

Flubenvet—in feed preventative treatment

Flubenvet 5% premix has the ease and convenience of uniform feed intake

- Approved for use in layer hens, breeder hens, broilers, geese, turkeys, pheasants and partridges
- Kills all life stages of all main poultry worm species, including immature life stages and eggs
- Zero day egg withdrawal for chickens, allowing eggs to be taken for human consumption both during and after treatment

Treatment protocols for different species

Pheasant and Partridges - To combat the deadly gapeworm threat deworm every 3 weeks e.g. week 3, week 7 and week 11 when rearing gamebirds.

Flubenvet 5%: use 60ppm in feed for 7 consecutive days (1.2kg Flubenvet 5% per 1 tonne feed)

The product should only be incorporated into feed by an approved manufacturer.

Flubenvet mode of action

Flubenvet's active ingredient, flubendazole, simultaneously enters the worm through the mouth and skin or cuticle. It acts by binding to tubulin, the dimeric sub-unit protein of the microtubules.

Flubendazole inhibits microtubular assembly in absorptive cells and causes an irreversible lytic degeneration of the cell, killing the parasite. Larval growth in developing worm eggs is also inhibited. Immature, fast-developing worms are particularly sensitive to flubendazole's mode of action.

	Target species	Gapeworm (<i>Syngamus trachea</i>)	Roundworm (<i>Ascaridia galli</i>)	Hairworm (<i>Capillaria spp.</i>)	Caecal worm (<i>Heterakis gallinarum</i>)	Caecal threadworm (<i>Trichostrongylus tenuis</i>)
FLUBENVET PREMIX (Flubendazole in feed)	Chickens, Pheasants, Partridges, Geese, Turkeys	✓	✓	✓	✓	✓
GALLIFEN PREMIX (Fenbendazole in feed)	Chickens, Pheasants	✗	Adult stages only in CHICKENS	✗	Adult + L5 stages only in CHICKENS Adult stages only in PHEASANTS	✗
GALLIFEN (Fenbendazole suspension)	Chickens, Pheasants	✗	Adult stages only in CHICKENS	✗	Adult stages only	✗

With young pheasants being particularly susceptible to gapeworm (*Syngamus trachea*), it's particularly important to use Flubenvet every 3 weeks on infected premises. Flubenvet is the only in-feed dewormer that not only protects against this deadly threat, but also treats all the life stages of all the other worm species listed above. Something no other wormer can claim to do.

Don't take risks with their health and your profits, protect them both with the complete in-feed dewormer.



Only Flubenvet™ treats ALL life stages of ALL the major worm species affecting gamebirds. The evidence speaks for itself.*



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*Flubenvet SPC. 1. Madden J, et al (2018). Why do pheasants released in the UK die and how can we best reduce their natural mortality? European Journal of Wildlife Research. Available at: <https://doi.org/10.1007/s10344-018-1199-5>. 2. Draycott, R. A., Parish, D.M., Woodburn, M.I. & Carroll, J.P. Spring survey of the parasite *Heterakis gallinarum* in wild-living pheasants in Britain. *Veterinary Record* 2000; 147: 245–246. 3. Knott, Lister and Hammond, Worms in Free-Range Hens, *The Poultry Site*, April 2012. <http://www.thepoultrysite.com/articles/1256/worms-in-free-range-hens>. Accessed 13.2.13. 4. Permin A & Hansen J. (1998) FAO Animal Health Manual, Epidemiology, Diagnosis and Control of Poultry Parasites. Food and Agriculture Organisation of United Nations. Rome pp15-34.
Flubenvet 5% w/w Premix for Medicated Feeding Stuff contains 50 mg/g flubendazole. Legal Category POM-VPS. Birds must not be slaughtered for human consumption during treatment. Chickens, turkeys, geese, partridges and pheasants. Withdrawal period: Meat: 7 days Chickens eggs: zero days. To be supplied only on prescription. Advice on the use of Flubenvet or alternative medicines must be sought from the medicine prescriber. Flubenvet, Elanco and the diagonal bar are trademarks of Elanco or its affiliates.
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Parasitic infections in Gamebirds: The hidden threat

A major cause of death in gamebirds

Parasites in gamebirds are a common problem, that can be difficult to identify but have a great impact. It has been suggested that worm burdens can cause the death of up to 19% of released pheasants in the UK!¹

Additionally worms can cause:

- Poor body weight and enteritis
- Poor hatchability and a major cause of chick mortality
- Poor “fitness” for sport
- Respiratory infections (gapes)

All flocks are at risk of infection

Studies have found that all estates across the country are infected with worms, with young birds being particularly susceptible.² Young pheasants are also very susceptible to gapeworm infections (*Syngamus trachea*) which causes serious disease and high mortality.

Syngamus trachea has a rapid lifecycle, once the birds ingest an infective egg, larva or earthworm containing larvae:

- In just 4 – 6 hours larvae can be found in the lungs after having burrowed through the gut wall into the blood stream, potentially causing lung damage
- 7 days later they can be found in the windpipe and have developed into adults, causing the bird to ‘gape’ or ‘snick’

For this reason *Syngamus trachea* infection needs to be tightly controlled, with 3 weekly treatment advised but *Capillaria* and *Ascaridia* infections are also quite common and can cause significant direct and indirect losses.

Why is a targeted worming protocol important?

Internal parasite damage can be hard to detect, but it still causes major economic damage. Poultry worms can be responsible for inefficient growth, lack of uniformity, increased production costs and needlessly high feed costs.

Indications that your flock may have worms include³

- higher mortality rates
- marked variations in the size of the flock
- poor growth
- pale heads
- anaemia
- reduced laying rates
- reduced egg weights
- reduced hatchability



Gapeworm (*Syngamus trachea*) - A major consideration

This species is arguably the most important for gamebirds as it is a major cause of death and respiratory infections in both pheasants and partridges. The parasite inhabits the lungs and windpipe and the birds ‘gape’ or ‘snick’ as they struggle to breath. This worm species has a prepatent period of 21 days (see below).

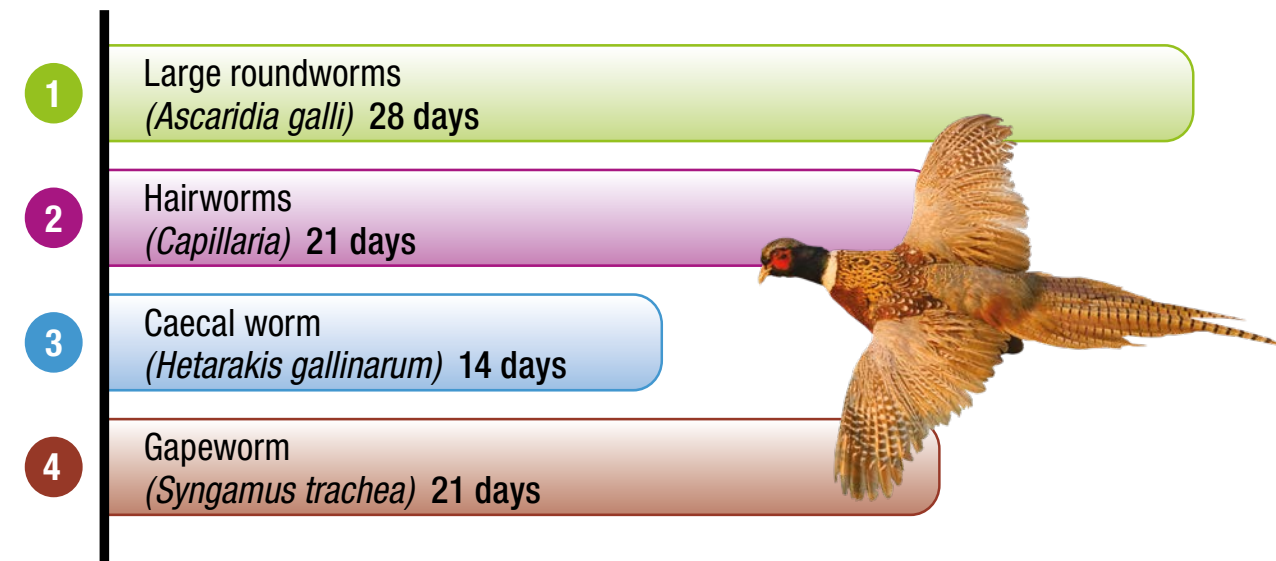
Other important gamebird parasitic species to consider

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| <p>1 Large roundworms (<i>Ascaridia galli</i>) which live in the small intestine and can be up to 2 inches long; in heavy infestations these worms may be visible in fresh droppings</p> | <p>2 Hairworms (<i>Capillaria</i> spp) which are much smaller and are barely visible to the naked eye but can cause significant commercial damage even in moderate infestations</p> | <p>3 Caecal worms (<i>Heterakis gallinarum</i>), a smaller worm inhabiting the lower end of the gut which can transmit blackhead – a serious disease of chickens and turkeys causing diarrhoea, egg drop and sudden death</p> |
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What is the pre-patent period?

The pre-patent period describes the time between ingestion of a parasitic egg or larva by a bird and appearance of mature adult parasites within the bird. These adults are able to continue their lifecycle and produce further eggs which can be detected in the faeces.

Minimum pre-patent periods for the most prevalent poultry worms⁴



Diagnostics

Diagnosis of parasitic burdens can be achieved by carrying out either faecal worm egg counts or by performing post mortem examinations. Neither method is 100% accurate and infections can be missed with either technique. This is especially true of low level/sub-clinical infections.⁴

Prevention

It is almost impossible to completely prevent parasitic worms but there are certain good practices that can help:

- Limiting stocking density and use of paddock rotation where available
- Good drainage of land, especially close to houses
- Removal of heavily contaminated soil around houses before new birds arrive
- Keep environment dry with special attention to area around drinkers and feeders
- Good hygiene and biosecurity – prevent worm eggs being brought in on footwear, equipment, feedbags, etc
- Worm eggs or larvae can be brought in via staff clothing, footwear, materials, trucks, feed bags, wild birds, insects etc. Once the litter is contaminated, it is difficult to break the cycle of continuous reinfection. Once inside the bird, the eggs or larvae develop into adult egg-laying worms that recontaminate the litter.

Tips on worming

- Remember that it isn't just 'gapes' that can infect your birds. Caecal worms, large roundworms and hairworms can also cause problems
- On heavily infected premises, treat with Flubenvet every 3 weeks to control infection and to prevent the shedding of eggs
- Treat the birds just before or immediately after moving to reduce the risk of carrying infection to the new environment
- Using an in feed worming product helps to ensure that water lines remain clean and birds receive the correct dosage of active ingredient.