

Parasite control guide 2020

A comprehensive list of products for the control of internal and external parasites in cattle and sheep





Parasite control – getting it right

Choosing the right product and getting the most from it are key factors in ensuring optimum livestock performance for least cost and reducing the risk of anthelmintic resistance.

The aim of this booklet is to provide an accurate, easy-to-use reference guide on all available anti-parasitic products in their various chemical groups and summarising the parasites they have been licensed to control. Decisions on the choice of product should be discussed with your adviser, vet, Suitably Qualified Person (SQP) or Veterinary Pharmacologist (VP).

What type of wormer should be used?

Anthelmintics (wormers) are used to treat and prevent parasite infections – roundworm, tapeworm, lungworm and liver fluke. These products fall into the following groups:

1. (BZ) Benzimidazoles.
2. (LV) Levamisole (Imidazothiazoles).
3. (ML) Macrocyclic lactones, including avermectins and milbemycins.
4. (AD) Amino acetonitrile derivatives (Monepantel).
5. (SI) Spiroindoles (Derquantel available as a multi-active).

Anthelmintics belonging to these groups are active against the major species of gut roundworms and lungworms. Some will also have activity against liver fluke and tapeworms. ML (Group 3) injectables and pour-ons also have activity against some ectoparasites.

Other products are more specific in the parasites they will kill, i.e. narrow spectrum. Most anthelmintics in this category are active against liver fluke or ectoparasites.

Choosing the most appropriate product for the parasites likely, or known, to be present is vital. Targeting the right parasite will give predictable results and may mean retreatment is less likely to be needed. This may also

reduce unnecessary selection pressure for anthelmintic resistance.

Administering wormers (anthelmintics) effectively

When using any medicine or vaccine, it is important to read the product label and package insert to ensure you understand how it needs to be administered to the animal. If you do not understand anything or need further information, ask your veterinary surgeon or SQP.

- Choose the most appropriate product for the parasites likely, or known, to be present
- Store wormers in accordance with instructions, usually away from direct sunlight, avoiding extremes of temperature and keep in a fridge, if appropriate
- Always read the label before using all products, to check it is suitable for the livestock you want to treat and note any precautions for its use

Only use a product before its expiry date and check the product after first opening.

- Make sure the dosing equipment is compatible with the product you are using and check it is clean and measuring the correct volume
- Administer product according to the manufacturer's instructions, paying particular attention to specific methods for ear injections and intraruminal boluses
- Dose according to liveweight, as detailed in the manufacturer's instructions
- Record accurately all wormer products administered (batch number, amount and expiry date), animal identity, treatment dates and withdrawal periods
- Note withdrawal periods for milk and meat, and ensure they are adhered to. Be aware that withdrawal periods do not relate to the length of activity of a product (this will be shown elsewhere on the label)

- Do not mix different wormers together or with other products, as this can inactivate active ingredients

Before using any product, even if you have used it before, read the product information on the packaging and/or the leaflet inside the pack.



For more information, consult the 'data sheet' or the 'summary of product characteristics' (SPC), which contain additional details and any recent changes to specifications, such as withdrawal periods.

SPCs can be found on vmd.defra.gov.uk and data sheets can be found on noahcompendium.co.uk. Manufacturers can be contacted directly if these sources do not provide the information you are seeking.

For further information on treating dairy cows, contact AHDB Dairy at dairy.ahdb.org.uk or call 024 7669 2051.



cattleparasites.org.uk



scops.org.uk

Treatments for cattle parasite control – endoparasiticides



1-BZ Group 1: Benzimidazoles (BZ) (White)

| PRODUCT | COMPANY NAME | CHEMICAL NAME | PARASITES CONTROLLED | | | | | | | | | USE | TRACE ELEMENTS | WITHDRAWAL PERIOD (MEAT) | MILK WITHHOLD |
|---|-----------------|---------------|----------------------|----------|----------------------------|------------------|-------|---------|------|-----------|---------|---------------------|----------------|--------------------------|---------------|
| | | | Roundworm | Lungworm | Tapeworm | Liver fluke | Mites | Warbles | Lice | Hornflies | Eyeworm | | | | |
| Albacert 2.5% SC | Downland | Albendazole | Yes | Yes | Yes | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Albenil 2.5% oral suspension | Virbac | Albendazole | Yes | Yes | Yes | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Albex 10% oral suspension | Chanelle Pharma | Albendazole | Yes | Yes | Yes | Yes (adult only) | No | No | No | No | No | Oral drench | | 14 days | 60 hours |
| Albex 2.5% SC oral suspension | Chanelle Pharma | Albendazole | Yes | Yes | Yes | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Autoworm Finisher | Zoetis | Oxfendazole | Yes | Yes | Yes | No | No | No | No | No | No | Pulse release bolus | | 6 months | X |
| Autoworm First Grazer | Zoetis | Oxfendazole | Yes | Yes | Yes | No | No | No | No | No | No | Pulse release bolus | | 8 months | X |
| Bovex 2.265% | Chanelle Pharma | Oxfendazole | Yes | Yes | Yes | No | No | No | No | No | No | Oral drench | | 19 days | 84 hours |
| Endospec 2.5% SC | Bimeda | Albendazole | Yes | Yes | Yes | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Endospec 10% SC | Bimeda | Albendazole | Yes | Yes | Yes | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Ovidrench S & C 2.5% w/v oral suspension for cattle | United Farmers | Albendazole | Yes | Yes | Yes – <i>Moniezia</i> spp. | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Ovidrench S & C 10% w/v oral drench for cattle | United Farmers | Albendazole | Yes | Yes | Yes – <i>Moniezia</i> spp. | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Panacur bolus | MSD AH | Fenbendazole | Yes | Yes | No | No | No | No | No | No | No | Bolus | | 200 days | X |
| Panacur 10% oral suspension | MSD AH | Fenbendazole | Yes | Yes | Yes | No | No | No | No | No | No | Oral drench/in-feed | | 12 days | 5 days |
| Tramazole 2.5% SC | Tulivin Labs | Albendazole | Yes | Yes | Yes | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Tramazole 10% SC | Tulivin Labs | Albendazole | Yes | Yes | Yes | Yes (adult only) | No | No | No | No | No | Oral drench | Co, Se | 14 days | 60 hours |
| Zerofen 2.5% | Chanelle Pharma | Fenbendazole | Yes | Yes | No | No | No | No | No | No | No | Oral drench | | 14 days | 132 hours |
| Zerofen 10% | Chanelle Pharma | Fenbendazole | Yes | Yes | No | No | No | No | No | No | No | Oral drench | | 14 days | 132 hours |

2-LV Group 2: Levamisole (LV) (Yellow)

| PRODUCT | COMPANY NAME | CHEMICAL NAME | PARASITES CONTROLLED | | | | | | | | | USE | TRACE ELEMENTS | WITHDRAWAL PERIOD (MEAT) | MILK WITHHOLD |
|--------------------------------------|-----------------|---------------|----------------------|----------|----------|-------|-------|---------|------|-----------|---------|--------------|----------------|--------------------------|---------------|
| | | | Roundworm | Lungworm | Tapeworm | Fluke | Mites | Warbles | Lice | Hornflies | Eyeworm | | | | |
| Chanaverm 7.5% | Chanelle Pharma | Levamisole | Yes | Yes | No | No | No | No | No | No | No | Oral drench | | 20 days | X |
| Levacide 7.5% solution for injection | Norbrook Labs | Levamisole | Yes | Yes | No | No | No | No | No | No | No | Injection SC | | 28 days | X |
| Levacide low volume 7.5% | Norbrook Labs | Levamisole | Yes | Yes | No | No | No | No | No | No | No | Oral drench | | 14 days | X |
| Levacide pour-on | Norbrook Labs | Levamisole | Yes | Yes | No | No | No | No | No | No | No | Pour-on | | 28 days | X |
| Levacur SC 3% | MSD AH | Levamisole | Yes | Yes | No | No | No | No | No | No | No | Oral drench | Co, Se | 20 days | X |

Check product labels for full and final details

X = not for use in cattle producing milk for human consumption

Cattle endoparasiticides and ectoparasiticides



3-ML Group 3: Macrocyclic Lactones (ML) (Clear)

| PRODUCT | COMPANY NAME | CHEMICAL NAME | PARASITES CONTROLLED | | | | | | | | | USE | WITHDRAWAL PERIOD (MEAT) | MILK WITHHOLD |
|--|----------------------|---------------|----------------------|----------|----------|-------------|-------|---------|------|-----------|---------|---------------|--------------------------|---------------|
| | | | Roundworm | Lungworm | Tapeworm | Liver fluke | Mites | Warbles | Lice | Hornflies | Eyeworm | | | |
| Animec 1% injection | Chanelle Pharma | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | No | Injection SC | 49 days | 60* days |
| Animec pour-on 0.5% | Chanelle Pharma | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Pour-on | 28 days | 60* days |
| Bimectin injection | Bimeda | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | X |
| Bimectin pour-on for cattle | Bimeda | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 31 days | X |
| Cydectin 0.5% pour-on for cattle | Zoetis | Moxidectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 14 days | 6 days |
| Cydectin 10% LA for cattle | Zoetis | Moxidectin | Yes | Yes | No | No | Yes | Yes | Yes | No | No | Ear injection | 108 days | 80* days |
| Dectomax 10 mg/ml solution for injection for cattle and sheep | Elanco AH | Doramectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 70 days | 60* days |
| Dectomax pour-on | Elanco AH | Doramectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | Yes | Pour-on | 35 days | 60* days |
| Ecomectin 10 mg/ml solution for injection | ECO AH | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | 60* days |
| Ecomectin 5 mg/ml pour-on solution for cattle | ECO AH | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 31 days | 60* days |
| Eprex 20 mg/ml solution for injection for cattle | Ceva AH | Eprinomectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Injection SC | 63 days | Zero |
| EpriMole pour-on | Mole Valley | Eprinomectin | Yes | Yes | No | No | Yes | Yes | Yes | No | No | Pour-on | 15 days | Zero |
| Eprinex pour-on | Boehringer Ingelheim | Eprinomectin | Yes | Yes | No | No | Yes | Yes | Yes | No | No | Pour-on | 15 days | Zero |
| Eprinex multi 5 mg/ml pour-on for beef and dairy cattle, sheep and goats | Boehringer Ingelheim | Eprinomectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 15 days | Zero |
| EpriZero pour-on | Norbrook Labs | Eprinomectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 10 days | Zero |
| Epromec 5 mg/ml pour-on solution for beef and dairy cattle | Chanelle Pharma | Eprinomectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 15 days | Zero |
| Ivomec classic injection for cattle and sheep | Boehringer Ingelheim | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | 60* days |
| Ivomec classic pour-on for cattle | Boehringer Ingelheim | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | Yes | Pour-on | 15 days | 60* days |
| Molemec injection for cattle | Mole Valley | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | 60* days |
| Molemec pour-on for cattle | Mole Valley | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | Yes | Pour-on | 15 days | 60* days |
| Neopriniil 5 mg/ml pour-on solution for cattle | Virbac | Eprinomectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 15 days | Zero |
| Noromectin multi injection | Norbrook Labs | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | 60* days |
| Noromectin pour-on | Norbrook Labs | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Pour-on | 28 days | 60* days |
| Panomec injection for cattle, sheep and pigs | Boehringer Ingelheim | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | 60* days |
| Paramectin multi injection | Norbrook Labs | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | 60* days |

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X = not for use in cattle producing milk for human consumption.

Check product labels for full and final details

Check the datasheets of individual products for mite species activity as it does vary.



| PRODUCT | COMPANY NAME | CHEMICAL NAME | PARASITES CONTROLLED | | | | | | | | | USE | WITHDRAWAL PERIOD (MEAT) | MILK WITHHOLD |
|--------------------------------|---------------|---------------|----------------------|----------|----------|-------------|-------|---------|------|-----------|---------|---------------|--------------------------|---------------|
| | | | Roundworm | Lungworm | Tapeworm | Liver fluke | Mites | Warbles | Lice | Hornflies | Eyeworm | | | |
| Paramectin pour-on | Norbrook Labs | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Pour-on | 28 days | 60* days |
| Premadex pour-on | Downland | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Pour-on | 28 days | 60* days |
| Robonex pour-on | Norbrook Labs | Eprinomectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 10 days | Zero |
| Taurador | Norbrook Labs | Doromectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | Yes | Pour-on | 35 days | 60* days |
| Virbamec injectable solution | Virbac | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | 60* days |
| Virbamec pour-on | Virbac | Ivermectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 28 days | 60* days |
| Zermex 0.5% pour-on for cattle | Downland | Moxidectin | Yes | Yes | No | No | Yes | Yes | Yes | Yes | No | Pour-on | 14 days | 6 days |
| Zermex 100 mg/ml LA for cattle | Downland | Moxidectin | Yes | Yes | No | No | Yes | Yes | Yes | No | No | Ear injection | 108 days | 80* days |

Combination products

| PRODUCT | COMPANY NAME | CHEMICAL NAME | PARASITES CONTROLLED | | | | | | | | | USE | WITHDRAWAL PERIOD (MEAT) | MILK WITHHOLD |
|-----------------------------------|----------------------|----------------------------|----------------------|----------|----------|---------------------------------------|-------|---------|------|-----------|---------|--------------|--------------------------|---------------|
| | | | Roundworm | Lungworm | Tapeworm | Liver fluke | Mites | Warbles | Lice | Hornflies | Eyeworm | | | |
| Animec super injection for cattle | Chanelle Pharma | Ivermectin Clorsulon | Yes | Yes | No | Yes (adult only) | Yes | Yes | Yes | No | Yes | Injection SC | 66 days | 60* days |
| Bimectin plus injection | Bimeda | Ivermectin Clorsulon | Yes | Yes | No | Yes (adult only) | Yes | Yes | Yes | No | Yes | Injection SC | 66 days | 60* days |
| Closamectin injection | Norbrook Labs | Ivermectin Closantel | Yes | Yes | No | Yes (adult and immature over 7 weeks) | Yes | Yes | Yes | No | Yes | Injection SC | 49 days | X |
| Closamectin pour-on | Norbrook Labs | Ivermectin Closantel | Yes | Yes | No | Yes (adult and immature over 7 weeks) | Yes | Yes | Yes | No | Yes | Pour-on | 58 days | X |
| Combindex cattle | Elanco AH | Levamisole Triclabendazole | Yes | Yes | No | Yes – all stages | No | No | No | No | No | Oral drench | 56 days | X |
| Cydetin TriclaMox | Zoetis | Moxidectin Triclabendazole | Yes | Yes | No | Yes – immature and adult | No | No | Yes | No | No | Pour-on | 143 days | X |
| Downland Fluke & Worm | Downland | Levamisole Oxyclozanide | Yes | Yes | No | Yes (adult only) | No | No | No | No | No | Oral drench | 5 days | X |
| Ivomec super injection for cattle | Boehringer Ingelheim | Ivermectin Clorsulon | Yes | Yes | No | Yes (adult only) | Yes | Yes | Yes | No | Yes | Injection SC | 66 days | 60* days |
| Levafas Diamond | Norbrook Labs | Levamisole Oxyclozanide | Yes | Yes | No | Yes (adult only) | No | No | No | No | No | Oral drench | 5 days | X |
| Molemec super injection | Mole Valley | Ivermectin Clorsulon | Yes | Yes | No | Yes (adult only) | Yes | Yes | Yes | No | Yes | Injection SC | 66 days | 60* days |
| Norofas | Downland | Ivermectin Closantel | Yes | Yes | No | Yes (adult and immature over 7 weeks) | Yes | Yes | Yes | No | Yes | Pour-on | 58 days | X |
| Supremadex | Downland | Ivermectin Clorsulon | Yes | Yes | No | Yes (adult only) | Yes | Yes | Yes | No | Yes | Injection SC | 66 days | 60* days |
| Virbamec Super | Virbac | Ivermectin Clorsulon | Yes | Yes | No | Yes (adult only) | Yes | Yes | Yes | No | No | Injection SC | 66 days | 60* days |

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Check product labels for full and final details

Check the datasheets of individual products for mite species activity as it does vary.



Flukicides

| PRODUCT | COMPANY NAME | CHEMICAL NAME | PARASITES CONTROLLED | | | | | | | | | USE | WITHDRAWAL PERIOD (MEAT) | MILK WITHHOLD |
|---|----------------------|-----------------|----------------------|----------|--|--|-------|---------|------|-----------|---------|--------------|--------------------------|---------------|
| | | | Roundworm | Lungworm | Tapeworm | Liver fluke | Mites | Warbles | Lice | Hornflies | Eyeworm | | | |
| Endofluke 10% | Bimeda | Triclabendazole | No | No | No | Yes – all stages | No | No | No | No | No | Oral drench | 56 days | 47* days |
| Fasinex 240 | Elanco AH | Triclabendazole | No | No | No | Yes – all stages | No | No | No | No | No | Oral drench | 52 days | 50* days |
| Rumenil 34 mg/ml oral suspension for cattle | Chanelle Pharma | Oxyclozanide | No | No | Yes – <i>Moniezia</i> spp. segments only | Yes (adult only) | No | No | No | No | No | Oral drench | 13 days | 108 hours |
| Tribex 10% oral suspension for cattle | Chanelle Pharma | Triclabendazole | No | No | No | Yes – all stages | No | No | No | No | No | Oral drench | 56 days | 44.5* days |
| Triclcert 10% | Downland | Triclabendazole | No | No | No | Yes – all stages | No | No | No | No | No | Oral drench | 56 days | 44.5* days |
| Trodax 34% w/v solution for injection | Boehringer Ingelheim | Nitroxynil | No | No | No | Yes, late immature and adult & some roundworm spp. Incl. <i>Haemonchus contortus</i> | No | No | No | No | No | Injection SC | 60 days | X |
| Zanil | MSD AH | Oxyclozanide | No | No | No | Yes (adult only) | No | No | No | No | No | Oral drench | 13 days | 108 hours |

Ectoparasiticides – synthetic pyrethroids

| PRODUCT | COMPANY NAME | CHEMICAL NAME | PARASITES CONTROLLED | | | | | | | | | | USE | WITHDRAWAL PERIOD (MEAT) | MILK WITHHOLD |
|--|--------------|-------------------|----------------------|----------|----------|-------------|-------|---------|------|-------|-----------|---------|---------|--------------------------|---------------|
| | | | Roundworm | Lungworm | Tapeworm | Liver fluke | Mites | Warbles | Lice | Flies | Hornflies | Eyeworm | | | |
| Butox Swish | MSD AH | Deltamethrin | No | No | No | No | No | No | Yes | Yes | Yes | No | Pour-on | 20 days | Zero |
| Dectospot 10 mg/ml spot-on solution for cattle | Bimeda | Deltamethrin | No | No | No | No | No | No | Yes | Yes | Yes | No | Spot-on | 17 days | Zero |
| Deltanil cattle and sheep | Virbac | Deltamethrin | No | No | No | No | No | No | Yes | Yes | Yes | No | Pour-on | 17 days | Zero |
| Deltamole | Mole Valley | Deltamethrin | No | No | No | No | No | No | Yes | Yes | No | No | Pour-on | 20 days | Zero |
| Dysect cattle pour-on | Zoetis | Alphacypermethrin | No | No | No | No | No | No | Yes | Yes | Yes | No | Pour-on | 28 days | Zero |
| Electron fly tags | Zoetis | Cypermethrin | No | No | No | No | No | No | No | Yes | Yes | No | Ear tag | Zero | Zero |
| Flypor | Elanco AH | Permethrin | No | No | No | No | Yes | No | Yes | Yes | Yes | No | Pour-on | 3 days | 6 hours |
| Fly & lice spot-on insecticide | Zoetis | Deltamethrin | No | No | No | No | No | No | Yes | Yes | Yes | No | Spot-on | 17 days | Zero |
| Flydown | Downland | Deltamethrin | No | No | No | No | No | No | Yes | Yes | Yes | No | Spot-on | 17 days | Zero |
| Spotinor 10 mg/ml | Norbrook | Deltamethrin | No | No | No | No | No | No | Yes | Yes | Yes | No | Spot-on | 17 days | Zero |
| Zermasect cattle | Downland | Alphacypermethrin | No | No | No | No | No | No | Yes | Yes | Yes | No | Pour-on | 28 days | Zero |

Ectoparasiticides – Miscellaneous

| PRODUCT | COMPANY NAME | CHEMICAL NAME | PARASITES CONTROLLED | | | | | | | | | | USE | WITHDRAWAL PERIOD (MEAT) |
|---------------------------------------|--------------------------|---------------------------------------|----------------------|----------|----------|-------|-------|---------|------|-------|-----------|---------|----------------|--------------------------|
| | | | Roundworm | Lungworm | Tapeworm | Fluke | Mites | Warbles | Lice | Flies | Hornflies | Eyeworm | | |
| Horse & cattle fly repellent – liquid | Battle Hayward and Bower | Diethyltoluamide p-Menthane-3, 8-diol | No | No | No | No | No | No | No | Yes | No | No | Topical Lotion | Zero |

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Dosing cattle correctly

Whichever method of administration is selected, it is important to read the manufacturer's instructions carefully. Particular attention should be paid to:

- Class of stock for which the drug is recommended and any limitations regarding use
- Dose rate and any recommended increases to deal with different parasite species or developmental stages
- Meat withholding period before slaughter
- Body weight assessment to avoid underdosing
- Dose according to individual liveweight, using scales or a weigh band. For a group of well-matched cattle, it's acceptable to weigh a sample of animals and treat the group accordingly
- Correct storage of wormers, i.e. away from direct sunlight, avoiding extremes of temperature. Check the use-by date and once open, use within the time shown on the packaging. Some products need to be shaken well before use
- Ensure that the equipment is appropriate for the product and is calibrated to deliver the dose accurately. After use, rinse, clean and then dry the equipment before storage

Pour-ons

These should be applied along the length of the flattest part of the animal's back, from the withers to the tail head.

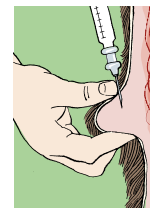
In general, animals should not be treated when the hair is wet or if rain is anticipated within two hours of treatment. However, some products are waterproof and can be used on wet animals. Areas of damaged skin should be avoided, as should areas contaminated with mud or manure.

Injectables

Injectables should be given according to the manufacturer's instructions at the recommended injection site.

- Always use a clean, sterile syringe and needle. If using a multiple injection gun, ensure the needle is disinfected between injections, e.g. with an automatic sterilisation system
- If the site to be injected is dirty, clean the skin and swab with an alcohol-impregnated wipe or cotton wool
- Before injecting, check the expiry date and read the instructions of the product to be used. Some products need to be shaken before use
- Use the correct-sized needle according to the size of the animal and site of injection
- Ensure the animal is adequately restrained before attempting the injection

- For subcutaneous injections, raise a fold of skin at the injection site (mainly neck but some are ear) recommended by the product manufacturer and inject carefully into the space created

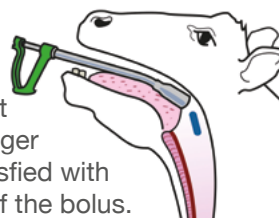


- If a large dose is to be delivered, it may be advisable to split the dose between two injection sites. After the injection, briefly massage the site to improve the dispersal of the injected material
- Dispose of the needle and syringe in appropriate clinical waste and sharps containers

Boluses

These types of wormers are administered orally using product-specific equipment.

Closely follow the manufacturer's instructions to ensure that the boluses are delivered over the back of the tongue, so they can be swallowed. Avoid any excess force, as this can cause damage to the throat and do not depress the plunger until you are satisfied with the positioning of the bolus.



It is important that the animal stays as calm as possible and can swallow. This is normally achieved by keeping the head and neck in a straight line. It is very difficult to successfully and safely complete administration if the neck is twisted and the animal is fighting you.

Oral drenches

Oral drenching guns are designed to deliver the treatment towards the back of the mouth over the tongue, so the entire dose is swallowed at once to optimise efficacy.

- Make sure animals are properly restrained, with their head held up
- Slide the nozzle of the dosing gun in the side of the mouth and over the tongue so that the entire dose is swallowed immediately
- Drenching equipment must be correctly calibrated and in good working order
- Calibrate the gun using the product just before treatment starts by delivering two or more doses into a graduated measuring cylinder

Faulty equipment, or attempting to dose too quickly, may mean that the barrel of the gun does not fill properly or that the liquid is full of bubbles.

Storage

Wormers should be stored securely, away from direct sunlight at 4–25°C. Check the 'use by' date and once open, use within the time shown on the packaging. Shake white (BZ) products well before use.

The product may be compromised by incorrect storage.



What type of anthelmintic should be used?

| Parasite | Treatment advice | Product notes |
|---|--|--|
| Gutworms e.g. <i>Ostertagia</i> <i>Cooperia</i> | Worming is essential to break the life cycle of gutworms where cattle are grazing infected pastures. Treatments should aim to limit disease and minimise pasture contamination. At housing of first- and probably second-year grazing animals, it is important to choose cattle anthelmintics (commonly known as wormers) that are effective against inhibited fourth stage <i>Ostertagia ostertagi</i> larvae that can cause Type II ostertagiasis (resulting from the emergence of thousands of inhibited larvae, from the wall of the fourth stomach) – a serious, potentially fatal disease known as winter scour. | Macrocyclic lactone (ML) products are active against inhibited larvae. Benzimidazoles may also be used, but their efficacy against inhibited larvae can be unpredictable. Levamisole is ineffective against larval <i>O. ostertagi</i> . |
| Lungworm | Lungworm infection (husk) usually occurs in youngstock during the second half of the grazing season. Without good lungworm control, cattle may be more susceptible to pneumonia after housing. Routine vaccination should be considered for calves born into herds with an identified lungworm problem or when there is a previous history of lungworm on the farm. Anthelmintics can be used strategically in first-year grazing cattle to prevent build-up of larvae on pasture over the grazing season. | If considering using a lungworm vaccine, take veterinary advice to ensure correct use. Care is required to avoid using wormers for a number of weeks before and after vaccine administration. |
| Liver fluke | Treatment for fluke should take account of the particular risk, time of year and the stage of development of the fluke. This should be discussed with your adviser. If rumen fluke are suspected, discuss options with your vet, as treatment is not always required, few products are effective and the dose rate may need to be adjusted. | Different products will kill different ages of fluke so product selection is important. There have been reports of triclabendazole resistance so, where appropriate, other products should be used. |
| Ectoparasites e.g. lice, mange, ticks, flies | Spread of lice and mange is by close contact and occurs most frequently during the winter months when cattle are housed. Low levels of ectoparasite infection can be tolerated. Where heavy infestations occur, all in-contact cattle should be treated. | Ectoparasites can be controlled with synthetic pyrethroid products or MLs (ivermectins and milbemycins). The range of ectoparasites controlled differs among formulations so it is important to read the label for each product before use and get appropriate advice. |

Products that combine a wormer and flukicide can seem like an attractive option for broad-spectrum control with a single administration. It is recommended that they are used, if the following apply:

- Cattle require treatment for both worms and fluke
- The wormer is effective against the stages of the target worms present and the value of any persistent activity is assessed
- The flukicide has the appropriate activity for the stages of liver fluke likely to be present

Consult your vet, or SQP for more detailed advice, to ensure you choose the right product and administer it in the right way.

Wormer purchase checklist

Do you need to treat?

- Which animals are at risk?
- Have animals been grazing high-risk pastures?
- Have weather/grazing conditions increased the risks (e.g. wet conditions and liver fluke infection)?
- Has the risk been monitored, e.g. using Faecal Egg Counts (FECs)?
- Can management be used to reduce the risk and the need to treat (e.g. move lambs/calves to lower-risk grazing)?

Consult your vet or SQP for further advice when purchasing anthelmintics if you require clarification.

Product choice

What are the target parasites?

Treatments should be chosen according to the target parasites, the life-cycle stage, time of year and objective (curative or preventative). Use combination products only when the target parasites are present.

Avoid overuse of the same products

Consider alternative chemical groups, where possible, to reduce selection for resistance to one group.

Withdrawal periods

Consider withdrawal periods carefully when choosing a product.

Administer it effectively

Make sure you have the right equipment, it is properly calibrated and you know the correct dose rate for the weight of animal to be treated. Avoid underdosing or overdosing. Always follow the manufacturer's recommendations, store products correctly and do not use out-of-date product.

What pack size is required?

If a pack size is slightly less than required, leave one or two fit animals undosed; never underdose the whole group.

Do not mix wormers with any other product prior to administration.

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