

STARTECT[®]

Dual Active Knockout Drench

KNOCK OUT RESISTANT WORMS!



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Dual Active Knockout Drench

FARMER GUIDE

zoetis[™]



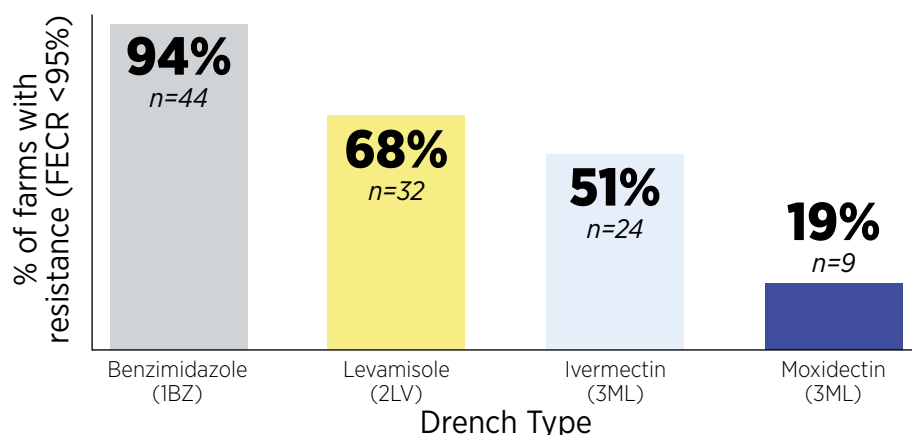
Every farm has resistant worm populations which are naturally occurring in the environment.

It is **not someone else's problem**, these resistant worms are present on your fields and the need to use effective wormers for efficient production remains vital.

Worm resistance is on

Latest data from the UK shows:

Percentage of farms with anthelmintic resistance overall¹ (n=47)



How does this affect you?

Anthelmintic resistance affects productivity

Reduced drench performance means increased surviving worm burden, leading to reduced lamb performance.

You will probably not see the effects of this until your drench efficacy is very low – risking costly silent production loss.

	Product choice			
	White Drench	Levamisole	Ivermectin	STARTECT
Cost of drench per dose 25kg	5p	5p	5p	30p
Drench cost over 5 months*	£121.75	£121.75	£121.75	£730.50
Drench efficacy^	50%	69%	80%	>99%
Estimated cost of lost performance for the average holding#	-£8,288.25	-£5,515.00	-£3,951.25	£0
RETURN ON INVESTMENT OF USING STARTECT	£8,288.25	£4,906.25	£2,951.25	

* Estimated cost assuming 5 doses at 1 month intervals and UK average number of lambs per holding Dec 2011 487.

^ Drench efficacy is based on results of UK STARTECT FECRT studies, results on file and Geurden et al Veterinary Parasitology 205 (2014) 405–407.

Based on Miller et al Veterinary Parasitology doi:10.1016/j.vetpar.2011.11.063 assuming that loss in performance is linear between efficacies.

the increase

Benefits of Dual Actives

Action 1: Kills more resistant worms than a constituent single active.

	% Killed	% Surviving	Relative efficacy	Worms Surviving Assuming a population of 1,000 worms
Single active at 99% effective	99	1	1	10
DUAL ACTIVE AT 99% EFFICACY*	99.98	0.02	50	0.2
Single active at 75% effective	75	25	0.04	250
Two actives used separately both at 75% efficacy*	93.75	6.25	0.16	62.5

* Assumes additive efficacy

All wormers remove the susceptible worms, it is the surviving resistant worms that reduce growth rate and productivity.

Using a Dual Active = INCREASED PRODUCTIVITY[†]

Action 2: Delays resistance development³ – reducing the resistant worm population on your fields, means productive grazing for years to come.

Using a Dual Active = LONG TERM DRENCH PERFORMANCE

STARTECT – The effective
DUAL ACTIVE treatment that should
be a part of **YOUR** worm control plan

[†] Compared to single actives with less efficacy



The Dual Active Knock

The only Dual Active on the UK market enabling improved efficacy today

Contains a highly potent Group 3 (ML) and a novel Group 5 (SI)

Class	Class name	Actives
1 - BZ	Benzimidazoles	albendazole, fenbendazole, oxfendazole, mebendazole, ricobendazole
2 - LV	Imidazothiazoles	levamisole
3 - ML	Macrocyclic lactones	ivermectin, abamectin , doramectin, moxidectin
4 - AD	Amino acetonitrile derivatives	monepantel
5 - SI	Spiroindole	derquantel

Dose Rate – 1ml/5kg

Convenient and accurate dosing with a weight graduated easy use gun with silicone seals for superior drenching.

Weight (kg)	Dose	5L Treats
15	3	1,666
16-20	4	1,250
21-25	5	1,000
26-30	6	833
31-35	7	714
36-40	8	625

Meat Withdrawal – 14 days

Shelf Life – up to 12 months once opened

out Drench

Strategic Drenching

Drench resistance can be effectively managed by using strategic drenching and an integrated approach to worm management – such as those recommended by SCOPS (Sustainable Control of Parasites in Sheep). A strategic drench plan should include a Knockout Drench, as well as Exit and Quarantine drenches.



	What is this?	Why?
KNOCKOUT DRENCH	The substitution of a necessary lamb drench with STARTECT, during the risk period on your farm.	To remove parasites which have survived previous drenching and prevent an autumn larval peak of resistant parasites.
EXIT DRENCH	STARTECT after long-acting wormer use.	To remove parasites which have survived the long-acting wormer.
QUARANTINE DRENCH	Drench any new stock on to the farm with STARTECT.	To prevent the introduction of resistant parasites to your farm.

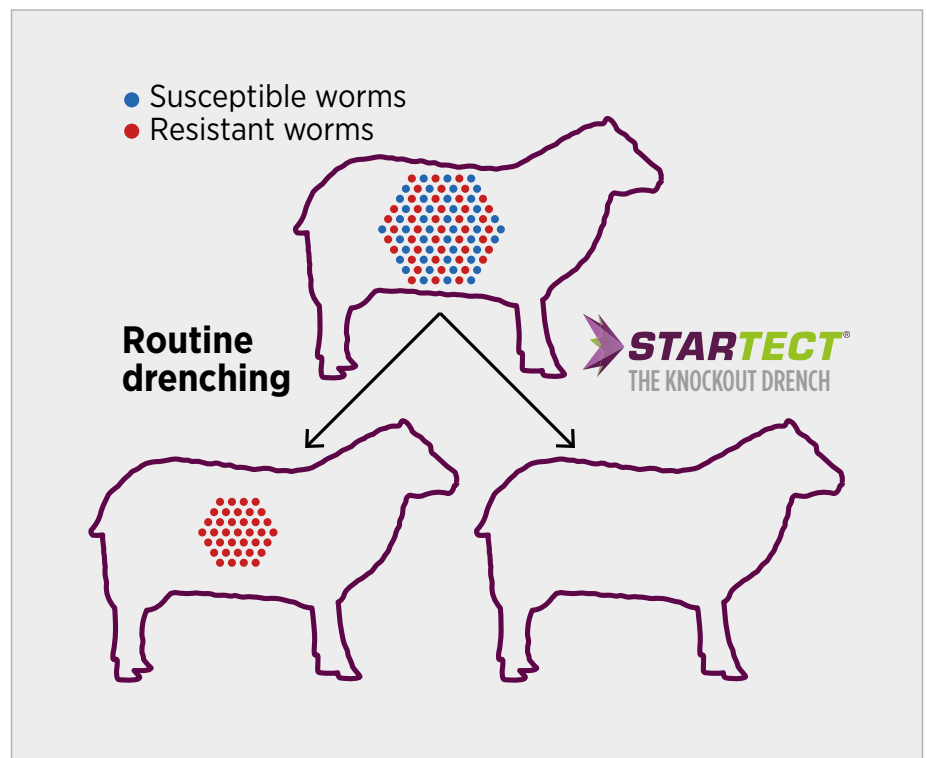
Why Quarantine?

- The objective of quarantine treatments is to minimise the chance you will introduce resistant worms (and sheep scab) into your flock.
- Quarantine should be applied to **all incoming sheep**. This includes those purchased from other flocks (including rams) and sheep which have been grazing on other farms (or common grazing) where the resistance status is unknown or likely to be different from the home farm.
- **Quarantine recommendations are to use two highly effective products sequentially; STARTECT contains two different anthelmintic groups and avoids the costs and complications of utilising two worming products.**



Knockout Drench

- A Knockout Drench is the substitution of one necessary lamb drench with a novel drench active.
- Resistant parasites which have accumulated and survived preceding drenches are then knocked out by **STARTECT**.
- A Knockout Lamb Drench has been shown to delay the onset of resistance to the routine drenches².
- The effect is time sensitive, the most useful time is later in the drenching programme but just prior to the time of most egg development or larval survival on pasture – i.e. late summer.
- Start ideally when there is no detectable resistance or when resistance is at a low level to have the greatest effect.
- **All sheep farmers should be adding a Knockout Drench into their preventative drenching programs.**



Zoetis: Unrivalled Support

Dual Action Money Back Guarantee

● Action 1 – The Knockout Guarantee

- **STARTECT** is guaranteed to knock out resistant worms in your flock.
- **STARTECT** when used as a Knockout Drench will remove worms resistant to all other actives.
- If you are not entirely satisfied and have a positive post drench sample at 14 days, Zoetis will investigate alongside your vet and farm advisor, pay associated lab fees, create a farm specific worm control plan and provide the same amount of **STARTECT** free of charge for use in the following season.

● Action 2 – The Improved Growth Rate

- If **STARTECT** hasn't produced an improved growth rate in the month after treatment compared to similar stock on the same farm treated with another worming product, Zoetis will investigate alongside your vet and farm advisor, pay associated lab fees, create a farm specific worm control plan and provide the same amount of **STARTECT** free of charge for use in the following season.

For more information about the STARTECT Dual Action Guarantee contact your Zoetis Account Manager, Veterinary Consultant or call the helpline on 0845 3008034.

Check out your true drench costs and what STARTECT can do for you on the Zoetis Drench Cost Calculator – available on the Apple App Store, Google Play and online at www.zoetis.co.uk/STARTECT.

For Parasite updates and forecasts for your area and lots of other sheep farming news follow us on Twitter: @Sheep_Farmers and on Facebook: Sheep Farmers.



STARTECT Dual Active Oral Solution for Sheep

Presentation

STARTECT Dual Active Oral Solution for Sheep is a clear to hazy, colourless to yellow-brown solution containing 10 mg/ml derquantel and 1 mg/ml abamectin. Also contains 0.5 mg/ml butylated hydroxytoluene as excipient.

Uses

STARTECT Dual Active is a broad spectrum anthelmintic for the treatment and control of mixed gastro-intestinal nematode infections and associated diseases of sheep.

STARTECT Dual Active is effective against strains of parasites resistant to benzimidazoles, levamisole, macrocyclic lactones, and combinations of these.

The spectrum of activity is as follows:

Adult and Immature Gastro-intestinal Nematodes:

Haemonchus contortus
(including inhibited larval stages)

Teladorsagia (Ostertagia) circumcincta
(including inhibited larval stages)

Teladorsagia (Ostertagia) trifurcata

Trichostrongylus axei

Trichostrongylus colubriformis

Trichostrongylus vitrinus

Cooperia curticei

Cooperia oncophora

Nematodirus spathiger

Nematodirus filicollis

Nematodirus battus

Strongyloides papillosus

Oesophagostomum venulosum (adult)

Trichuris ovis

Chabertia ovina

Lungworms:

Dictyocaulus filaria (adult)

Dosage and administration

STARTECT Dual Active is a ready-to-use oral solution.

The dose for sheep is 2 mg derquantel and 0.2 mg abamectin per kg bodyweight, i.e. 1 ml of product per 5 kg bodyweight.

Drench sheep orally, using a drench gun with silicone sealed 'o' rings.

Check dose rates and the accuracy of the drench gun before treatment commences.

Do not under- or overdose. To ensure administration of a correct dose, bodyweight should be determined as accurately as possible. If animals are to be treated collectively rather than individually, they should be grouped according to their bodyweight and dosed accordingly.

Set the dosing gun to deliver the correct dose volume for the weight of sheep to be treated.

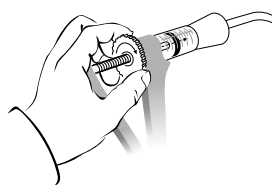


Figure 1

Gently place the nozzle of the drench gun over the back of the tongue and depress the trigger.

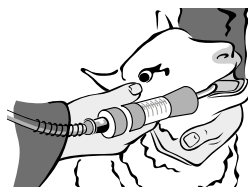


Figure 2

Contra-indications, warnings, etc

Do not use in dogs as severe adverse reactions may occur.

Do not use in horses as severe adverse reactions, including fatalities, will occur.

Do not exceed the recommended dose rate.

Care should be taken to avoid the following practices because they increase the risk of development of resistance and could ultimately result in ineffective therapy:

- Underdosing, which may be due to underestimation of bodyweight, misadministration of the product or lack of calibration of the dosing device.
- Too frequent and repeated use of anthelmintics from the same class over an extended period of time.

Assess bodyweight as accurately as possible before calculating dosage. Suspected clinical cases of resistance should be further investigated using the appropriate tests, e.g. (Faecal Egg Count Reduction Test). Where the results of the test(s) strongly suggest resistance to a particular anthelmintic, an anthelmintic belonging to another pharmacological class and having a different mode of action should be used.

The recommended dose of STARTECT Dual Active is 0.2 ml/kg; doses of 0.9 ml/kg and higher (4.5X the recommended dose) can cause signs of toxicity and may lead to fatalities.

If animals are batched for dosing it is very important that careful consideration be given to the weight range within each group, to avoid the risk of overdosing smaller animals. A representative sample of animals should be weighed before treatment.

Accuracy and proper functioning of the dosage device should be checked.

The safety of STARTECT Dual Active has not been established in sheep under six weeks of age or weighing less than 10 kg.

Mild transient coughing is very commonly reported following drenching.

Doses of 0.9 ml/kg and higher have been associated with symptoms of toxicity. Signs of toxicity include dullness, depression, incoordination, weakness, decreased gastrointestinal motility and abnormal breathing pattern, recumbency and death. Non-fatal adverse events have been shown to be fully reversible. Supportive veterinary care is indicated; there is no known antidote.

References:

1. WAARD Project Final Report. Sept 2015.
2. DM Leathwick & BC Hosking, 2009 Managing anthelmintic resistance: Modelling strategic use of a new anthelmintic class to slow the development of resistance to existing classes)
3. Bartram et al, 2012, The role of combination anthelmintic formulations in the sustainable control of sheep nematodes

User warnings:

Do not eat, smoke or drink while handling the product.

Wear impermeable rubber gloves during use.

Avoid ingestion, inhalation and eye and skin contact. Wash hands after handling the product. In case of accidental ingestion, seek medical advice immediately. Show package leaflet or label to the physician.

In case of accidental eye or skin contact, wash affected areas immediately with clean running water and seek medical attention if irritation persists.

Withdrawal periods:

Meat and offal: 14 days.

Milk: do not use in lactating ewes producing milk for human consumption.

Pharmaceutical precautions

Do not refrigerate or freeze.

Shelf-life after first opening the immediate packaging: 12 months.

Not to be mixed with other veterinary medicinal products before administration.

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of in accordance with local requirements.

Extremely dangerous to fish and aquatic life. Do not contaminate water courses with the product or used container.

Keep out of the reach and sight of children.

For animal treatment only.

Legal category

UK: POM-V

Packaging quantities

Supplied in 1, 5 and 15 litre multi-dose packs. Not all pack sizes may be marketed.

Further information

Derquantel is the first member of the spiroindoles, a novel class of anthelmintics with a different mode of action from existing anthelmintic classes. Derquantel is a member of the 5-SI anthelmintic class.

Abamectin is a member of the macrocyclic lactone family (3-ML).

STARTECT can be used in pregnant, lactating and breeding animals.

STARTECT is toxic to dung insects. It is excreted mainly in the faeces and it cannot be excluded that insects using dung excreted after treatment may be adversely affected. Using the product strictly in accordance with the dosage instructions above will keep this risk to a minimum.

Marketing authorisation number

UK: Vm 00057/4420



STARTECT®
Dual Active Knockout Drench

5-SI

3-ML

POM-V

For further information please see the product's SPC or contact your Veterinary Surgeon or Zoetis UK Limited, Walton Oaks, Dorking Road, Tadworth, Surrey KT20 7NS.

www.zoetis.co.uk Customer Support: 0845 300 8034

Use medicines responsibly (www.noah.co.uk/responsible). Date of preparation: May 2016

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