

WORM CONTROL IN DEER

Get your head out of the sand!



Address to DIFF Field Day
The Steyning
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Wormwise Agreed Principles

Application to Deer

- *Healthy animals have worms
and always will* ✓
- *Well fed animals are less affected
by worms* ✓
- *Some animals are more affected than
others (genetics)* ✓
- *Animals can be selected for resistance
and or resilience to worms* ✓

Application to Deer

- *Most of the year most of the worms are on pasture* ✓
- *Drenches have limited lives & wont last/work effectively for ever* ✓
- *Farmers control the rate of development of drench resistance on their farm* ✓
- *Each and every farm is different* ✓
- *Long acting drenches can hasten the development of drench resistance* ✓
- *Drench resistance on a farm is permanent* ✓

Are deer any different to sheep/beef?

- In the wild → Yes
 - browsers
 - small groups → no monocultures
 - mobile
 - very low challenge with worms
 - No (?) historical selection for Resistance and Resilience

Different: (continued).....

- Domestically

- confined

- increasing intensification/grazing pressure

- age groups = monocultures

 - eg - all weaners run together

 - eg - MA velvetters over winter

- Worm challenge same (?) as sheep and cattle

So effectively and parasitologically they must be regarded as the “same” as sheep and cattle

Re

- worms cycle through host
- worms breed in host and multiply
- worms deposited onto pasture
- worms develop on pasture egg → larvae
- worms picked up = eaten off pasture
- cycle continues
- cycle exacerbated by modern deer farming management.

Current Deer Drenching Practices

Ref National Survey IVABS Massey University: Castillo-Alcala et al

- 470/500 Deer Farmers drenched deer \geq once in last 12 months
- 265/500 Deer Farmers drenched all stock classes
- 110/500 Deer Farmers drenched weaners only

Heavy reliance on drenches in NZ deer industry

- 180/500 Deer Farmers used scales to assess liveweight for drenching

Is underdosing an issue?

- 25/500 Deer Farmers treated “poor” animals only

Targeted Selected Treatment (TST) not practiced

Drenches used for weaners

- >80% Macrocyclic Lactones pour ons -
 - Moxidectin most common (Cydectin/Vetdectin)
 - Abacmectin 2nd Genesis
 - Eprinomectin 3rd Eprinex
 - Ivermectin 4th
- ~17% Benzimidazoles – white drenches
 - Oxfen/Valbazen
- 66% farmers drenched weaners 3+ times in 1st year

Productive/Cost Effective

- “Probably” but 53% of you were either moderately or not convinced.
- Lungworm cleanout is critical to productivity in weaners
- Gastrointestinal worms increasingly significant?
 - abomasum = 4th stomach- Yes
 - Large Intestine -Probably
 - changing with time? Probably-due to intensification

Local Situation (CHB) #1

The Steyning:

Percent Worm Reduction (=kill) after Oxfen (BZ oral) and Genesis (Abamectin Oral and Pour On)

	Gut Worms	Lung Worms
Oxfen Oral	79%	<100%
Genesis Oral	89%	<100%
Genesis Pour On	79%	<100%

Surviving gut worms – Ostertagia and Trichostrongylus
=plenty of resistant worms left in gut!!!!!!!

Local Situation CHB #2

- 21% removal of worms post 10 days Moxidectin Pour On
 - =79% still there
- Predominantly Trichostrongylus – v pathogenic (damaging)-all in gut.
- Suboptimal growth-you bet ya!!!

So what are sheep and beef farmers doing that's different?

1. Awareness of worms as the single most important “management sensitive “production constraint they face

= heads out of the sand

- FECRT / FEC / Drencheck / Wormwise
- BWT / BCS / Benchmark KPI's
- R & D inputs and emphasis
- Agronomics

2. Mostly using oral drenching

- increased efficacy / accuracy?
- less underdosing?
- more routine weighing?

3. Practicing Refugia / TST

- top 5-10% lambs undrenched
- elongated drenching intervals based on realistic triggers (FEC)
- less/no / minimal adult drenching
- different inputs based on thrift/BCS
- age group integration or cross grazing

4. More integrated grazing

- Same species different age e.g. weaned ewes with lambs
- Different species sheep : cattle : deer
- Strategic use of “crops” to break or decrease worm cycle based on assessed risk

5. Adapting management to fit intensification

- More intensive= more monitoring
- Quantitative feedback x slaughter

6. Genetic selection

- for more resistant / resilient animals esp

Seedstock

- Maintain “Susceptible” worms = Refugia

7. New Active(s) available

Monepantel – not registered for Deer

Derquantel – probably will not be registered for Deer

= new hope / increased dilution of

Resistant genes

Practical Solutions

1. Refugia

- Leave top 5% every mob you go to drench undrenched
 - based on BWT/BCS
 - need to upskill and QC on this
 - more left undrenched as deer get older until not drenching adults at all!
- Run older deer with weaners and don't drench them ie the older ones
 - Cull hind's with fawns until after mating
 - Mated hinds after mating until close to fawning – leaders
 - Both add susceptible parasites to dilute Resistant survivors
- Don't drench (all) MA velvetters post roar

2. Integrated Grazing

1. Put undrenched hinds or R2 hinds through weaner paddocks in late autumn/winter after weaners shifted – before frosts (May – post roar?)
i.e. incorporate and include undrenched “S” producing deer in weaner rotation.
→ need to be aware of reducing feed covers too much
a quick flick
→ it will all help. Solution to pollution is dilution
2. → Incorporate sheep and/or cattle in deer rotations.

3. Utilization of “Clean Pasture”

Don't drench and place immediately onto clean pasture or fresh crop = high risk of Resistant worms dominating

- Practical solution:

 - drench 1-2 weeks before going onto crop or

 - drench 1-2 week after going onto crop

 - especially important with R1 deer

Clean pasture = any crop prior to 1st grazing
silage/hay aftermath

country grazed solely by another species

4. Basic Nutrition

Lift covers = ↓ worm output and pickup
= double whammy
↑ animals base immunity
= triple whammy!!!

Critically assess

production / profitability

vs stock rate vs input costs

Have you got it right?

5. Do the hard yards!

- Drench orally
- If use Pour Ons apply very carefully . This takes time, patience, perseverance, accuracy
- Don't use Pour On drenches as Tick treatments = extra / unnecessary exposure of worms to chemicals
- Invest in knowledge of managing worms as well as deer = professional development

Drop the “Pioneer” mentality.....

You jumped out of helicopters to set this industry up – you were

- Brave
- Innovative
- Self reliant
- Uncompromising

Suck the proverbial and.....

- Follow the lead of the Sheep and Beef Industry
- Reinvest in current knowledge
- Avoid an inevitable slide into predictable problems