WARNING
KEEP OUT OF REACH OF CHILDREN
FOR ANIMAL TREATMENT ONLY

Noromectin PLUS

INJECTION

Active Ingredients:	IVERMECTIN	10 mg/mL
	CLORSULON	100 mg/mL

PRESENTATION:
Noromectin Plus Injection is an injectable parasiticide for cattle. One low volume dose effectively kills internal and external parasites, including adult liver flukes, that impair the health and productivity of cattle. Noromectin Plus Injection is a ready-to-use, sterile solution of ivermectin and clorsulon. Ivermectin is a member of the avermectin family. The avermectins are a family of potent broad-spectrum antiparasitic agents which are isolated from fermentation of the naturally occurring soil organism *Streptomyces avermitilis*. Clorsulon is an amino-benzene disulphonamide with a unique mode of action against liver fluke.

INDICATIONS:
Noromectin Plus Injection is indicated for the effective treatment and control of the following harmful species of gastro-intestinal worms, lungworm, liver fluke, mites and lice.
Gastro-intestinal roundworms:
For the control of adult and immature:
Ostertagia ostertagi (including inhibited fourth stage larvae), *O. lyrata* - Brown stomach worm, *Trichostrongylus axei* - Stomach hair worm, *T. colubriformis* - Intestinal hair worm, *Cooperia oncophora, C. punctata* - Small intestine worm, *Bunostomum phlebotomum* - Hookworm, *Oesophagostomum radiatum* - Nodule worm and adult stages of:
Nematodirus helvetianus and *N. spathiger* - Thin necked intestinal worm
Trichuris spp. - Whipworm
Lungworms: adult and immature *Dictyocaulus viviparus*
Persistent activity: Noromectin Plus Injection given at the recommended dosage of 1 mL/50 kg of liveweight effectively controls infections with *Ostertagia* spp. acquired up to at least 14 days after treatment, *Cooperia* spp. acquired up to at least 7 days after treatment and *Dictyocaulus viviparus* and *Oesophagostomum radiatum* acquired up to at least 21 days after treatment.
Sucking Lice: *Linognathus vituli, Haematopinus eurysternus, Solenopotescapillatus*
Mites: *Psoroptes* spp.
Liver fluke: *Fasciola hepatica* (adults)
Effective as an aid in Control of:
Biting Lice: *Bovicola bovis*
Mites: *Chorioptes bovis*

MODE OF ACTION:
The avermectin family of compounds, of which ivermectin is a member, kills certain parasitic nematodes (roundworms) and arthropods. The action is unique to the avermectin class of antiparasitic agents and involves a chemical that serves as a signal from one nerve cell to another, or from a nerve cell to a muscle cell. This chemical, a neurotransmitter, is called *gamma* aminobutyric acid or GABA.
Clorsulon is rapidly absorbed into the circulating blood. Erythrocytes with bound drug, as well as plasma, are ingested by *Fasciola* spp. Adult *Fasciola* spp. are killed by clorsulon because of inhibition of enzymes in the glycolytic pathway, which is their primary source of energy.

RESISTANCE MANAGEMENT
Noromectin Plus Injection contains the actives *ivermectin*, a member of the macrocyclic lactone (ML) group of anthelmintics; and *closantel*, which is a member of the salicylanilide group of anthelmintics.
Resistance can develop to any anthelmintic. To delay the onset of resistance:
- Check the effectiveness of anthelmintics at least annually.
- It is advisable that a resistance test be conducted regularly when using any parasite treatment.
- Before dosing, a representative sample of animals should be weighed, either with scales or a weighband to accurately calculate the dose.
- Choose the dose according to the heaviest animal by liveweight in each group.
- Where there is a large variation in size within the group, dose rate should be based on the label directions foe each weight range. Drafting into two or more lines may be appropriate, to avoid excessive overdosing.
- Do not under-dose. Check the accuracy of drenching guns regularly.
- Ask your local veterinarian or animal health adviser about recommended parasite management practices for your area. Follow these recommendations to reduce the potential for resistance to develop.

ADMINISTRATION
Noromectin Plus Injection is to be injected subcutaneously into the anterior half of the neck using sterilised equipment. A sterile 16-gauge, one inch needle is recommended.
Intramuscular injection will result in prolonged residues. Where intramuscular injection may have occurred, animals producing meat and offal for human consumption must not be sold for slaughter within 91 days of the last treatment.
When the temperature of the product is below 5°C, difficulty in administration may be encountered due to increased viscosity. Warming the product and injection equipment to about 15°C will greatly increase the ease with which the product can be injected.

INSTRUCTIONS FOR USE WITH AUTOMATIC INJECTION EQUIPMENT:
Disinfect all needles and syringes before using by boiling in clean water for 15 - 20 minutes.
Boiled needles should be stored in an antiseptic solution before use and changed frequently when injecting cattle.
Remove the draw-off assembly from the sterile pack. Handle carefully to avoid contamination.
Connect the plastic tube firmly to the dosing syringe. Use a stepped adapter if needed.
Remove cap from bottle and disinfect rubber stopper with alcohol or other suitable chemical disinfectant. Hold bottle **upright** and fully insert draw-off needle into centre of rubber stopper.
Secure firmly with screw-on cap attached to tube.
Hang bottle comfortably in **inverted** position from neck, shoulder or belt of the operator. Use attachment tapes provided.
Gently prime injector. Equipment is now ready for use.
After use, remove draw-off assembly and flush out entire apparatus with clean water before storing.
Store partly-used bottle in carton to protect from light. Do not reuse empty bottles.
If the connecting tube is used a second time, it should also be boiled for 15 to 20 minutes before use along with the injecting syringe and needles.

NEW ZEALAND FOOD SAFETY AUTHORITY
AGRICULTURAL COMPOUNDS & VETERINARY MEDICINES
24 OCT 2007

DOSE RATE:
Noromectin Plus Injection is only to be given under the skin, not into the muscle. The approved dose of 1 mL per 50 kg liveweight provides dose levels of 0.2 mg/kg of ivermectin and 2 mg/kg of clorsulon.
Use sterile equipment. Divide doses greater than 10ml between two injection sites to reduce occasional discomfort or site reaction. Check accuracy of injection guns regularly. Use the following table to dosage recommendations:

Liveweight Kg	Dose Volume mL	Number of Cattle Treated/Pack			
		50 mL	100 mL	250 mL	500 mL
Up to 50kg	1	50	100	250	500
51 - 100	2	25	50	125	250
101 - 150	3	16	33	83	166
151 - 200	4	12	25	62	125
201 - 250	5	10	20	50	100
251 - 300	6	8	16	41	83
301 - 350	7	7	14	35	71
351 - 400	8	6	12	31	62
401 - 450	9	5	11	27	55
451 - 500	10	5	10	25	50
501 - 550	11	4	9	22	45
551 - 600	12	4	8	20	41
601-650	13	3	7	19	38

Heavier animals (for example, mature bulls) should receive an additional 1mL for each 50 kg over 650 kg.

Transitory discomfort has been observed in some cattle following subcutaneous administration. A low incidence of soft-tissue swelling at the injection site has been observed. These reactions have disappeared without treatment. Divide doses greater than 10 mL between two injection sites to reduce occasional discomfort or site reaction. Different injection sites should be used for other parenteral products. Appropriate vaccination against clostridial infections should be undertaken in high risk areas.

WARNING
Dangerous to the Environment
Handling Precautions:
Very toxic to aquatic organisms and to terrestrial invertebrates. Harmful to terrestrial vertebrates and to the soil environment. Avoid contamination of any water supply with product or empty container. Avoid release to the environment.
May be harmful if swallowed, inhaled or absorbed through the skin.
Clorsulon may possibly affect kidney function, development and/or reproduction, and may possibly cause damage to genetic material. Ivermectin may have effects on or via lactation.
Wash hands and exposed skin before meals and after use. Do not inhale vapour. Avoid skin contact.
First Aid:
If swallowed do NOT induce vomiting. If skin or hair contact occurs remove contaminated clothing and flush skin and hair with running water. For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately.
Emergency Response:
In case of spillage wear appropriate protective clothing and prevent material from entering waterways. Absorb spills with inert material and place in waste containers. Wash area with water and absorb with further inert material.
Disposal:
Preferably dispose of product by use. Otherwise dispose of product packaging and waste at an approved landfill or other equivalent facility.

WITHHOLDING PERIODS:
MILK:
Milk intended for sale for human consumption must be discarded during treatment for not less than **14 days** following the last treatment.
MEAT:Cattle producing meat or offal for human consumption must not be sold for slaughter within **28 days** of the last treatment.
Bobby calves born to treated cows must not be sold for slaughter within **28 days** of the last treatment of the cow.

STORAGE:
Store below 25°C in a cool place, Protect from light.
Once vial is broached, use contents within 28 days or discard.

Registered pursuant to the ACVM Act 1997, No. A9938
See www.nzfsa.govt.nz/acvm/ for registration conditions.

Registered to and distributed by:
Norbrook NZ Ltd
KPMG Centre, 18 Viaduct Harbour Avenue Auckland
Ph: 0800 224 022

Manufactured by Norbrook Laboratories Ltd.
Station Works, NEWRY,
Co. Down, Northern Ireland.

NEW ZEALAND FOOD SAFETY AUTHORITY
AGRICULTURAL COMPOUNDS & VETERINARY MEDICINES
24 OCT 2007

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INDICATIONS:
For the treatment and control of internal and external parasites of cattle, including adult liver fluke.

READ CARTON TEXT OR INSERT INCLUDING SAFETY DIRECTIONS BEFORE USE

ADMINISTRATION
Noromectin Plus Injection is to be injected subcutaneously into the anterior half of the neck. A sterile 16-gauge, one inch needle is recommended.

DOSE RATE:
Give dose rates of 200 µg ivermectin and 2 mg clorsulon per kg bodyweight; which are provided by Noromectin Plus Injection given at a rate of 1 mL per 50 kg bodyweight.

WITHHOLDING PERIODS:
MILK: 14 days
MEAT: 28 days

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Registered to and distributed by:
Norbrook NZ Ltd.,
KPMG Centre,
18 Viaduct Harbour Avenue,
Auckland.

Batch:
Expiry:

000000LD7

Batch No:

Expiry Date:

500 mL

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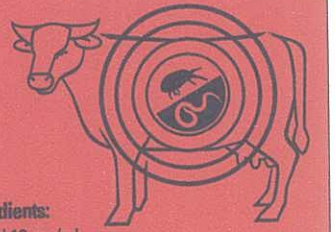

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IVERMECTIN 10 mg/mL
CLORSULON 100 mg/mL

Net contents: 500 mL

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WITHHOLDING PERIODS:
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