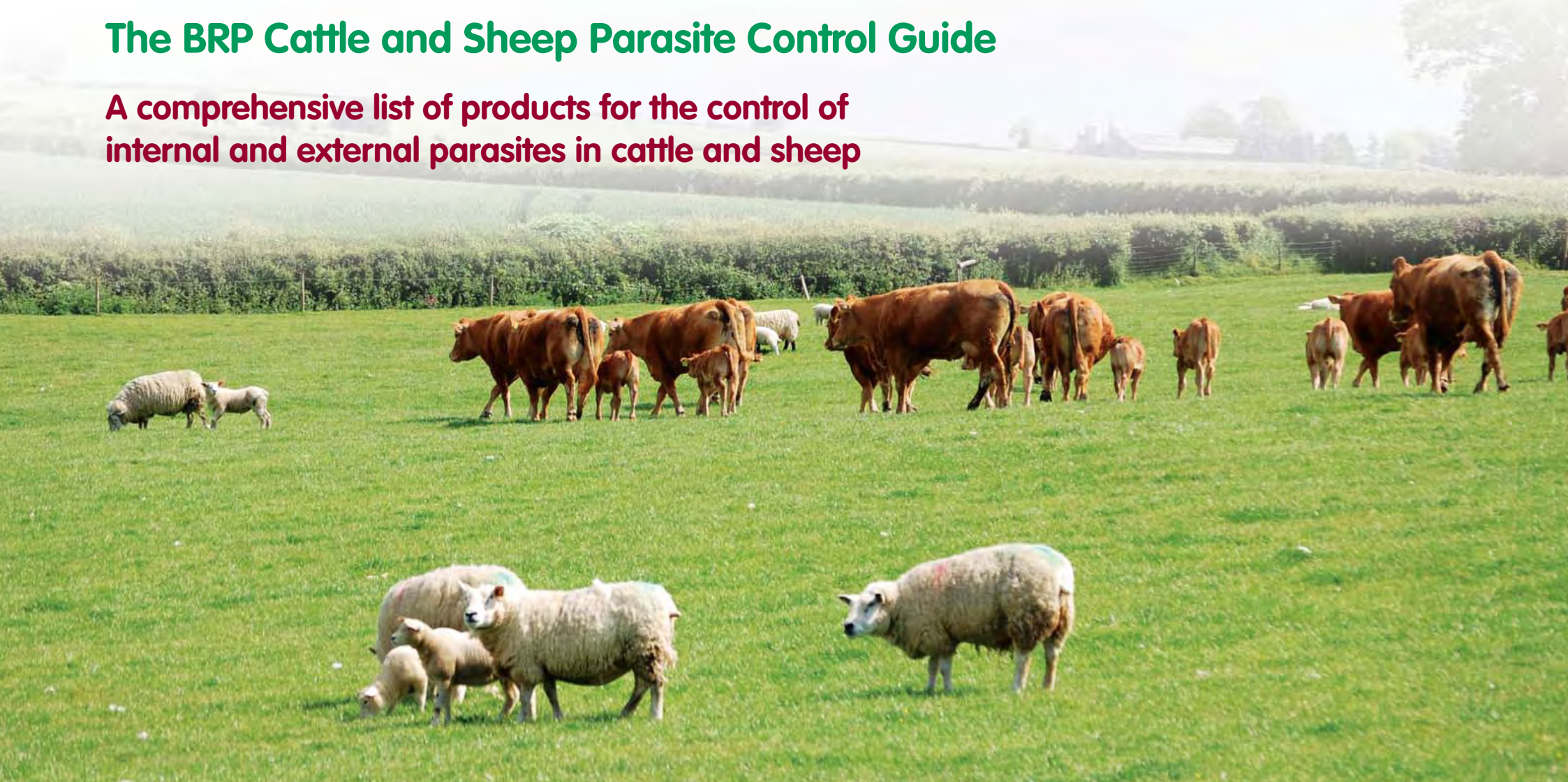


The BRP Cattle and Sheep Parasite Control Guide

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



2011 – Now incorporating milk withhold times

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 four broad groups:

1. (BZ) Benzimidazoles
2. (LV) Levamisole (Imidazothiazoles)
3. (ML) Macrocytic lactones, including avermectins and milbemycins
4. (AD) Amino acetonitrile derivatives

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. Macrocytic lactone compounds (Group 3) 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. Some are also active against tapeworms or certain ectoparasite species.

At housing, it is important to choose cattle wormers that are effective against inhibited fourth stage worm larvae which 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 macrocytic lactone group (avermectins and milbemycins). There is also a small range of Diazinon-based dips for use on sheep. 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 purchased 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.gov.uk, or check the company's website.

For further information on treating Dairy Cows contact Dairy Co at www.dairyco.org.uk or call 024 7669 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 WITHHOLD
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	Co, Se	14 days	60 hrs
Albenil SC	Virbac	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Albensure 2.5% SC	Animax	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Albensure 10%	Animax	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	Pfizer/FDAH	Oxfendazole	Roundworm Lungworm Tapeworm	Pulse release bolus		6 months	X
Autoworm First Grazer	Pfizer/FDAH	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	Janssen AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Ovispec S&C 10% Oral Suspension	Janssen AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral Drench	Co, Se	14 days	60 hrs
Panacur Bolus	Intervet/ Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	Bolus		200 days	X
Panacur 1.5% Pellets	Intervet/ Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	In-Feed		19 days	7 days
Panacur 2.5% Oral Suspension	Intervet/ Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral Drench		12 days	5 days

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITHHOLD
Panacur 10% Oral Suspension	Intervet/ Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral Drench/ In-Feed		12 days	5 days
Panacur 4% Powder	Intervet/ Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	In-Feed/ pre-mix		14 days	5 days
Panacur SC 5% Suspension	Intervet/ Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral Drench	Co, Se	12 days	5 days
Parafend LV	Norbrook Labs	Oxfendazole	Roundworm Lungworm Tapeworm	Oral Drench		9 days	X
Tramazole 2.5%	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 WITHHOLD
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		28 days	X
Levacide Low Volume 7.5%	Norbrook Labs	Levamisole	Roundworm Lungworm	Oral Drench		14 days	X
Levamisole Injection	Downland	Levamisole	Roundworm Lungworm	Injection		28 days	X
Levacur SC 3%	Intervet/ Schering-Plough AH	Levamisole	Roundworm Lungworm	Oral Drench	Co, Se	20 days	X
Levasure 7.5%	Animax	Levamisole	Roundworm Lungworm	Oral Drench		20 days	X
Ripercol 75mg/ml Oral Solution	Janssen AH	Levamisole	Roundworm Lungworm	Oral Drench		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	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITH-HOLD
Alstomec Injection	Alstoe	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection		42 days	X
Alstomec Pour-On	Alstoe	Ivermectin	Roundworms Lungworm Mites Warbles Lice	Pour-On		28 days	X
Animec 1% Injection	Chanelle AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection		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		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	Pfizer/FDAH	Moxidectin	Roundworm Lungworm Mites Warbles Lice Hornflies	Pour-On		14 days	60* days
Cydectin 1% Injectable Solution for Cattle	Pfizer/FDAH	Moxidectin	Roundworm Lungworm Mites Warbles Lice	Injection		65 days	60* days
Cydectin 10% LA for Cattle	Pfizer/FDAH	Moxidectin	Roundworm Lungworm Mites Warbles Lice	Ear Injection		108 days	80* days
Dectomax 10mg/ml Solution for Injection for Cattle and Sheep	Pfizer/FDAH	Doramectin	Roundworm Lungworm Mites Warbles Lice	Injection		56 days	60* days
Dectomax Pour-On	Pfizer/FDAH	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 1% Solution	Eco Animal Health	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection		49 days	X
Ecomectin 0.5% Cattle Pour-On	Eco Animal Health	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On		31 days	X
Eprinex Pour-On	Merial AH	Eprinomectin	Roundworm Lungworm Mites Warbles Lice	Pour-On		15 days	Zero
Ivomec Classic Injection for Cattle and Sheep	Merial AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection		49 days	60* days
Ivomec Classic Pour-On for Cattle	Merial AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On		15 days	60* days
Noromectin Multi Injection	Norbrook Labs	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection		49 days	X

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITH-HOLD
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		49 days	60* days
Paramectin Multi Injection	Norbrook Labs	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection		49 days	60* days
Paramectin Pour-On	Norbrook Labs	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On		28 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	Janssen AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection		49 days	60* days
Qualimec 5mg/ml Pour-On Solution	Janssen AH	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Pour-On		31 days	60* days
Virbamec Injectable Solution	Virbac	Ivermectin	Roundworm Lungworm Mites Warbles Lice	Injection		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	60* days
Zermex 10% LA for Cattle	Downland	Moxidectin	Roundworm Lungworm Mites Warbles Lice	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.

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

Combination Products

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITH-HOLD
Animec Super Injection for Cattle	Chanelle AH	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection		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		49 days	60* days

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITHHOLD
Closamectin Pour-On	Norbrook Labs	Ivermectin Closantel	Roundworm Lungworm Fluke Mites Warbles Lice	Pour-On		28 days	60* days
Combinex Cattle	Novartis AH	Levamisole Triclabendazole	Roundworm Lungworm Fluke	Oral Drench		56 days	7* days
Downland Fluke & Worm	Downland	Levamisole Oxyclozanide	Roundworm Lungworm Fluke	Oral Drench		5 days	X
Ivomec Super Injection for Cattle	Merial AH	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection		66 days	60* days
Levafas Diamond	Norbrook Labs	Levamisole Oxyclozanide	Roundworm Lungworm Fluke	Oral Drench		5 days	X
Supremadex	Downland	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection		66 days	60* days
Virbarnecc Super	Virbac	Ivermectin Clorsulon	Roundworm Lungworm Fluke Mites Warbles Lice	Injection		66 days	60* 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.

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

** Give at the start of the dry period.

Narrow Spectrum Products

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITHHOLD
Endofluke 10%	Bimeda	Triclabendazole	Fluke	Oral Drench		56 days	60* days
Fasinex 10%	Novartis AH	Triclabendazole	Fluke	Oral Drench		56 days	X
Fasinex 240	Novartis AH	Triclabendazole	Fluke	Oral Drench		52 days	60* days
Tribex 10	Chanelle AH	Triclabendazole	Fluke	Oral Drench		56 days	**
Triclacert 10%	Downland	Triclabendazole	Fluke	Oral Drench		56 days	60* days
Trodax 34%	Merial AH	Nitroxynil	Immature and adult fluke	Injection		60 days	X

Ectoparasiticides – Synthetic Pyrethroids

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)	MILK WITHHOLD
Auriplak	Virbac	Permethrin	Flies	Ear Tag		Nil	Zero
Butox Swish	Intervet/Schering-Plough AH	Deltamethrin	Flies Lice	Pour-On		20 days	Zero
Coopers Spot On Insecticide	Pfizer/FDAH	Deltamethrin	Flies Lice	Spot On		17 days	Zero
Dysect Cattle Pour-On	Pfizer/FDAH	Alphacypermethrin	Flies Lice	Pour-On		28 days	Zero
Flectron Fly Tags	Pfizer/FDAH	Cypermethrin	Flies	Ear Tag		Nil	Zero
Flypor	Novartis AH	Permethrin	Flies Lice Mites*	Pour-On		3 days	6 hrs
Renegade	Sorex	Alphacypermethrin	Flies Lice	Pour-On		28 days	Zero
Zermasect Cattle	Downland	Alphacypermethrin	Flies Lice	Pour-On		28 days	Zero

Check product labels for full and final details

Sarcoptic and chorioptic mange mites

Ectoparasiticides – Miscellaneous

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	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 the:

- 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 under-dosing
- 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 well shaken before use.

Pour-Ons

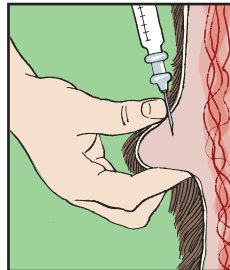
These should be applied along the length of the flattest part of the animal's back, from the withers to the tail head.

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 subcutaneously 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 drugs 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	Co, Se	4 days
Albenil SC	Virbac	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	4 days
Albensure 2.5% SC	Animax	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	5 days
Albensure 10%	Animax	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	5 days
Albex 2.5%	Chanelle AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral		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 Fluke (adult only)	Oral	Co, Se	21 days
Ovispec S&C 2.5% w/v Oral suspension	Janssen AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	4 days
Ovispec S&C 10% w/v Oral suspension	Janssen AH	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	4 days
Panacur 2.5%	Intervet/Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral		15 days
Panacur SC 2.5%	Intervet/Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral	Co, Se	15 days
Panacur SC 5%	Intervet/Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral	Co, Se	15 days
Panacur 10%	Intervet/Schering-Plough AH	Fenbendazole	Roundworm Lungworm Tapeworm	Oral		15 days

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)
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	Novartis AH	Ricobendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	3 days
Tramazole 2.5%	Tulivin	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral		4 days
Valbazen 2.5% SC	Elanco	Albendazole	Roundworm Lungworm Tapeworm Fluke (adult only)	Oral	Co, Se	8 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 injection	Norbrook Labs	Levamisole	Roundworm Lungworm	Injection		15 days
Levacide Low Volume	Norbrook Labs	Levamisole	Roundworm Lungworm	Oral		21 days
Levacur SC 3%	Intervet/Schering-Plough AH	Levamisole	Roundworm Lungworm	Oral	Co, Se	20 days
Levasure 7.5%	Animax	Levamisole	Roundworm Lungworm	Oral		20 days
Ripercol Oral 75mg/ml Oral Solution	Janssen AH	Levamisole	Roundworm Lungworm	Oral		20 days

Treatments for sheep parasite control – Sheep Endoparasiticides



Better Returns Programme

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

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	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	Pfizer	Moxidectin	Roundworm Lungworm	Oral Drench		14 days
Cydectin 1% injection	Pfizer	Moxidectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C		70 days
Cydectin 2% LA injection	Pfizer	Moxidectin	Roundworm Lungworm Sheep Scab Nasal bots	Injection S/C		104 days
Dectomax 10mg/ml solution for Injection for Cattle and Sheep	Elanco	Doramectin	Roundworm Lungworm Nasal bots Sheep scab	Injection I/M		63 days
Depidex	Novartis AH	Ivermectin	Roundworm Lungworm Nasal bots	Oral Drench		14 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
Qualimec Injection 10mg/ml solution for Injection	Janssen AH	Ivermectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C		42 days
Vectin 0.08%	Intervet/Schering-Plough AH	Ivermectin	Roundworm Lungworm Nasal bots	Oral Drench		14 days
Virbamec Injectable Solution	Virbac	Ivermectin	Roundworm Lungworm Nasal bots Sheep scab	Injection S/C		42 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 2% LA for Sheep	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	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)
Zolvix	Novartis AH	Monepantel	Roundworm	Oral		7 days

Combination Products

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)
Closamectin Injection for Sheep	Norbrook Labs	Ivermectin Closantel	Roundworm Lungworm Nasal bots Fluke	Injection S/C		28 days
Combinex Sheep	Novartis AH	Levamisole + Triclabendazole	Roundworm Lungworm Fluke (including immature fluke from 2 days of age)	Oral		56 days
Cydectin Triclamox	Pfizer	Moxidectin + Triclabendazole	Roundworm Lungworm Tapeworm Fluke (including immature fluke from 2 days of age)	Oral		31 days
Downland Fluke & Worm	Downland	Levamisole + Oxytoclozanide	Roundworm Lungworm Fluke	Oral		5 days
Fasimec Duo	Novartis AH	Ivermectin + Triclabendazole	Roundworm Lungworm Fluke (including immature fluke from under 1 week of age) Nasal bots	Oral		27 days
Levafas Diamond	Norbrook Labs	Levamisole + oxytoclozanide	Roundworm Lungworm 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 Fluke (including immature fluke over 5 weeks of age)	Oral		65 days
Supaverm Oral Suspension	Janssen AH	Mebendazole + closantel	Roundworm Lungworm Tapeworm 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

Treatments for sheep parasite control – Sheep Ectoparasiticides

Narrow Spectrum Products

* Barbers Pole Worm

PRODUCT	COMPANY NAME	CHEMICAL NAME	PARASITES CONTROLLED	USE	TRACE ELEMENTS	WITHDRAWAL PERIOD (MEAT)
Fasinex 5%	Novartis AH	Triclabendazole	Fluke (including immature fluke from 2 days of age)	Oral		56 days
Flukiver 5% w/v oral suspension	Janssen AH	Closantel	Fluke (including immature fluke over 5 weeks of age) Haemonchus Contortus* Nasal bots	Oral		42 days
Tribex 5%	Chanelle AH	Triclabendazole	Fluke (including immature fluke)	Oral		56 days
Triclcert 5%	Downland	Triclabendazole	Fluke (including immature fluke)	Oral		56 days
Triclafas Drench	Norbrook Labs	Triclabendazole	Fluke (including immature fluke from 2 days of age)	Oral		56 days
Trodax 34%	Merial AH	Nitroxylin	Fluke (including immature fluke) Haemonchus Contortus*	Injection S/C		49 days

Injectables for Sheep Scab

PRODUCT	COMPANY NAME	CHEMICAL NAME	SHEEP SCAB	NASAL BOTS	WITHDRAWAL PERIOD (MEAT)
Cydectin 1%	Pfizer	Moxidectin	28 days persistent activity for protection. Two injections 10 days apart to treat existing scab		70 days
Cydectin 2% LA	Pfizer	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 I/M	One injection	✓	63 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
Panomec 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
Qualimec Injection 10mg/ml solution for Injection	Janssen AH	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 2% LA for Sheep	Downland	Moxidectin	60 days persistent activity for protection. One injection to treat		104 days

Plunge Dips

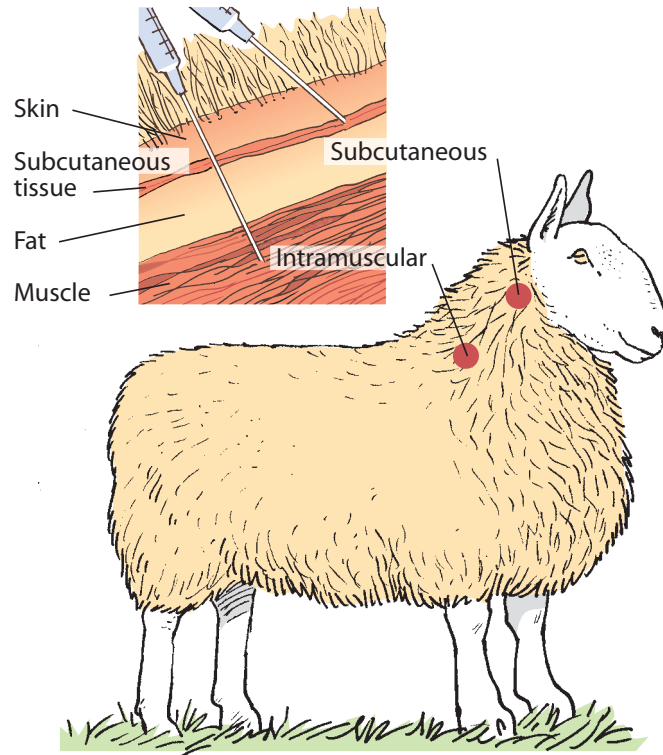
PRODUCT	COMPANY NAME	ACTIVE	BLOWFLY	SHEEP SCAB	LICE	TICKS	WITHDRAWAL PERIOD (MEAT)
Coopers Ectoforce Sheep Dip	Intervet/Schering-Plough AH	Diazinon	8 weeks protection	Up to 4 weeks protection	✓	3–6 weeks protection	70 days
Osmonds Gold Fleece Dip	Bimeda	Diazinon	8 weeks protection	Up to 4 weeks protection	✓	3–6 weeks protection	70 days
Paracide 62	Animax Ltd	Diazinon	8 weeks protection	Up to 4 weeks protection	✓	3–6 weeks protection	70 days

Pour-Ons

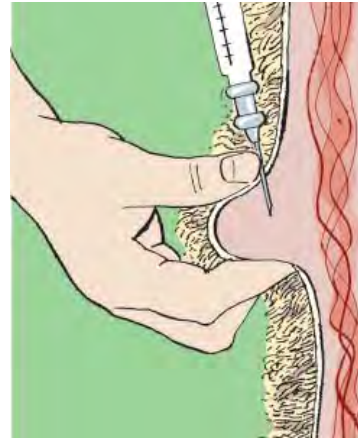
PRODUCT	COMPANY NAME	ACTIVE	BLOWFLY	LICE	TICKS	WITHDRAWAL PERIOD (MEAT)
Clik	Novartis AH	Dicyclanil (IGR)	16 weeks			40 days
CLiKZiN	Novartis AH	Dicyclanil	8 weeks			7 days
Coopers Spot-on	Pfizer	Deltamethrin	Treats established strike only	4–6 week reduction in incidence	Up to 6 weeks	35 days
Crovect	Novartis AH	Cypermethrin	6–8 weeks	Kills existing lice	✓	8 days
Dysect	Pfizer	Alpha-cypermethrin	8–10 weeks	Kills existing lice	8–12 weeks	28 days
Vetrazin	Novartis AH	Cyromazine (IGR)	10 weeks			3 days
Zermasect Sheep	Downland	Alpha-cypermethrin	8–10 weeks	Kills existing lice	8–12 weeks	28 days

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 to 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 that 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 under dosing. 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 weighcrate 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 can not 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 by-pass 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 internal parasites been a problem before? (e.g. Liver fluke)

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 (FEC's)?

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

Product Choice

• What is the target parasite(s)?

Treatments should be chosen according to the target parasite(s), the life-cycle stage, time of year and objective (curative or preventative). Avoid unnecessary use of broad spectrum treatments as an insurance.

• 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. Always dose at the rate for the heaviest in the group. If the weight range in a group is large, sub-divide and use two or more rates. Always follow the manufacturers recommendations and store products correctly and do not use out of date product.

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

• Avoid overuse of the same products

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

• Use persistent products carefully

While wormers that have persistent activity (e.g. a slow release bolus) are highly effective, they can also influence the development of resistance by exposing the parasites to the chemical for a long time. Use non persistent products where possible, which also allows the animals to pick up some infection which encourages their natural immunity develop and reduces the selection for resistance in the parasites.

• 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.

	CATTLE	SHEEP
Target Parasites Generally immature animals (lambs/calves)	Stomach worms during grazing season Lung worm (June onwards)	Nematodirus in late spring/ early summer Stomach worms during grazing season
Target Parasites (including adult animals)	Liver fluke from autumn through winter	Liver fluke from autumn through winter Haemonchus contortus on at risk farms
Methods of administration	Pour-on Injection Bolus Drench	Drench Injection
Other product options	Vaccination against lungworm	

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