<th>Large Mouthed Bowel Worm</th>
<th>Lung Worm</th>
<th>Effect on Immatures</th>
<th>Safety</th>
<th>Cost per Head</th>
<th>Cost per Thousand</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banminch ...</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++ (erratic)</td>
<td>+++</td>
<td>+++</td>
<td>---</td>
<td>+++</td>
<td>+++</td>
<td>&quot;-&quot;</td>
<td>Very Good</td>
<td>Very Safe</td>
<td>5-7</td>
<td>7-6</td>
<td>$57.00 $76.00 Highly efficient</td>
</tr>
<tr>
<td>Bluestone Nicrotine ...</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>&quot;-&quot;</td>
<td>Poor</td>
<td>Fair</td>
<td>0-4</td>
<td>0-8</td>
<td>$4.00  $8.00 Efficiency depends on drench reaching abomasum</td>
</tr>
<tr>
<td>Co-Ral ...</td>
<td>+++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>&quot;-&quot;</td>
<td>Limited</td>
<td>Fair</td>
<td>1-2</td>
<td>2-3</td>
<td>$12.00 $23.00 Requires care in use. No action against large intestinal worms</td>
</tr>
<tr>
<td>Kempak ...</td>
<td>+++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>&quot;-&quot;</td>
<td>Limited</td>
<td>Fair</td>
<td>2-9</td>
<td>5-4</td>
<td>$29.00 $54.00 Requires care in use. No action against large intestinal worms</td>
</tr>
<tr>
<td>Mansonil ...</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+++</td>
<td>-</td>
<td>+</td>
<td>&quot;-&quot;</td>
<td>Good</td>
<td>Safe</td>
<td>7-3</td>
<td>14-7</td>
<td>$73.00 $147.00 Controls tapeworm</td>
</tr>
<tr>
<td>Mintic ...</td>
<td>(erratic)</td>
<td>(erratic)</td>
<td>(erratic)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>&quot;-&quot;</td>
<td>Fair to Good</td>
<td>Fair</td>
<td>7-8</td>
<td>15-4</td>
<td>$57.00 $154.00 Erratic performance against abomasal worms</td>
</tr>
<tr>
<td>Nilverm ...</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>Very Good</td>
<td>+++</td>
<td>&quot;-&quot;</td>
<td>Very Good</td>
<td>Safe</td>
<td>5-7</td>
<td>7-7</td>
<td>$57.00 $77.00 Highly efficient. Easy to administer</td>
</tr>
<tr>
<td>Rametin ...</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>---</td>
<td>Poor</td>
<td>Safe</td>
<td>2-8</td>
<td>&quot;-&quot;</td>
<td>Safe</td>
<td>2-8</td>
<td>5-6</td>
<td>$28.00 $56.00 Efficient. Requires care in use. No action against large intestinal worms</td>
</tr>
<tr>
<td>Rametin &quot;H&quot; ...</td>
<td>+++</td>
<td>-</td>
<td>-</td>
<td>+++</td>
<td>-</td>
<td>-</td>
<td>---</td>
<td>Varies*</td>
<td>Safe</td>
<td>1-5</td>
<td>&quot;-&quot;</td>
<td>Safe</td>
<td>1-5</td>
<td>1-5</td>
<td>$15.00 $15.00 *Efficiency varies with weight of sheep. Controls Haemonchus</td>
</tr>
<tr>
<td>Ripercol ...</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>Very Good</td>
<td>Safe</td>
<td>5-7</td>
<td>&quot;-&quot;</td>
<td>Safe</td>
<td>5-7</td>
<td>7-7</td>
<td>$57.00 $77.00 Highly efficient. Easy to administer</td>
</tr>
<tr>
<td>Summer Drench</td>
<td>+++</td>
<td>-</td>
<td>+++</td>
<td>---</td>
<td>-</td>
<td>-</td>
<td>---</td>
<td>Varies*</td>
<td>Safe</td>
<td>2-7</td>
<td>&quot;-&quot;</td>
<td>Safe</td>
<td>2-7</td>
<td>2-7</td>
<td>$27.00 $27.00 *Efficiency varies with weight of sheep. Controls Haemonchus</td>
</tr>
<tr>
<td>Thibenzole ...</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>Very Good</td>
<td>Very Safe</td>
<td>5-7</td>
<td>&quot;-&quot;</td>
<td>Very Safe Safe</td>
<td>$57.00 $76.00 Highly efficient. Very safe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Remarks

- **Barbers Pole Worm**... *Haemonchus contortus*
- **Stomach Hair Worm**... *Trichostrongylus axei*
- **Brown Stomach Worm**... *Ostertagia species*
- **Black Scour Worm**... *Trichostrongylus spp.*
- **Thin Necked Bowel Worm**... *Nematodirus species*
- **Small Intestinal Worm**... *Cooperia species*
- **Tape Worm**... *Monezia species*
- **Large Bowel Worm**... *Oesophagostomum species*
- **Large Mouthed Bowel Worm**... *Chabertia ovina*
- **Lung Worm**... *Dictyocaulus filaria*

### KEY

- **+++** = 90 to 100 Per cent efficient
- **++** = 70 to 90 Per cent efficient
- **+** = 50 to 70 Per cent efficient
- **-** = Poor efficiency

*Prices are subject to change. Prices vary slightly depending on amount of drench purchased.*

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Check the drenching gun for accuracy of the dose delivered before starting the work. Recheck the volume setting at fairly frequent intervals.

Do not add other medicaments to the drench unless recommended to do so by the manufacturer.

If an organo-phosphorus compound is being used do not jet or dip with another organo-phosphate before or after drenching.

Do not drench on very hot or on cold wet days.

Use the drenching gun as gently as possible. Severe or fatal injuries to the back of the throat can occur, particularly in weaners, if the gun is used roughly. Make sure that the nozzle of the gun has no rough edges. If the gun is old, and worn—throw it away and by a new one; it’s cheaper in the long run.

Although there are many factors which contribute to a build up of the worm burdens in a flock, the only practical method of control available at present is to kill the worms in the sheep. This involves a recurring expenditure which, in the interests of economy, should be kept to the minimum. This can be done by drenching at the right time with a product which is effective for the purpose for which it is required. The purpose of drenching is to prevent or treat outbreaks of disease; it is not an economic method of lifting growth rate or wool production in flocks which are carrying only sub-clinical worm burdens.

MURESK AGRICULTURAL COLLEGE
WESTERN AUSTRALIA

As from the beginning of 1969 the entrance requirements for the Diploma of Agriculture course will be:

- A pass at Western Australian Leaving Certificate standard in English, Chemistry, Physics and a Mathematics,
  or

- An educational standard considered by the Principal to be equivalent to the above. (Note: The W.A. Leaving Certificate is equivalent to Matriculation Level in all other states.)

Application for Enrolment

- Applications will close on November 30 of the year preceding the commencement of the course.
- Successful applicants will be informed as soon as the W.A. Leaving Certificate results are available. This should be completed by January 20.
- Applicants will be required to confirm their enrolment by the second Friday in February.
- If there are still some vacancies at this time, late enrolments may be received up to the first Friday in March.