New Indications

NexGard®

NexGard SPECTRA®

Now indicated against Ear Mite and "Giant tick" infestations

+

SAFE FOR PREGNANT AND LACTATING DOGS

Boehringer Ingelheim

Ear mites

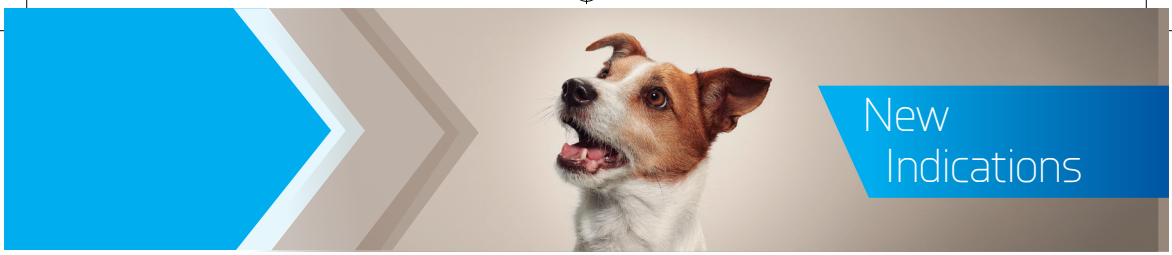
Background

- *Otodectes cynotis*, the causative agent of otodectic mange, is a worldwide common non-burrowing, surface-living acarian
  - Found in dogs, cats and many other carnivores
  - Highly contagious
- It primarily infests the ear canals of its host but may also be found on the head, the back and the tail

Otodectes cynotis

Veterinary medical importance

- Ear mites can cause external parasitic otitis with pruritus and black-brownish dry cerumen
- Irritation caused by the mites often results in the pet scratching their ears and shaking the head, which can lead to lacerations associated with the affected ear(s) or the formation of an auricular hematoma
- Secondary yeast and bacterial infections often occur in the presence of heavy ear mite infestations



Efficacy of afoxolaner for the treatment of otodectic mange

- As afoxolaner has been proven highly efficacious in the treatment of other mite infestations (*Demodex canis, Sarcoptes scabiei* var. *canis*), several studies were conducted to assess its efficacy against ear mites, using the commercial formulations available: NexGard SPECTRA® and/or NexGard®.

Table 1. Results of 4 different studies to assess the efficacy of NexGard SPECTRA® and/or NexGard®.

	Type of infestation	Number of treatments	Product used	% efficacy (Day 28 or 30)*	% efficacy (Day 42 or 45/47)*
Study 1[1]	Experimental	1 (Day 0)	NexGard	99.4%	
Study 2[2]	Natural	1 (Day 0)	NexGard	100%	-
			NexGard SPECTRA	92.9%	
Study 3[2]	Natural	1 (Day 0)	NexGard	99.9%	
		2 (Days 0 and 30)	NexGard	-	99.9%
			NexGard SPECTRA	-	99.9%
Study 4[3]	Natural	2 (Days 0 and 30)	NexGard	-	100%

NexGard® and NexGard SPECTRA® demonstrated a high efficacy against ear mites.

The clinical signs associated with *O. cynotis* infestation reduced over the study periods.**

* For the final assessments live mites counts were performed after ear flushing (under sedation). All results are given in geometric means (except for study 1: arithmetic mean), p< 0.05.

** To ensure that a potential reinfestation is treated appropriately, a further veterinary examination one month after the initial treatment is recommended as some animals may require a second treatment.

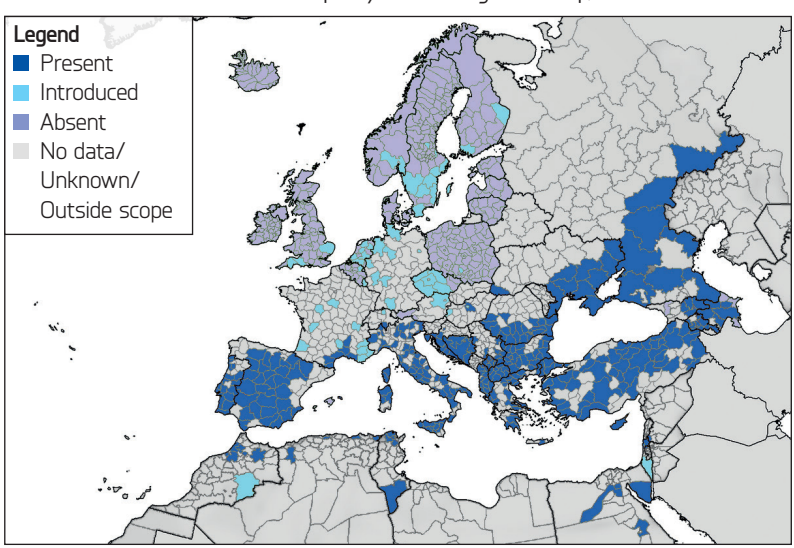
Hyalomma marginatum

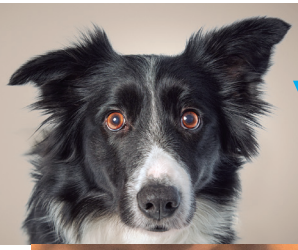
Background

- *Hyalomma marginatum* is also called the giant tick as its body is about twice as large as most of the ticks usually encountered
- This tick species is known to be established in North Africa, some parts of Asia and in the Middle East. Spread by migrating birds, these ticks are increasingly observed in continental Europe, from Spain to Ukraine. Sporadic infestation cases have been recently recorded in other European countries, such as Germany and Sweden

Hyalomma marginatum can measure up to 20 mm in length.

Map 1. Based on ECDC-EFSA vector maps available at https://www.ecdc.europa.eu/en/disease-vectors/surveillance-and-disease-data/tick-maps. *Hyalomma marginatum* map, March 2022.





New Indications

- Living in open environments, they are considered very aggressive, finding their host using an active hunting strategy instead of a static questing behaviour. Adults may even run towards a host when detecting stimuli such as vibrations, carbon dioxide and body temperature heat
- Infestations are more common during the summer season in pets, but this *Hyalomma* species is also active in autumn (larval and nymphal stages), and spring (adults)

Hyalomma species show a hunting strategy.

Human and veterinary medical importance

- *Hyalomma marginatum* is considered as the most important vector of Crimean-Congo haemorrhagic fever virus to humans. It is also recognized as vector of the West Nile virus and of *Rickettsia aeschlimanniia* and *R. sibirica, Rickettsia* species belonging to the spotted fever group.

Hyalomma marginatum

Vector of:

- Crimean-Congo haemorrhagic fever virus
- West Nile virus
- Spotted Fever Group Rickettsioses (SFGR)

Hyalomma marginatum

An experimental study was conducted to evaluate the efficacy of afoxolaner against *Hyalomma marginatum*[4]

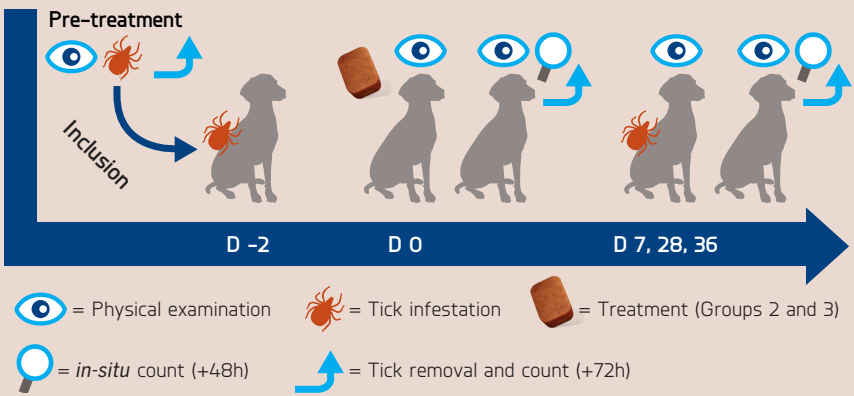
24 healthy, adult Beagle dogs were included and divided in three groups of eight dogs each.

On Day 0, one group was left untreated, one group was treated with NexGard®, and one group received a spot-on product application.

24 dogs split in 3 groups

1. Untreated
2. NexGard®
3. Spot-on product

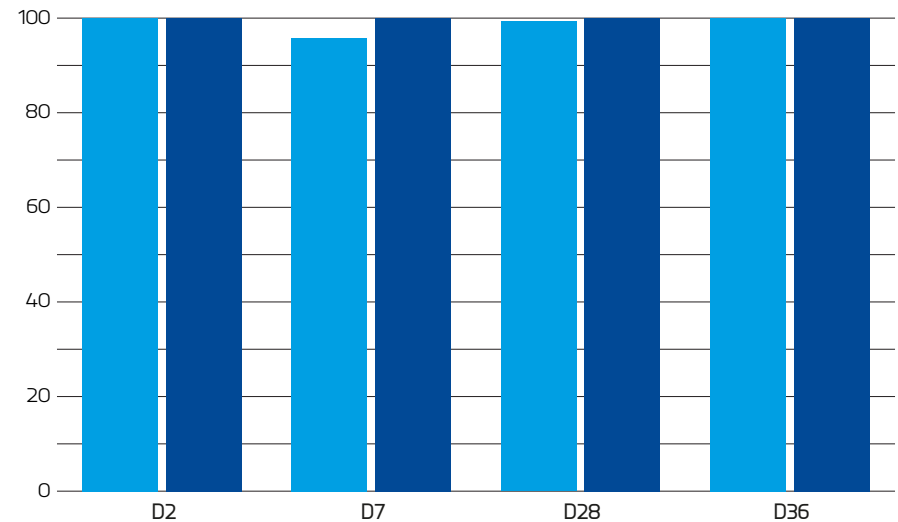
Study Design



New Indications

To assess both immediate and persistent efficacy, dogs were challenged at Days – 2, 7, 28 and 36. Ticks were then thumb-counted on Days 2, 9, 30 and 38 (48 ± 2 h after product administration or infestation) and removed and counted on Days 3, 10, 31 and 39 (72 ± 2 h after product administration or infestation).

Afoxolaner efficacy against *Hyalomma marginatum*



D=Day of infestation
Results are given in arithmetic mean, p< 0.05

During the five weeks of the study, afoxolaner efficacy ranged between

> 97 – 100% at 48-hour counts

> 99 – 100% at 72-hour counts

NexGard®

NexGard® is now authorised for use in breeding, pregnant and lactating female dogs.

Also safe and well tolerated in:

- **Dogs and puppies** from as early as 8 weeks old and 2 kg
- **Collies with MDR1** (now named ABCB1) **gene mutation**[1]

Trusted active ingredient

Afoxolaner: Kills ectoparasites

Simple and easy administration

Convenient monthly dosing that's easy to remember

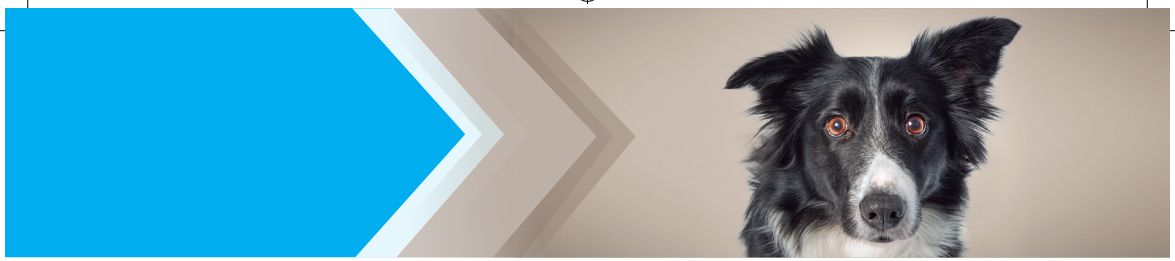
Not affected by feeding

HIGHLY PALATABLE SOFT CHEW

+

MONTHLY ADMINISTRATION

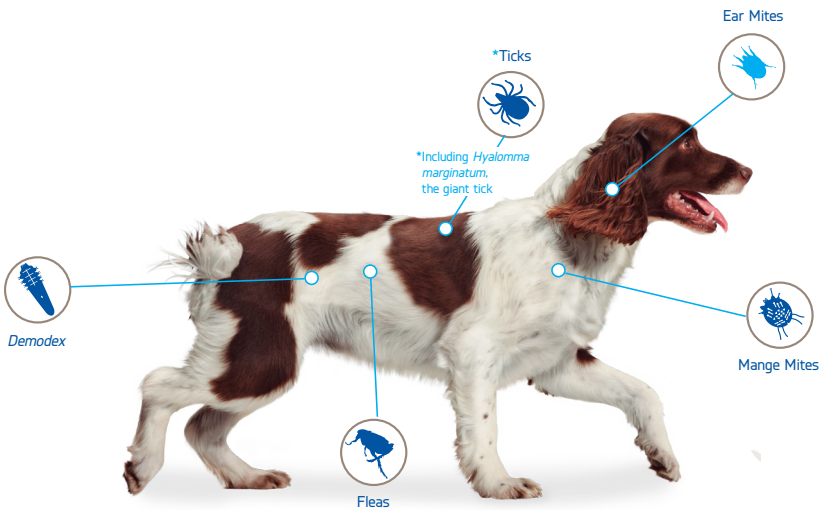
+



Trusted protection

ECTOPARASITES

- Rapid and sustained efficacy against fleas (*Ctenocephalides felis* and *C. canis*), allowing an indirect prevention of flea tapeworm infestations[4]
- Constant high efficacy against ticks (*Dermacentor reticulatus*, *Ixodes ricinus*, *Ixodes hexagonus*, *Rhipicephalus sanguineus*, *Hyalomma marginatum*)
- Highly effective against common types of mites (*Demodex*, *Sarcoptes* and *Otodectes* mites)



WITH OR WITHOUT FOOD +

FOR ANY DOG, WITH OR WITHOUT THE MDR1 GENE MUTATION

LUNG WORM
FLEAS
DO IT RIGHT
DO IT MONTHLY
TICKS
ROUNDWORM

NexGard SPECTRA®

NexGard SPECTRA® is now authorised for use in breeding, pregnant and lactating female dogs.

Also safe and well tolerated in:

- **Dogs and puppies** from as early as 8 weeks old and 2 kg
- **Collies with MDR1** (now named ABCB1) **gene mutation**[1]

Trusted active ingredients

Afoxolaner: Kills ectoparasites

Milbemycin oxime: Kills intestinal nematodes, prevents heartworm and lungworm diseases as well as thelaziosis due to eyeworm infection

Simple and easy administration

Convenient monthly dosing when indicated, easy to remember

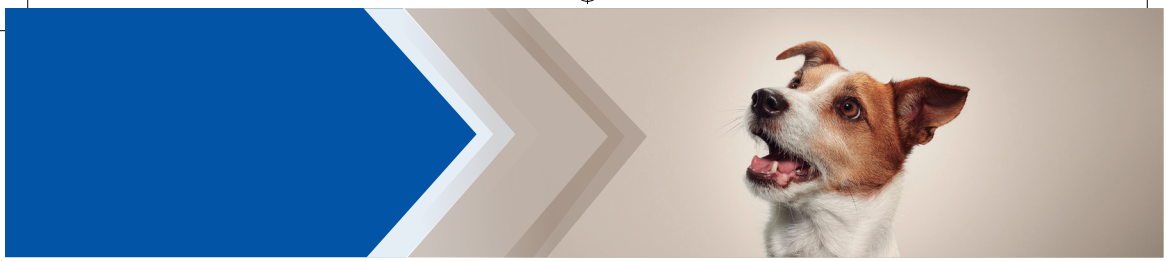
Not affected by feeding

HIGHLY PALATABLE SOFT CHEW

+

MONTHLY ADMINISTRATION

+



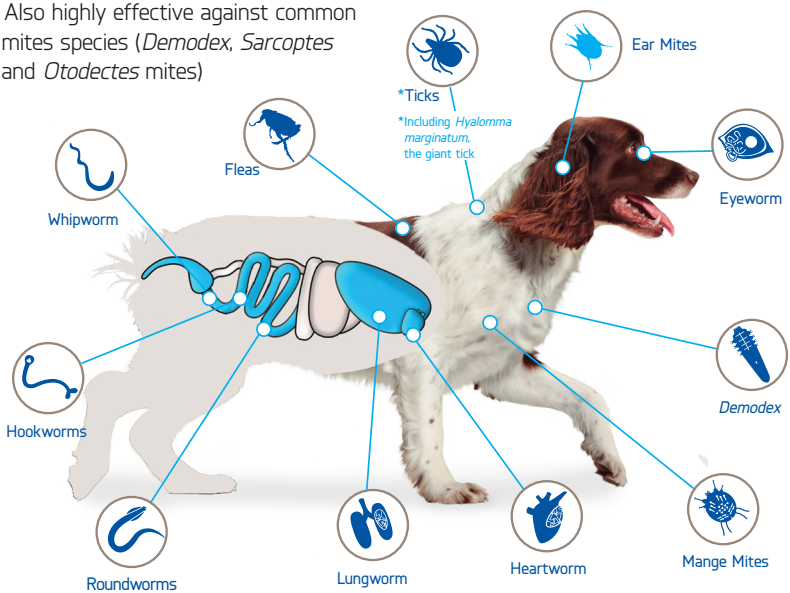
One and Done protection

ECTOPARASITES

- High and sustained efficacy against fleas (*Ctenocephalides felis* and *C. canis*), allowing an indirect prevention of flea tapeworm infestations
- Constant high efficacy against ticks (*Dermacentor reticulatus*, *Ixodes ricinus*, *Ixodes hexagonus*, *Rhipicephalus sanguineus*, *Hyalomma marginatum*)
- Also highly effective against common mites species (*Demodex*, *Sarcoptes* and *Otodectes* mites)

ENDOPARASITES

- Proven efficacy against common gastrointestinal nematodes, as well as in the prevention of heartworm disease, angiostrongylosis, and thelaziosis



WITH OR WITHOUT FOOD

FOR ANY DOG, WITH OR WITHOUT THE MDR1 GENE MUTATION

LUNG WORM · FLEAS · TICKS · ROUNDWORM
DO IT RIGHT
DO IT MONTHLY

The **NexGard®** Range for Dogs

NexGard®

DOGS AND PUPPIES

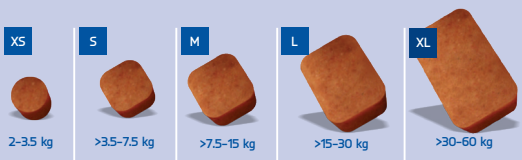
from 8 weeks old and 2 kg

#1 GLOBALLY SELLING PET PARASITICIDE BRAND[5]

NexGard SPECTRA®

DOGS AND PUPPIES

from 8 weeks old and 2 kg



References

1. Doug Carithers, Jordan Crawford, Christa de Vos, Alta Lotriet and Josephus Fourie. Assessment of afoxolaner efficacy against *Otodectes cynotis* infestations of dogs. Parasites & Vectors (2016) 9:635

2. CVMP assessment report for a variation requiring assessment for NexGard® and NexGard SPECTRA® (EMEA/V/C/WS2280/G) EMA/950147/2022

3. Rossella Panarese, Roberta Iatta, Riccardo Paolo Lia, Wilfried Lebon, Frederic Beugnet, Domenico Otranto. Efficacy of afoxolaner (NexGard®) for the treatment of ear mite infestation under field conditions. Veterinary Parasitology 300 (2021) 109607

4. Lebon W., Meyer L., Ezzahra Akki, F., Madder M., Beugnet F. Efficacy of a single administration of Afoxolaner (NexGard®) or Fipronil plus Permethrin (Frontline Tri-Act®) against *Hyalomma marginatum* ticks in Dogs. Veterinary Parasitology: Regional Studies and Reports 25 (2021) 100606

5. NexGard® is the #1 global pet parasiticide in sales, Vetnosis 2021

Prescribing information

NexGard® 11 mg chewable tablets for dogs 2–4 kg, 28 mg chewable tablets for dogs > 4–10 kg, 68 mg chewable tablets for dogs > 10–25 kg, 136 mg chewable tablets for dogs > 25–50 kg. Each tablet contains afoxolaner. **Indications for use:** Treatment of flea infestation in dogs *(Ctenocephalides felis* and *C. canis)* for at least 5 weeks, can be used as part of a treatment strategy for the control of flea allergy dermatitis (FAD). Treatment of tick infestation in dogs *(Dermacentor reticulatus, Ixodes ricinus, Ixodes hexagonus, Rhipicephalus sanguineus, Hyalomma marginatum).* One treatment kills ticks for up to one month. Fleas and ticks must attach to the host and commence feeding in order to be exposed to the active substance. Treatment of demodicosis (caused by *Demodex canis).* Treatment of sarcoptic mange (caused by *Sarcoptes scabiei var. canis*). Treatment of ear mite infestations (caused by *Otodectes cynotis*). **Contraindications, warnings and special precautions:** Do not use in case of hypersensitivity to the active substance or to any of the excipients. Treatment of puppies less than 8 weeks of age and/or dogs less than 2 kg bodyweight should be based on a benefit-risk assessment by the responsible veterinarian. **Use during pregnancy, lactation or lay**: Can be used in breeding, pregnant and lactating female dogs. **Adverse reactions:** Mild gastrointestinal effects (vomiting, diarrhoea), pruritus, lethargy, anorexia, and neurological signs (convulsions, ataxia and muscle tremors) have been reported very rarely. Most reported adverse reactions were self-limiting and of short duration. **Administration:** For oral use. The product should be administered at a dose of 2.7–7 mg/kg bodyweight. For dogs above 50 kg bodyweight, use an appropriate combination of chewable tablets of different/same strengths. For more information about side effects, precautions, warnings and contraindications please refer to the product packaging and package leaflet.

NexGard SPECTRA® 9 mg / 2 mg chewable tablets for dogs 2–3.5 kg; 19 mg / 4 mg chewable tablets for dogs >3.5–7.5 kg; 38 mg / 8 mg chewable tablets for dogs >7.5–15 kg; 75 mg / 15 mg chewable tablets for dogs >15–30 kg; 150 mg / 30 mg chewable tablets for dogs >30–60 kg. Each chewable tablet contains Afoxolaner and Milbemycin oxime. **Indications for use:** For the treatment of flea and tick infestations in dogs when the concurrent prevention of heartworm disease *(Dirofilaria immitis* larvae*)*, angiostrongylosis (reduction in level of immature adults (L5) and adults of *Angiostrongylus vasorum),* thelaziosis (adult *Thelazia callipaeda)* and/or treatment of gastrointestinal nematode infestations is indicated. Treatment of flea infestations *(Ctenocephalides felis and C. canis)* in dogs for 5 weeks. Treatment of tick infestations *(Dermacentor reticulatus, Ixodes ricinus, Ixodes hexagonus, Rhipicephalus sanguineus, Hyalomma marginatum)* in dogs for 4 weeks. Fleas and ticks must attach to the host and commence feeding in order to be exposed to the active substance. Treatment of demodicosis (caused by *Demodex canis).* Treatment of sarcoptic mange (caused by *Sarcoptes scabiei var. canis).* Treatment of ear mite infestations (caused by *Otodectes cynotis*). Treatment of infestations with adult gastrointestinal nematodes of the following species: roundworms *(Toxocara canis* and *Toxascaris leonina),* hookworms *(Ancylostoma caninum, Ancylostoma braziliense* and *Ancylostoma ceylanicum)* and whipworm *(Trichuris vulpis).* Prevention of heartworm disease *(Dirofilaria immitis* larvae*)* with monthly administration. Prevention of angiostrongylosis (by reduction of the level of infection with immature adult (L5) and adult stages of *Angiostrongylus vasorum)* with monthly administration. Prevention of establishment of thelaziosis (adult *Thelazia callipaeda* eyeworm infection) with monthly administration. **Contraindications, warnings and special precautions:** Do not use in cases of hypersensitivity to the active substances or to any of the excipients. In the absence of available data, treatment of puppies less than 8 weeks of age and dogs less than 2 kg bodyweight should be based on a benefit-risk assessment by the responsible veterinarian. In heartworm endemic areas, dogs should be tested for existing heartworm infestation prior to administration of NexGard SPECTRA®. At the discretion of the veterinarian, infested dogs should be treated with an adulticide to remove adult heartworms. NexGard SPECTRA®, is not indicated for microfilariae clearance. The recommended dose should be strictly observed in collies or related breeds. **Use during pregnancy, lactation or lay**: Can be used in breeding, pregnant and lactating female dogs. **Adverse reactions:** Clinical studies: Vomiting, diarrhoea, lethargy, anorexia, and pruritus were uncommonly observed. These occurrences were generally self-limiting and of short duration. Post-marketing safety experience: Erythema and neurological signs (convulsions, ataxia and muscle tremors) have been reported very rarely. **Administration:** For oral use. The product should be administered at a dose of 2.50–5.36 mg/kg of afoxolaner and 0.50–1.07mg/kg of milbemycin oxime. For dogs above 60 kg appropriate combinations of chewable tablets should be used. For more information about side effects, precautions, warnings and contraindications please refer to the product packaging and package leaflet.

Boehringer Ingelheim