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Worm control in beef cattle Optimising production in weaners



Current treatment recommendations

Spring calving herds in Victoria

Spring calving	Jan	Weaning (Feb-Apr)	Jun/Jul	Jul/Aug	Aug/Sept
Weaners		✓	(✓)		(✓)
Yearlings					
1 st /2 nd calvers	✓			(✓)	
Mature cows	(✓)				

Source: Mackinnon Project Technote (Anderson et al.)



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Current treatment recommendations

Autumn calving herds in Victoria

Autumn calving	Weaning (Dec-Feb)	Jan	Jun/Jul
Weaners	✓		(✓)
Yearlings			
1 st /2 nd calvers		✓	
Mature cows		(✓)	

Source: Mackinnon Project Technote (Anderson et al.)



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Producer Demonstration Site (PDS) Project 2010/2011

Key findings

- 1) **Worm egg counts (WECs) are useful but don't give the full story**
- 2) **Anthelmintic resistance is occurring in beef cattle**
- 3) **Limited knowledge exists as to what drench to use and when**
 - timing
 - strategic rotation
 - product potency and duration of action



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Monitoring

WECs can be useful

Bulk worm egg count (WEC) = 0 epg

Individual worm egg counts (x 15) = 0 epg



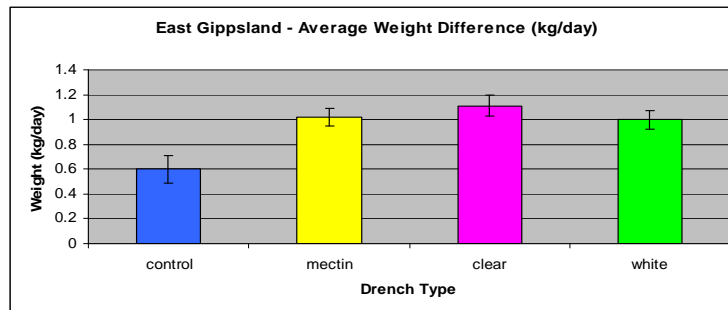
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Short term impact on production

WECs don't give the full picture - 1

Significant difference in weight gain at **50 epg** over 14 days



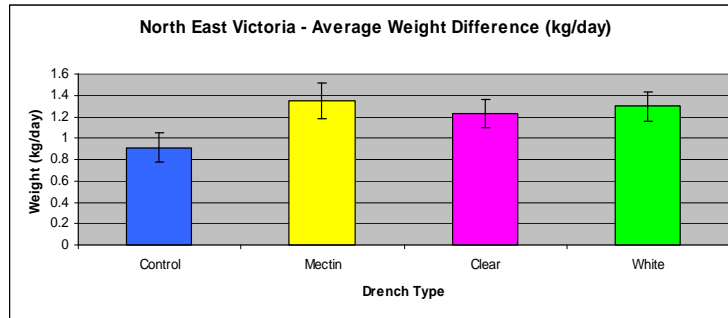
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Short term impact on production

WECs don't give the full picture – 2

Significant difference in weight gain at 61 epg over 14 days



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Long term impact on production

PDS trial site



Trial (Gippsland)

→ ongoing impact on weight gain

- control group undrenched all year
- treatment groups to receive recommended repeat treatments (*white, clear, ML with known efficacy/resistance status*)
- impact on weight gain and/or compensatory growth assessed

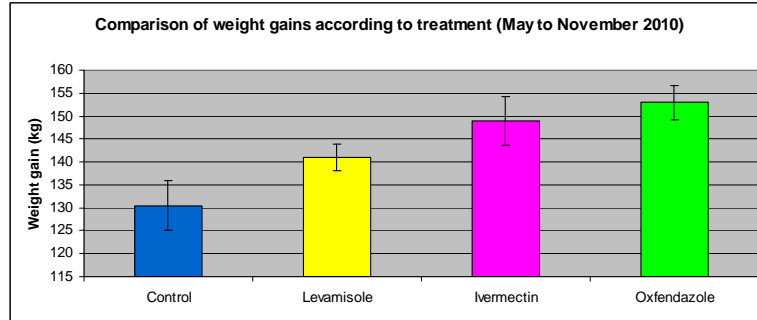


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Long term impact on production

Strategic drenching is important



Control WEC = < 63 epg all year (<12% *Ostertagia* on larval culture)



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Victoria

Significant worms in cattle

Ostertagia
most pathogenic
low egg output

Cooperia
less pathogenic
high egg output



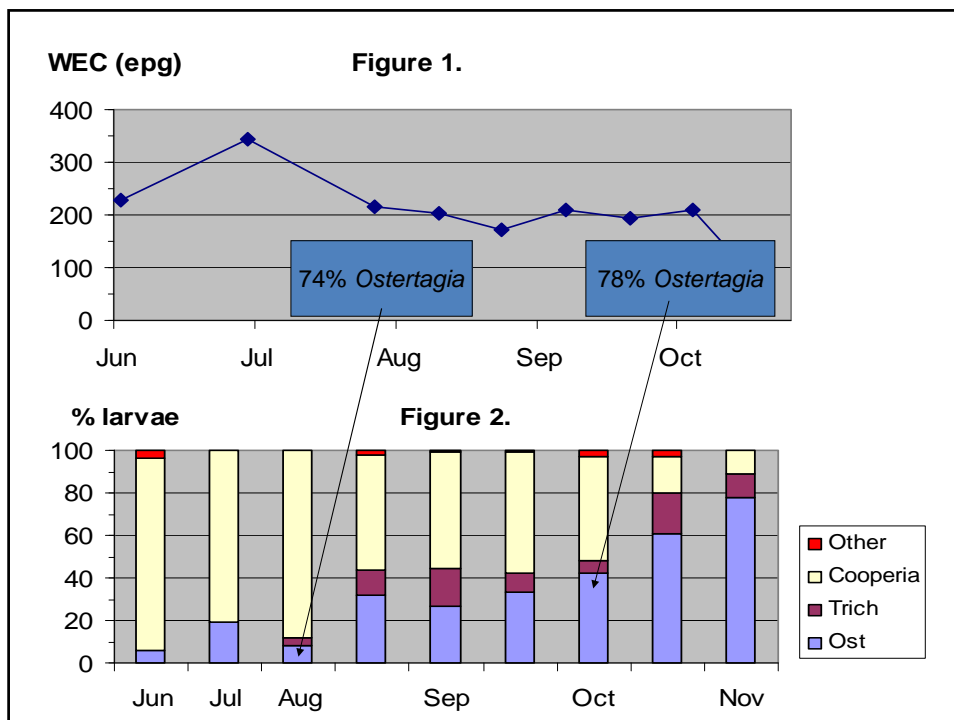
Therefore: **low egg counts** can be quite significant

(Other worms including *Trichostrongylus axei* can also be significant)



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Drench efficacy

Resistance is developing

What worm species were resistant?

- mainly *Cooperia*
- also *Ostertagia* at low levels

Why is it happening?

- little variation in product use in cattle
- almost sole use of MLs

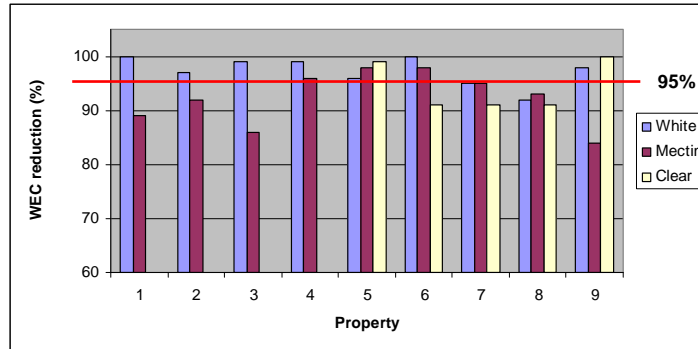
Why has it taken so long to develop?

- less frequent drenching of cattle
- protection of larvae in cow pats (*refugia*)



PDS data

Summary of drench efficacy



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Drench efficacy

Example property data

Drench Group	Control	White	Clear	Ivermectin	Abamectin
Average WEC	141 epg	11 epg	13 epg	9 epg	7 epg
% reduction		92%	91%	93%	95%
Drench Status		Resistant	Resistant	Resistant	Marginal?



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Drench efficacy

Drench choices

MLs (*Ivermectin*<*Abamectin*<*Moxidectin*/*Doramectin*/*Eprinomectin*)

White drenches (*BZs*: *Oxfendazole*, *Fenbendazole*)

- effective against inhibited *Ostertagia* larvae
- **very useful alternative to MLs**

Clear drenches (*Levamisole*)

- not effective against inhibited *Ostertagia* larvae
- **check effectiveness on your property**

Quarantine drenches?
Combination drenches?



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Producer Demonstration Site (PDS) Project 2010/2011

Recommendations

- 1) Improve monitoring of when to drench**
 - WECs *plus* weight, nutrition, paddock, clinical appearance
- 2) Confirm drenches being used are effective**
 - carry out check tests post-drenching
- 3) Alternate effective drenches between seasons**
 - be aware of active ingredient in product
 - select drench according to purpose



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