

The BRP Cattle and Sheep Parasite Control Guide

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 at least cost and reducing the risk of anthelmintic resistance.

In practice however, this is easier said than done. Working through the wide range of products available and all the information on each, on aspects such as withdrawal periods, is difficult and time-consuming.

To tackle this problem EBLEX has compiled this booklet. The aim is to provide an accurate, easy-to-use reference guide on all the products in their various chemical groups, detailing the parasites they control.

It is important to make anthelmintics and external parasite control products work as hard as possible. This can be achieved by:

- Choosing the right product for the problem in hand. Targeting the right parasite/s correctly will give better results and means re-treatment is less likely to be needed.
- Administering products effectively.
- Storing and handling products safely and correctly.
- Always consult the data sheet before using a product

What type of wormer should be used?

Anthelmintics (wormers) are used to treat and prevent worm infections – roundworm, tapeworm, lungworm and 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) Derquantel (Multi-actives)

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's (Group 3) injectables and pour-ons also have activity against some ectoparasites.

Other products are more specific in the parasites they will kill, ie narrow spectrum. Most anthelmintics in this category are active against liver fluke. Some are also active against tapeworms or certain ectoparasite species.

At housing of first and probably second year grazing animals, it is important to choose cattle wormers that are effective against inhibited fourth stage worm larvae which can cause Type II winter scour. Evidence suggests that at the recommended dose rates, most products for use in cattle – except those containing levamisole – are active against arrested larvae.

As well as being controlled by most anthelmintics, lungworm in cattle can be effectively controlled using an oral lungworm vaccine.

Ectoparasites can be controlled with synthetic pyrethroid products or, for some species, those in the macrocyclic lactone group (ivermectins and milbemycins). In sheep insect growth regulators for blowfly and a small range diazepam based organo-phosphorus dips are available. For both species the range of ectoparasites controlled varies, so it is important to read the data sheet for each product before use.

Anthelmintic resistance

Anthelmintic resistance is widely reported in sheep and strategies such as those advocated by Sustainable Control of Parasites in Sheep (SCOPS), have been developed to reduce the increase in resistance in sheep flocks. Reports of resistance to anthelmintics in cattle nematodes are relatively uncommon in comparison to nematodes of sheep and goats. To minimise the risk of resistance developing in cattle or sheep:

- Discuss a control strategy with your vet
- Quarantine new animals to prevent importing resistant worms
- Administer anthelmintics effectively
- Use anthelmintics only when necessary
- Select the appropriate anthelmintic for the task
- Reduce dependence on anthelmintics
- Monitor efficacy of the anthelmintics used

Faecal Egg Counts (FECs) are a useful tool for measuring worm burdens within a flock and allow a targeted approach to worm control.



Always consult the product data sheet before using a product as it contains more detailed information than is presented here and changes to specifications do occur.

For further information visit: www.noahcompendium.co.uk or www.vmd.defra.gov.uk, or check the company's website.

For further information on treating Dairy Cows contact DairyCo at www.dairyco.org.uk or call 0247 669 2051.

Treatments for cattle parasite control – Cattle Endoparasiticides



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

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITH-HOLD
Albacert	Downland	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Albenil Low Dose	Virbac	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench		14 days	60 hrs
Albenil SC	Virbac	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Albex 10%	Chanelle AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench		14 days	60 hrs
Albex 2.5% SC	Chanelle AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Autoworm Finisher	Zoetis	Oxfendazole	Roundworm Lungworm Tapeworm	Pulse release bolus		6 months	X
Autoworm First Grazer	Zoetis	Oxfendazole	Roundworm Lungworm Tapeworm	Pulse release bolus		8 months	X
Bovex 2.265%	Chanelle AH	Oxfendazole	Roundworm Lungworm Tapeworm	Oral Drench		19 days	84 hrs
Endospec 2.5% SC	Bimeda	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Endospec 10% SC	Bimeda	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Fenzol 5%	Norbrook Labs	Fenbendazole	Roundworm Lungworm Tapeworm	Oral Drench		12 days	5 days
Ovispec S&C 2.5% Oral Suspension	Elanco	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Ovispec S&C 10% Oral Suspension	Elanco	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Panacur Bolus	MSD AH	Fenbendazole	Roundworm Lungworm Tapeworm	Bolus		200 days	X
Panacur 10% Oral Suspension	MSD AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral Drench/ In-Feed		12 days	5 days

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITH-HOLD
Panacur 4% Powder	MSD AH	Fenbendazole	Roundworm Lungworm Tapeworm	In-Feed/ pre-mix		14 days	5 days
Parafend LV	Norbrook Labs	Oxfendazole	Roundworm Lungworm Tapeworm	Oral Drench		9 days	X
Tramazole 2.5% SC	Tulivin Labs	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench		14 days	60 hrs
Zerofen 2.5%	Chanelle AH	Fenbendazole	Roundworm Lungworm	Oral Drench		14 days	132 hrs
Zerofen 10%	Chanelle AH	Fenbendazole	Roundworm Lungworm	Oral Drench		14 days	132 hrs

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

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITH-HOLD
Chanaverm 7.5%	Chanelle AH	Levamisole	Roundworm Lungworm	Oral Drench		20 days	X
Levacide 3% Drench	Norbrook Labs	Levamisole	Roundworm Lungworm	Oral Drench		14 days	X
Levacide 7.5% Solution for Injection	Norbrook Labs	Levamisole	Roundworm Lungworm	Injection S/C		28 days	X
Levacide Low Volume 7.5%	Norbrook Labs	Levamisole	Roundworm Lungworm	Oral Drench		14 days	X
Levacide Pour-On	Norbrook Labs	Levamisole	Roundworm Lungworm	Pour-On		28 days	X
Levamisole Injection	Downland	Levamisole	Roundworm Lungworm	Injection S/C		28 days	X
Levacur SC 3%	MSD AH	Levamisole	Roundworm Lungworm	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
Animec 1% Injection	Chanelle AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	49 days	X
Animec Pour-On 0.5%	Chanelle AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	28 days	X
Bimectin Injection	Bimeda	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	49 days	X
Bimectin Pour-On for Cattle	Bimeda	Ivermectin	Roundworm Lungworm Mites Warbles Lice Hornflies	Pour-On	31 days	X
Cydectin 0.5% Pour-On for Cattle	Zoetis	Moxidectin	Roundworm Lungworm Mites Warbles Lice Hornflies	Pour-On	14 days	6 days
Cydectin 1% Injectable Solution for Cattle	Zoetis	Moxidectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	65 days	60* days
Cydectin 10% LA for Cattle	Zoetis	Moxidectin	Roundworm Lungworm Mites Warbles Lice	Ear Injection	108 days	80* days
Dectomax 10mg/ml Solution for Injection for Cattle and Sheep	Elanco	Doramectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	70 days	60* days
Dectomax Pour-On	Elanco	Doramectin	Roundworm Lungworm Mites Warbles Lice Hornflies	Pour-On	35 days	60* days
Depidex Pour-On	Novartis AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	28 days	60* days
Ecomectin 10mg/ml Solution for Injection	Eco AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	49 days	60* days
Ecomectin 5mg/ml Pour-on Solution for Cattle	Eco AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	31 days	60* days
Eprinex Pour-On	Merial AH	Eprinomectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	15 days	Zero
Eprizero Pour-On	Norbrook Labs	Eprinomectin	Roundworm Lungworm, Mites Warbles Lice	Pour-On	10 days	Zero
Ivomec Classic Injection for Cattle and Sheep	Merial AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	49 days	60* days
Ivomec Classic Pour-On for Cattle	Merial AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	15 days	60* days

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)	MILK WITHHOLD
Noromectin Multi Injection	Norbrook Labs	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	49 days	60* days
Noromectin Pour-On	Norbrook Labs	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	28 days	60* days
Panomec Injection for Cattle, Sheep and Pigs	Merial AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	49 days	60* days
Paramectin Multi Injection	Norbrook Labs	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	49 days	60* days
Paramectin Pour-On	Norbrook Labs	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	28 days	60* days
Premadex 1% Solution for Injection	Downland	Ivermectin	Roundworm Lungworm Mites Warbles Lice Eyeworm	Injection S/C	49 days	60* days
Premadex Pour-On	Downland	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	28 days	60* days
Qualimec 10mg/ ml Solution for Injection	Elanco	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection S/C	49 days	60* days
Qualimec 5mg/ ml Pour-On Solution	Elanco	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	31 days	60* days
Virbamec Injectable Solution	Virbac	Ivermectin	Roundworm Lungworm Mites Warbles Lice Eyeworm	Injection S/C	49 days	60* days
Virbamec Pour-On	Virbac	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On	28 days	60* days
Zermex Pour-On	Downland	Moxidectin	Roundworm Lungworm Mites Warbles Lice Hornflies	Pour-On	14 days	6 days
Zermex 10% LA for Cattle	Downland	Moxidectin	Roundworm Lungworm Mites Warbles Lice	Ear Injection	108 days	80* days

*Not permitted for use in cattle producing milk for human consumption or industrial purposes, or in dry cows and pregnant heifers within stated days before calving (check specific details).

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

Combination Products

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)	MILK WITHHOLD
Animec Super Injection for Cattle	Chanelle AH	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection S/C	66 days	60* days
Bimectin Plus	Bimeda	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection S/C	66 days	60* days
Closamectin Injection	Norbrook Labs	Ivermectin Closantel	Roundworm Lungworm Fluke Mites Warbles Lice	Injection S/C	49 days	X
Closamectin Pour-On	Norbrook Labs	Ivermectin Closantel	Roundworm Lungworm Fluke Mites Warbles Lice	Pour-On	28 days	X
Combinex Cattle	Novartis AH	Levamisole Triclabendazole	Roundworm Lungworm Fluke	Oral Drench	56 days	X
Cydectin TriclaMox	Zoetis	Cydectin Triclabendazole	Roundworm Lungworm Fluke	Pour-On	143 days	X
Downland Fluke & Worm	Downland	Levamisole Oxyclozanide	Roundworm Lungworm Fluke	Drench	5 days	X
Ivomec Super Injection for Cattle	Merial AH	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection S/C	66 days	60* days
Levafas Diamond	Norbrook Labs	Levamisole Oxyclozanide	Roundworm Lungworm Fluke	Oral Drench	5 days	X
Norofas	Downland	Ivermectin Closantel	Roundworm Lungworm Fluke Mites Lice	Pour-On	28 days	X
Supremadex	Downland	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection S/C	66 days	60* days
Virbamec Super	Virbac	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection S/C	66 days	60* days

Note: Where 'Fluke' is used it refers to 'liver fluke'. *Not permitted for use in cattle producing milk for human consumption or industrial purposes, or in dry cows and pregnant heifers within stated days before calving (check specific details).

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.

Flukicides

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)	MILK WITHHOLD
Endofluke 10%	Bimeda	Triclabendazole	Fluke	Oral Drench	56 days	47* days
Fasinex 10%	Novartis AH	Triclabendazole	Fluke - all stages	Oral Drench	56 days	X
Fasinex 100	Novartis AH	Triclabendazole	Fluke - all stages	Oral Drench	56 days	X
Fasinex 240	Novartis AH	Triclabendazole	Fluke - all stages	Oral Drench	52 days	50* days
Tribex 10	Chanelle AH	Triclabendazole	Fluke	Oral Drench	56 days	X
Triclacert 10%	Downland	Triclabendazole	Fluke	Oral Drench	56 days	X
Trodax 34%	Merial AH	Nitroxylin	Immature and adult fluke	Injection S/C	60 days	X
Zanil	MSD AH	Oxyclozanide	Adult Fluke	Oral Drench	28 days	72 hrs

Ectoparasiticides – Synthetic Pyrethroids

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)	MILK WITHHOLD
Butox Swish	MSD AH	Deltamethrin	Flies Lice	Pour-On	20 days	Zero
Deltanil	Virbac	Deltamethrin	Flies Lice	Pour-On	17 days	Zero
Dysect Cattle Pour-On	Zoetis	Alphacypermethrin	Flies Lice	Pour-On	28 days	Zero
Flectron Fly Tags	Zoetis	Cypermethrin	Flies	Ear Tag	Nil	Zero
Flypor	Novartis Virbac	Permethrin	Flies Lice Mites	Pour-On	3 days	6 hrs
Fly and Lice Spot On Insecticide	Zoetis	Deltamethrin	Flies Lice	Spot On	17 days	Zero
Spotinor 10mg/ml	Norbrook	Deltamethrin	Flies Lice	Pour-On	17 days	Zero
Zermasect Cattle	Downland	Alphacypermethrin	Flies Lice	Pour-On	28 days	Zero

Ectoparasiticides – Miscellaneous

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)
Horse & cattle fly repellent – Liquid	Battle Hayward and Bower	Diethyltoluamide p-Menthane-3, 8-diol	Flies	Topical Lotion	Nil

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
- Withholding period before sale for slaughter
- Body weight assessment to avoid underdosing
- Correct storage of wormers, ie 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 well shaken before use

Pour-Ons

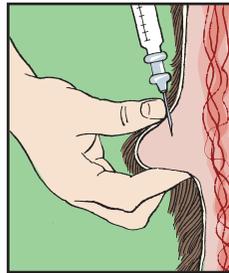
These should be applied along the length of the flattest part of the animal's back, from the withers to the tail head.

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. Refer to the data sheet for the product being used. 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 with a recognised 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 directions 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 recommended by the product manufacturer and inject carefully into the space created

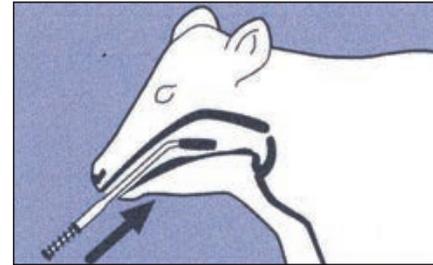


- If a large dose is to be delivered it may be advisable to split the dose between two injection sites. After the injection, briefly massage the site to improve the disposition of the injected material
- Following injection, dispose of the needle and syringe in appropriate clinical waste and sharps containers

Injection practice and bolus application information supplied by Pfizer.

Boluses

Care is required when administering boluses to prevent damage to the throat and choking. Boluses release anthelmintic over an extended period of time and so avoid the need to handle cattle during the grazing season to worm them.



- Always use the appropriate bolus applicator to ensure the bolus fits correctly
- Ensure the animal is adequately restrained before attempting administration
- Follow the manufacturer's guidelines on the correct way to insert the bolus into the applicator
- Insert the applicator from the front of the mouth over the back of the tongue with no more than gentle, firm pressure
- As the animal begins to swallow, passage into the throat will become easier
- Take care not to insert gun too far into the throat

- Once confident that the applicator is in the throat, depress the plunger to eject the bolus
- Carefully remove the applicator and ensure the animal has swallowed the bolus before releasing

Oral drenches

Care must be taken when dosing animals orally. It is important to ensure that drenching equipment is correctly calibrated and in good working order. Faulty equipment or attempting to dose too quickly, may mean that the barrel of the gun does not fill properly or that the suspension is full of bubbles. It is important to place the nozzle of the dosing gun over the back of the tongue so that the entire dose is swallowed into the rumen. Faulty dosing technique may, at best, stimulate rumen bypass possibly altering the drug's bioavailability and subsequent efficacy. At worst, it can lead to dosing injuries.

In-feed

In-feed and pre-mix preparations allow little control over the amount of drug individual animals consume, unless they are fed separately or in small supervised groups. There is a risk that some animals will receive less than the recommended dose for their weight, while others will receive more.

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.

Treatments for sheep parasite control – Sheep Endoparasiticides



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

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)
Albacert	Downland	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	5 days
Albenil Low Dose	Virbac	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral		5 days
Albenil SC	Virbac	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	5 days
Albex 2.5% SC	Chanelle AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	5 days
Albex 10%	Chanelle AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	5 days
Allverm 4%	Novartis AH	Ricobendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	3 days
Bovex 2.265%	Chanelle AH	Oxfendazole	Roundworm Lungworm Tapeworm	Oral		24 days
Endospec SC 2.5%	Bimeda	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	4 days
Endospec SC 10%	Bimeda	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	4 days
Fenzol 5%	Norbrook Labs	Fenbendazole	Roundworm Lungworm Tapeworm	Oral		14 days
Ovidown SC	Downland	Oxfendazole	Roundworm Lungworm Tapeworm	Oral	Co, Se	21 days
Ovispec S&C 2.5% w/v Oral Suspension	Elanco	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	4 days
Ovispec S&C 10% w/v Oral Suspension	Elanco	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	4 days
Panacur 10%	MSD AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral		15 days
Parafend LV	Norbrook Labs	Oxfendazole	Roundworm Lungworm Tapeworm	Oral		21 days
Parafend 2.265%	Norbrook Labs	Oxfendazole	Roundworm Lungworm Tapeworm	Oral		10 days
Parafend 5% SC	Norbrook Labs	Oxfendazole	Roundworm Lungworm Tapeworm	Oral	Co, Se	21 days
Rycoben SC 2.5% Oral Suspension	Novartis AH	Ricobendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	3 days

Note: Where 'Fluke' is used it refers to 'liver fluke'.

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)
Tramazole 2.5% SC	Tulivin	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral		4 days
Zerofen 2.5%	Chanelle AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral		21 days
Zerofen 10%	Chanelle AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral		21 days

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

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)
Chanaverm	Chanelle AH	Levamisole	Roundworm Lungworm	Oral		20 days
Levacide 3%	Norbrook Labs	Levamisole	Roundworm Lungworm	Oral		21 days
Levacide 7.5%	Norbrook Labs	Levamisole	Roundworm Lungworm	Injection S/C		15 days
Levacide Low Volume	Norbrook Labs	Levamisole	Roundworm Lungworm	Oral		21 days
Levacur SC 3%	MSD AH	Levamisole	Roundworm Lungworm	Oral	Co, Se	20 days
Levamisole Injection	Downland	Levamisole	Roundworm Lungworm	Injection S/C		15 days

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

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)
Animec Oral for Sheep	Chanelle AH	Ivermectin	Roundworm Lungworm Nasal bots	Oral Drench	10 days
Bimectin	Bimeda	Ivermectin	Roundworm Lungworm Nasal bots	Injection S/C	42 days
Cydectin 0.1% Oral	Zoetis	Moxidectin	Roundworm Lungworm	Oral Drench	14 days
Cydectin 1% injection	Zoetis	Moxidectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C	70 days

Treatments for sheep parasite control – Sheep Endoparasiticides



PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)
Cydetin 20mg/ml LA injection	Zoetis	Moxidectin	Roundworm Lungworm Sheep Scab Nasal bots	Injection S/C	104 days
Dectomax 10mg/ml Solution for Injection	Elanco	Doramectin	Roundworm Lungworm Nasal bots Sheep scab	Injection I/M	70 days
Depidex	Novartis AH	Ivermectin	Roundworm Lungworm Nasal bots	Oral Drench	14 days
Ecomectin 10mg/ml Solution for Injection	Eco AH	Ivermectin	Roundworm Lungworm Sheep Scab Nasal Bots	Injection S/C	42 days
Ivomec Classic Injection	Merial AH	Ivermectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C	37 days
Noromectin Drench	Norbrook Labs	Ivermectin	Roundworm Lungworm Nasal bots	Oral Drench	14 days
Noromectin Multi Injection	Norbrook Labs	Ivermectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C	42 days
Oramec	Merial AH	Ivermectin	Roundworm Lungworm Nasal bots	Oral Drench	6 days
Panomec Injection for Cattle, Sheep and Pigs	Merial AH	Ivermectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C	37 days
Paramectin Multi Injection	Norbrook Labs	Ivermectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C	42 days
Paramectin Drench	Norbrook Labs	Ivermectin	Roundworm Lungworm Nasal bots	Oral Drench	14 days
Premadex 1% Injection	Downland	Ivermectin	Roundworm Lungworms Nasal bots Mange mites	Injection S/C	42 days
Qualimec Injection 10mg/ml Solution for Injection	Elanco	Ivermectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C	42 days
Vectin 0.08%	MSD AH	Ivermectin	Roundworm Lungworm Nasal bots	Oral Drench	14 days
Zermex Drench	Downland	Moxidectin	Roundworm Lungworm	Oral Drench	14 days
Zermex 1% Injection	Downland	Moxidectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C	70 days
Zermex 20mg/ml LA for injection	Downland	Moxidectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C	104 days

4-AD

Group 4: Amino Acetonitrile Derivatives (AD) (Orange)

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)
Zolvix	Novartis AH	Monepantel	Roundworm	Oral	7 days

5-SI

Group 5: Multi-actives (SI) (Purple)

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)
Startect Dual Active	Zoetis	Derquantel Abamectin	Roundworm Lungworm	Oral	14 days

Combination Products

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	WITHDRAWAL PERIOD (MEAT)
Closamectin Injection	Norbrook Labs	Ivermectin Closantel	Roundworm Lungworm Nasal bots Liver fluke	Injection S/C	28 days
Closiver Solution for Injection	Downland	Ivermectin Closantel	Roundworm Lungworm Nasal bots, Liver fluke (including 7 weeks immature)	Injection S/C	28 days
Combinex Sheep	Novartis AH	Levamisole + Triclabendazole	Roundworm Lungworm Liver fluke (including immature fluke from 2 days of age)	Oral	56 days
Cydetin TriclaMox	Zoetis	Moxidectin + Triclabendazole	Roundworm Lungworm Liver fluke (including early immature fluke)	Oral	31 days
Downland Fluke & Worm	Downland	Levamisole + Oxyclozanide	Roundworm Lungworm Liver fluke	Oral	5 days
Fasimec Duo	Novartis AH	Ivermectin + Triclabendazole	Roundworm Lungworm Liver fluke (including immature fluke from under 1 week of age) Nasal bots	Oral	27 days
Levafas Diamond	Norbrook Labs	Levamisole + oxyclozanide	Roundworm Lungworm Liver fluke (adults only)	Oral	5 days
Levitape	Novartis AH	Levamisole + praziquantel	Roundworm Lungworm Tapeworm	Oral	28 days
Mebadown Super Oral Suspension	Downland	Mebendazole + closantel	Roundworm Lungworm Tapeworm Liver fluke (including immature fluke over 5 weeks of age)	Oral	65 days
Supaverm Oral Suspension	Elanco	Mebendazole + closantel	Roundworm Lungworm Tapeworm Liver fluke (including immature fluke over 5 weeks of age)	Oral	65 days

I/M = intramuscular S/C = subcutaneous

NB Lice – endectocides do not cover biting (chewing) lice which are the species of importance in the UK

Flukicides

* Barbers Pole Worm

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)
Endofluke 10%	Bimeda	Triclabendazole	Liver fluke (including immature fluke from 2 days of age)	Oral		56 days
Fasinex 5%	Novartis AH	Triclabendazole	Liver fluke (including immature fluke from 2 days of age)	Oral		56 days
Fasinex 100	Novartis AH	Triclabendazole	Liver fluke (including immature fluke from 2 days of age)	Oral		35 days
Flukiver 5% w/v oral suspension	Elanco	Closantel	Liver fluke (including immature fluke over 5 weeks of age) Haemonchus Contortus* Nasal bots	Oral		42 days
Tribex 5%	Chanelle AH	Triclabendazole	Liver fluke (including immature fluke from 2 days of age)	Oral		56 days
Triclacert 5%	Downland	Triclabendazole	Liver fluke (including immature fluke)	Oral		56 days
Triclafas Drench	Norbrook Labs	Triclabendazole	Liver fluke (including immature fluke from 2 days of age)	Oral		56 days
Trodax 34%	Merial AH	Nitroxynil	Liver fluke (including immature fluke) Haemonchus Contortus*	Injection S/C		49 days
Zanil	MSD AH	Oxyclozanide	Adult Liver fluke	Oral		28 days

Injectables for Sheep Scab

PRODUCT	COMPANY NAME	CHEMICAL NAME	SHEEP SCAB	NASAL BOTS	WITHDRAWAL PERIOD (MEAT)
Cydectin 1%	Zoetis	Moxidectin	28 days persistent activity for protection. Two injections 10 days apart to treat existing scab	✓	70 days
Cydectin 20mg/ml LA injection	Zoetis	Moxidectin	60 days persistent activity for protection. One injection to treat existing scab	✓	104 days
Dectomax 10mg/ml Solution for Injection for Cattle and Sheep	Elanco	Doramectin	One injection	✓	70 days
Ecomectin 1%	Eco AH	Ivermectin	Two injections 7 days apart	✓	42 days
Ivomec Classic	Merial AH	Ivermectin	Two injections 7 days apart	✓	37 days
Noromectin Multi Injection	Norbrook Labs	Ivermectin	Two injections 7 days apart	✓	42 days
Panomect Injection for Cattle, Sheep and Pigs	Merial AH	Ivermectin	Two injections 7 days apart	✓	37 days
Paramectin Multi Injection	Norbrook Labs	Ivermectin	Two injections 7 days apart	✓	42 days
Premadex 1% Injection	Downland	Ivermectin	Two injections 7 days apart	✓	42 days

PRODUCT	COMPANY NAME	CHEMICAL NAME	SHEEP SCAB	NASAL BOTS	WITHDRAWAL PERIOD (MEAT)
Qualimec Injection 10mg/ml Solution for Injection	Elanco	Ivermectin	Two injections 7 days apart	✓	42 days
Zermex 1% Injection	Downland	Moxidectin	28 days persistent activity for protection. Two injections 10 days apart	✓	70 days
Zermex 20mg/ml LA for injection	Downland	Moxidectin	60 days persistent activity for protection. One injection to treat	✓	104 days

Plunge Dips

PRODUCT	COMPANY NAME	CHEMICAL NAME	BLOWFLY	SHEEP SCAB	LICE	TICKS	WITHDRAWAL PERIOD (MEAT)
Osmonds Gold Fleece Dip	Bimeda	Diazinon	8 weeks protection	Up to 4 weeks protection	✓	3-6 weeks protection	49 days
Paracide 62	Animax Ltd	Diazinon	8 weeks protection	Up to 4 weeks protection	✓	3-6 weeks protection	70 days

Pour-Ons

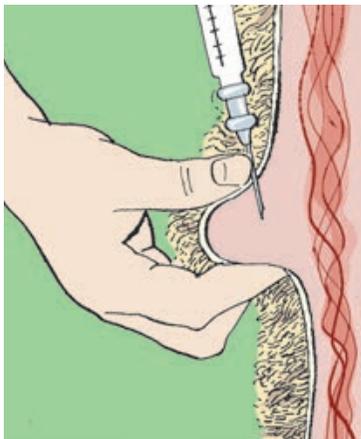
PRODUCT	COMPANY NAME	CHEMICAL NAME	BLOWFLY	LICE	TICKS	WITHDRAWAL PERIOD (MEAT)
CLiK	Novartis AH	Dicyclanil (IGR)	16 weeks P			40 days
CLiKZiN	Novartis AH	Dicyclanil (IGR)	8 weeks P			7 days
Crovect	Novartis AH	Cypermethrin	6-8 weeks P+T	Kills existing lice	Up to 10 weeks	8 days
Ectofly 12.5mg/ml	Bimeda	Cypermethrin	6-8 weeks P+T	Kills existing lice		8 days
Deltanil	Virbac	Deltamethrin	Treats established strike only	4-6 week reduction in incidence	6 weeks	35 days
Dysect	Zoetis	Alpha-cypermethrin	8-10 weeks P+T	Kills existing lice	8-12 weeks	49 days
Fly & Lice Spot On	Zoetis	Deltamethrin	Treats established strike only	4-6 week reduction in incidence	Up to 6 weeks	35 days
Spotinor 10mg/ml	Norbrook	Deltamethrin	Treats established strike only	4-6 weeks reduction in incidence	6 weeks	35 days
Vectocert 1.25%	Downland	Cypermethrin	6-8 weeks P+T	Kills existing lice		8 days
Vetrazin	Novartis AH	Cyromazine (IGR)	10 weeks			28 days
Zermasect Sheep	Downland	Alpha-cypermethrin	8-10 weeks P+T	Kills existing lice	8-12 weeks	49 days
Zermasect Sheep	Downland	Alpha-cypermethrin	8-10 weeks P+T	Kills existing lice	8-12 weeks	49 days

P = Prevention, T = Treatment

Check product labels for full and final details

Subcutaneous injections

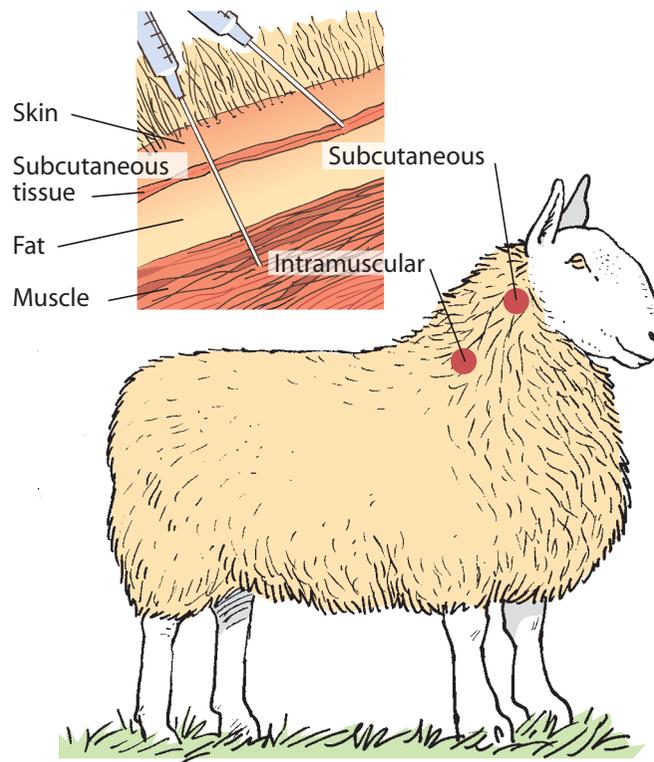
Subcutaneous injections need to be administered with care to ensure the product is placed under the skin and not into fleece or muscle. The sheep needs to be well restrained and the skin 'tented' away from the underlying muscle. The injection site is 10-15cm (4-6 inches) below the ear. Usually a 1.6cm (5/8th inch) needle is ideal. After administration the site should be gently massaged.



Intramuscular injections

Intramuscular injections are made into muscle. Again, care is needed to ensure that the product is deposited in muscle and not just under the skin. This requires sheep to be well restrained. The correct site is on the side of the neck 10-15cm (4-6 inches) in front of the shoulder in the mid neck area well above the large jugular vein. Insert a 2.5-4cm (1-1½ inch) needle at 60° to the neck aiming inwards and upwards towards the head. Again, massage in after administration.

The neck site for intramuscular injections ensures that no valuable cut of meat is damaged and the constant movement of the neck ensures good dispersion of the product.



Pour-ons and spot-ons



Pour-ons and spot-ons need to be applied accurately and each manufacturer may recommend subtle differences. Use appropriate and calibrated guns, always clean with warm soapy water and then rinse after use. Store in a safe dry place. When treating sheep with these products, make sure they are applied along the back line. If placed to one side, the product will not spread evenly around the body. No pour-on or spot-on is effective against sheep scab.



Dosing

Weigh – don't guess



Underestimating the weight of sheep is a common cause of underdosing. Select and weigh the biggest sheep in the group to determine the correct dose. If there is a wide range of weights, consider splitting the group, then weigh the heaviest in each section. Don't forget to check that the weigh crate is accurate before starting!



Calibrate and maintain the drench gun

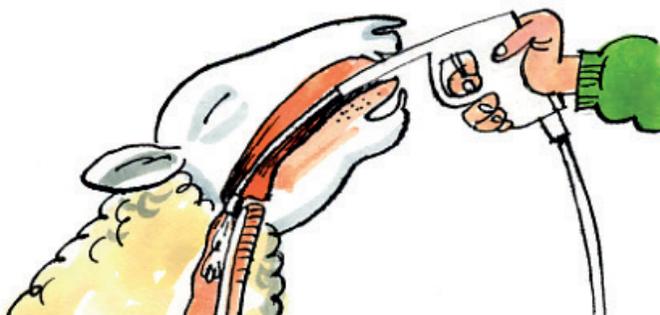


Always check the gun is delivering the right amount before you drench. Remove the plunger from a 10ml syringe, put a thumb over the end and squirt the dose into it, making sure there are no air bubbles left. Adjust the gun until the dose delivered is correct. Drenching guns should also be well maintained and replaced regularly. Clean with

warm soapy water after use and check springs and tubes to make sure there are no kinks that will form air bubbles.

Drench correctly

The drenching technique is a vital part of ensuring that the wormer does its job effectively. Make sure the sheep are properly restrained and cannot leap around when they are being drenched so they swallow the whole amount. Sheep can also suffer serious injury, or even death, if they are unrestrained and the gun penetrates the tissues at the back of the mouth. Place a hand under the head and tilt slightly to the side.



Slot the nozzle in the gap between molar and incisor teeth and then over the back of the tongue. The nozzle must be placed over the back of the tongue. If the wormer is just put into the mouth, it will bypass the rumen as it escapes down the oesophageal groove. This is particularly important for white (BZ) drenches.

Withholding food

Research has shown that the efficacy of the white (BZ) and clear (AV) drenches can be improved by withholding food for 12-24 hours before treatment. Yellow drenches (LV) may, therefore, be preferable when drenching heavily pregnant ewes.

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.

Dipping

For plunge dipping it is essential to know the capacity of the bath. Only use the two closed systems to charge the bath and to top up. Always top up as per instructions, if not, the dip wash will strip out and later sheep will not carry enough insecticide for it to be effective. Do not dip tired, thirsty or heat-stressed sheep. Allow dipped sheep to drain in designated draining pens and do not return to pasture until excess dip has been shed. When dipping, use protective clothing, handle equipment carefully and stick to manufacturer instructions.

Plunge dip products are not approved for use in shower or spray races and may be less effective compared to plunge dipping because the product may not reach all parts of the fleece in sufficient concentrations.

Do you need to treat?

Which animals are at risk?

Have animals been grazing high-risk pastures?

Have weather/grazing conditions increased the risks? (eg wet conditions and liver fluke infection)

Has the risk been monitored, eg using Faecal Egg Counts (FECs)?

Can management be used to reduce the risk and the need to treat? eg move lambs/calves to lower risk grazing

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). Avoid unnecessary use of combination treatments as an insurance.

• Avoid overuse of the same products

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

Always consult your vet or advisor (eg Suitably Qualified Person, SQP) for further advice when purchasing anthelmintics if in doubt

If you suspect or have had rumen fluke diagnosed on your farm, be aware that products that are used to treat liver fluke are not all effective against rumen fluke and none are licensed for control of rumen fluke. You should discuss with your vet which products to use to treat rumen fluke.

• 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 under- or over-dosing. Always follow the manufacturers' recommendations and 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 not dosed; never underdose the whole group.

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

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