

3D WORMING™
DIRECTION DOSAGE DELIVERY

BROUGHT TO YOU BY VIRBAC, MANUFACTURERS OF

Eraquell® & EQUIMAX®

WORKING TOGETHER FOR MORE EFFECTIVE WORMING

Horse Owner's Guide to **Sustainable Equine Parasite Control**

Shaping the future of animal health

Virbac

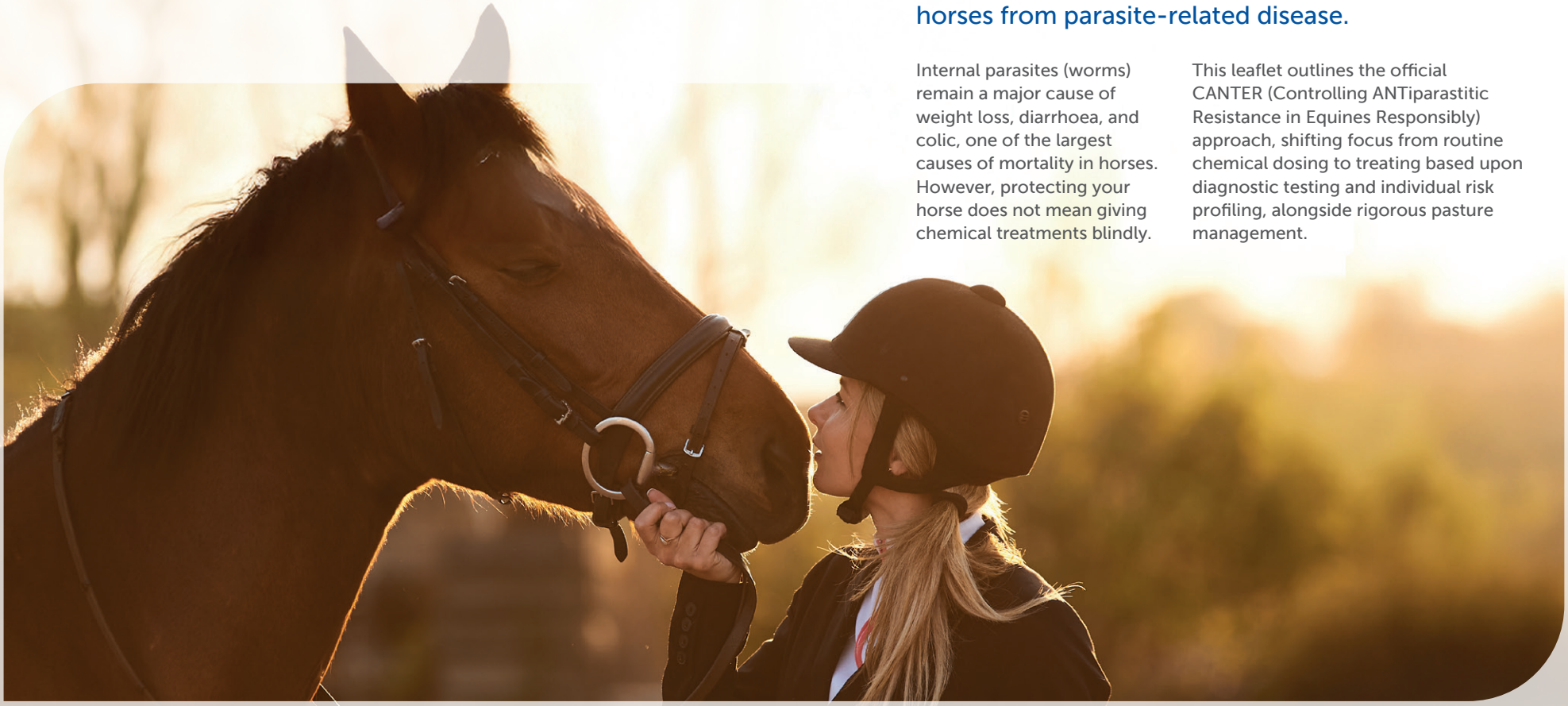
Welcome
to the Modern Approach to Worming

For decades, horse owners relied on routine interval deworming, giving chemical wormers every few months by the calendar.

Today, this approach is outdated and dangerous. Overuse has driven widespread anthelmintic resistance, threatening our ability to protect horses from parasite-related disease.

Internal parasites (worms) remain a major cause of weight loss, diarrhoea, and colic, one of the largest causes of mortality in horses. However, protecting your horse does not mean giving chemical treatments blindly.

This leaflet outlines the official CANTER (Controlling ANTiparastitic Resistance in Equines Responsibly) approach, shifting focus from routine chemical dosing to treating based upon diagnostic testing and individual risk profiling, alongside rigorous pasture management.



PROFILE OF MAIN PARASITES

SMALL REDWORMS

(Cyathostomins / Small Strongyles)

Overview: The most prevalent parasite in horses over 1 year of age. Virtually all grazing horses are exposed.

Lifecycle & Disease Risk

Ingested as larvae from pasture. Larvae burrow and encyst within the large intestinal wall.

Thousands of larvae can accumulate and suddenly emerge en masse in late winter or spring, causing acute larval cyathostominosis, a life-threatening condition marked by severe diarrhoea, rapid weight loss, and colic.

Diagnostics

Standard Faecal Egg Counts (FECs) detect egg shedding from adult worms. Encysted larvae do not produce eggs, so a specialized Small Redworm Blood ELISA test is used to identify total encysted and adult burdens.

Resistance Status

Resistance to benzimidazoles (e.g., fenbendazole) is widespread across the UK, and resistance to pyrantel is common. Reduced effectiveness of macrocyclic lactones (ivermectin and moxidectin) is now emerging, evidenced by significantly shortened Egg Reappearance Periods (ERPs) (dropping from 8–16 weeks down to 4–5 weeks).

TAPEWORM

(Anoplocephala perfoliata)

Overview: The most common equine cestode.

Lifecycle & Disease Risk

Horses become infected on pasture by ingesting oribatid forage mites that contain tapeworm larvae. Tapeworms attach at the ileo-caecal junction of the intestine, causing mucosal irritation and motility disturbances. High burdens are strongly linked to spasmodic colic, gas colic, and fatal ileo-caecal impactions.

Diagnostics

Standard FECs are unreliable (<10% sensitivity) because tapeworms shed eggs sporadically in packets. Diagnosis relies on a saliva or blood antibody ELISA test.

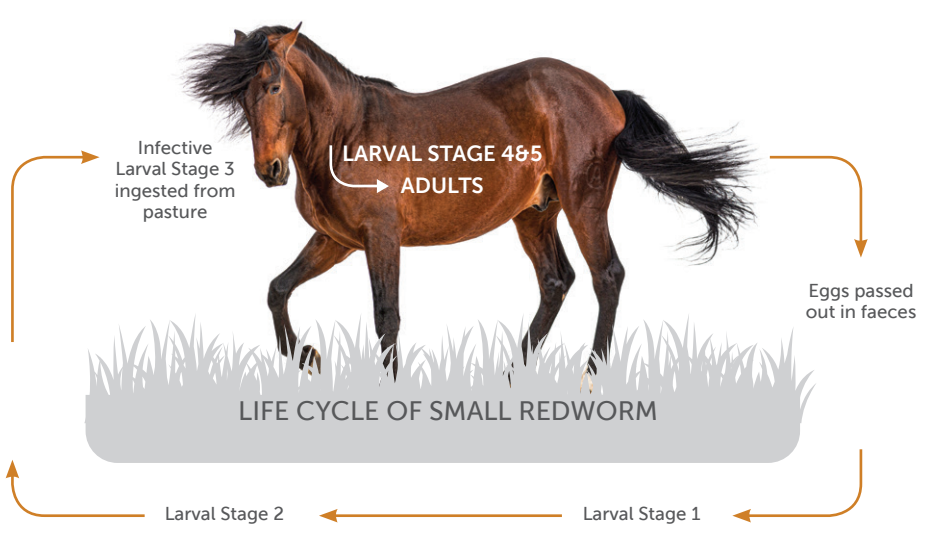
Resistance Status

Concerns and reports of treatment failures with praziquantel and pyrantel are emerging globally.



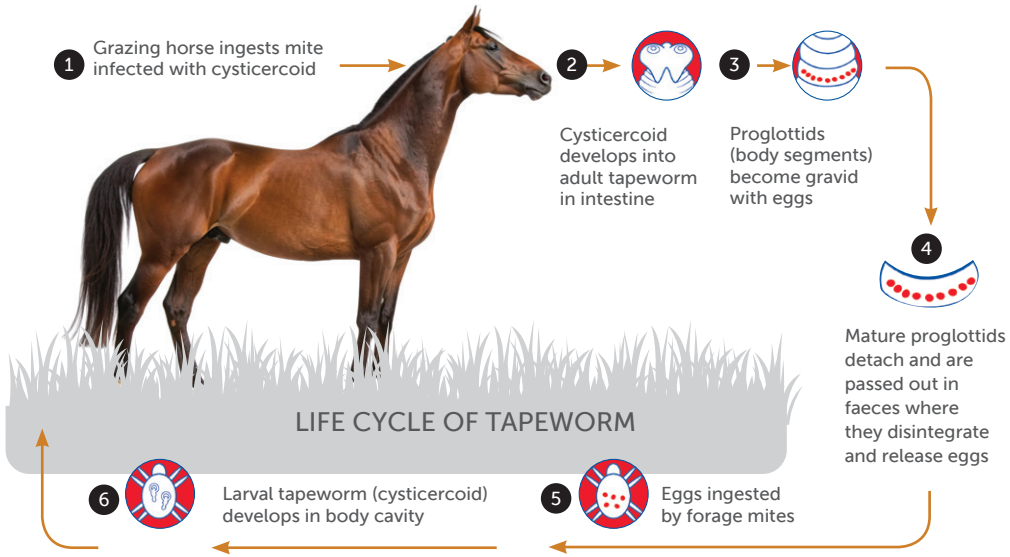
Photo courtesy of Dr Corinne Austin, Austin Davis Biologics.

INTERNAL DEVELOPMENT



EXTERNAL DEVELOPMENT

INTERNAL DEVELOPMENT 1-2 MONTHS



EXTERNAL DEVELOPMENT 2-4 MONTHS

LARGE ROUNDWORMS / ASCARIDS
(Parascaris spp.)

Overview: The most clinically important parasite affecting foals, weanlings, and yearlings.

Lifecycle & Disease Risk

Extremely resilient eggs persist in paddock soil from year to year. Ingested larvae migrate to the lungs and liver from the small intestine.

Heavy burdens of adult worms cause poor condition, respiratory signs,and dangerous small intestinal impactions, which carry a poor prognosis. Immunity naturally develops as horses reach maturity, making ascarid burdens rare in adult horses.

Resistance Status

Widespread resistance to macrocyclic lactones (ivermectin and moxidectin) is reported worldwide. Resistance to pyrantel and fenbendazole is also increasing.



LARGE REDWORMS
(Strongylus vulgaris)

Overview: Historically the most dangerous equine parasite, now rare in managed UK herds due to historical wormer use.

Lifecycle & Disease Risk

Larvae migrate through the cranial mesenteric arteries supplying blood to the gut, causing blood clots and non-strangulating intestinal infarction (gut death) resulting in severe colic or peritonitis.

Diagnostics

Eggs look identical to small redworm eggs under a microscope. Specialized larval culture or PCR testing is required to identify them. Macrocyclic lactones remain highly effective against arterial larval stages.

EQUINE PINWORMS
(Oxyuris equi)

Lifecycle & Disease Risk

Adult females crawl out of the rectum to lay eggs in a sticky, yellowish residue around the anus. This causes intense perianal itching, leading to tail rubbing, broken skin, and secondary infections. They do not cause internal organ damage.

Diagnostics

Not detected on standard FECs. Diagnosed via a perianal 'Tape Test'.

Resistance Status

Widespread resistance to ivermectin and moxidectin is documented. Fenbendazole or pyrantel are preferred oral treatments, combined with daily perianal washing.

OTHER PARASITE THREATS & DONKEY CONSIDERATIONS

BOT FLY LARVAE
(Gasterophilus spp.)

Lifecycle

Bot flies lay tiny yellow eggs on the horse's coat/legs during summer. Horses ingest them while grooming, and larvae attach to the stomach lining over winter before being passed out in spring manure.

Disease Risk & Control

Rarely cause clinical disease in the stomach. Specific chemical treatment is usually unnecessary; physical removal of eggs using a grooming blade is the best preventative measure.



LUNGWORM, FLUKE & THREADWORM

Lungworm
(Dictyocaulus arnfieldi)

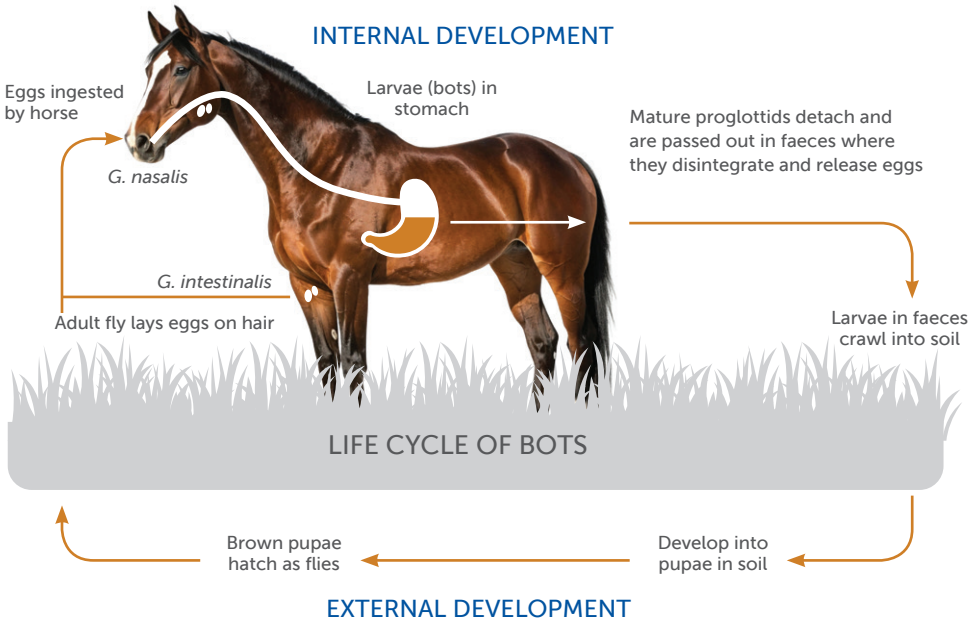
Donkeys are the natural host/reservoir and tolerate infection without clinical signs. In horses co-grazed with donkeys, lungworms cause severe chronic coughing and bronchitis.

Threadworm
(Strongyloides westeri)

Affects young foals; occasionally associated with foal diarrhoea.

Liver Fluke
(Fasciola hepatica)

Transmitted via mud snails on wet pastures, particularly where equids co-graze with cattle or sheep. Can cause liver disease, alongside other clinical signs.



THE THREAT OF RESISTANCE & THE "80/20" RULE

Why Routine Deworming Is Dangerously Outdated

No New Dewormers: No new classes of equine anthelmintics are being developed. Preserving the four existing active drug groups (Benzimidazoles, Pyrantel, Macrocyclic Lactones, Praziquantel) is essential.

Over-Dispersion Principle: In adult horse populations, parasites are not spread evenly. Roughly 20% of horses excrete 80% of the worm eggs onto pasture, while 70–90% naturally maintain low egg shedding.

Targeted Dosing: Routine FEC testing identifies the high shedders requiring treatment, allowing low shedders to avoid unnecessary chemical exposure.

Treatment Threshold: A cut-off threshold of 200–500 eggs per gram (EPG) is standard for considering strongyle treatment in healthy adult horses.

How to Collect an Accurate FEC Sample

1. Collect five small pinches from at least three fresh dung balls.
2. Exclude air from the sample container or bag.
3. Store cool (<6°C) and submit to your laboratory/vet within 12 hours to 5 days.

THE CANTER RISK PROFILE FRAMEWORK

Assessing Your Equid's Individual Risk

Prescribers evaluate five core factors (C-A-N-T-E-R) to place horses into Amber (Low Risk), Orange (Medium Risk), or Purple (High Risk) categories:



C **Clinical History:** No history of parasite-related gastrointestinal disease or unexplained weight loss in the last 24 months indicates lower risk.

A **Age Profile:** Adult horses aged 5–20 years with no underlying disease are at lowest risk. Horses <5 years, geriatrics >20 years, or those with PPID (Cushing's) are higher risk.

N **Number of Horses:** Low stocking density (>2 acres per horse) reduces transmission risk. High density (<1 acre per horse) dramatically increases egg and larvae intake.

T **Test Results:** Serial FECs showing consistently low EPG (<200) and negative ELISA test results confirm low-risk status.

E **Environment:** Closed herds, strict quarantine for new arrivals, and good paddock hygiene lower transmission risk.

R **Risk Profile:** Combines all factors to dictate whether targeted treatment is necessary.

SEASONAL DIAGNOSTIC CALENDAR FOR ADULT HORSES

YEAR-ROUND DIAGNOSTIC PLAN

SPRING

- Perform a Faecal Egg Count (FEC) for strongyle shedding.
- Perform a Tapeworm ELISA test (saliva or blood) to check exposure before determining if anti-tapeworm treatment is needed.

SUMMER

- Perform a Faecal Egg Count (FEC) for strongyle shedding.
- Perform one Faecal Egg Count Reduction Test (FECRT) annually across the herd (testing FEC pre-treatment and 14 days post-treatment) to verify that your wormers are actively working.

AUTUMN

- Perform an autumn Tapeworm ELISA test.
- Perform a Faecal Egg Count (FEC) for strongyle shedding.

LATE AUTUMN / WINTER

- Risk-assess for encysted small redworms.
- In low-risk mature horses, use the Small Redworm Blood ELISA test alongside serial FECs to decide whether larvicidal treatment (moxidectin or a 5-day fenbendazole course) is necessary, rather than blanket treating.

TAILORED STRATEGY FOR FOALS & YOUNGSTOCK

Young Horses Need Special Protection



Foals and yearlings lack mature immunity and face different parasite threats than adult horses.

- **Ascarid Focus (<6 Months):** Because *Parascaris* larvae cause disease before laying eggs, routine treatment is recommended at 2–3 months of age (typically using single-dose fenbendazole). Caution: Paralytic wormers (pyrantel/macrocyclic lactones) can cause sudden intestinal impaction in heavy ascarid burdens.
- **Monitoring Transition (4–9 Months):** Perform FECs every 8 weeks starting from 4 months of age to monitor the shift from ascarid-dominated infections to strongyles/tapeworms and select the appropriate active ingredient.
- **Annual Larvicidal Dosing:** Yearlings and 1–3-year-olds are highly susceptible to acute larval cyathostominosis; an annual winter larvicidal treatment is recommended for this age group.
- **Check Age Limits:** Always verify minimum age restrictions on product labels (e.g., moxidectin is not licensed for foals under 4 months).

ENVIRONMENTAL CARE & SOIL ECOSYSTEMS

Protecting Non-Target Wildlife

Anthelmintic active ingredients administered to horses are excreted predominantly in manure.

- **Dung Beetles & Soil Health:** Macrocyclic lactones (especially ivermectin) are toxic to non-target dung beetles and soil invertebrates essential for degrading manure, aerating pasture, and carbon cycling.
- **Watercourse Protection:** Keep recently treated horses away from streams, rivers, and ponds to prevent chemical residue runoff into aquatic ecosystems.
- **Muck Heap Management:** Locate muck heaps away from grazing fields and water sources. Ensure manure undergoes proper thermophilic composting (reaching core temperatures >40°C for at least a week) before spreading onto pasture to break down drug residues and kill infective larvae.



PASTURE MANAGEMENT & ACCURATE DOSING

MANAGEMENT IS YOUR MOST EFFECTIVE WORMER

- **Twice-Weekly Poo-Picking:** Removing manure at least 1–2 times per week mechanically breaks parasite lifecycles. In summer temperatures (25–33°C), strongyle eggs develop into infective L3 larvae in just 3–4 days.
- **Stocking Density:** Maintain adequate pasture space. Horses kept under borderline or inadequate grazing conditions (≤0.1–0.3 hectares per horse) have a 6- to 11-fold increased risk of tapeworm infection.
- **Cross-Grazing:** Alternate pastures with sheep or cattle to naturally cleanse grazing fields, as most equine worms cannot infect ruminants.





DOSING CORRECTLY

- **Weigh Accurately:** Visual weight estimation usually leads to under-dosing, which directly accelerates drug resistance. Always use a validated weigh tape or weighbridge.
- **Avoid Spit-Out:** Ensure the horse's mouth is empty, insert the syringe into the side of the mouth, and elevate the head.



PASSPORTS, RECORDS & LEGAL RULES

Record Keeping Obligations

- **Equine Passports:** All UK equids are legally classified as food-producing animals unless declared otherwise. Make sure you have your equids passport available when purchasing a wormer as subscribers should check it.
- **5-Year Record Retention:** Maintain full records of all administered wormers, laboratory test results (FEC, ELISA, FECRT), and prescriptions for at least five years.
- **Reporting Lack of Efficacy:** If a wormer fails to perform as expected, notify your vet or Registered Animal Medicines Advisor (RAMA/SQP) so a formal report can be submitted to the Veterinary Medicines Directorate (VMD).



DID YOU KNOW?

Veterinary Surgeons and Registered Animal Medicines Advisors (RAMAs/ SQPs) can help you navigate:

1. Selecting and timing the correct diagnostic tests.
2. Interpreting laboratory results alongside your horse's CANTER Risk Profile.
3. Prescribing the right active substance only when clinical need is established.

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