



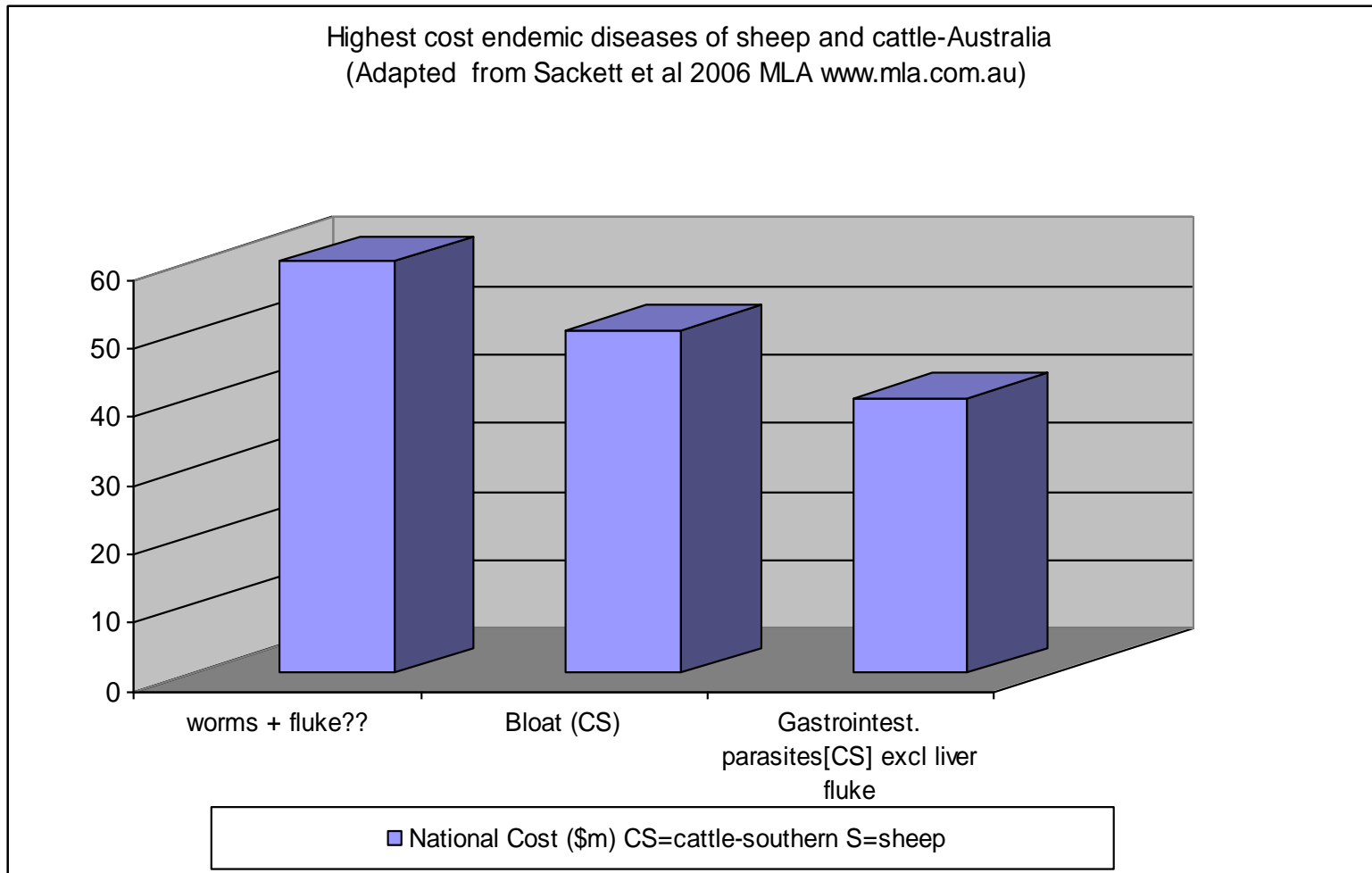
Primary
Industries

Cattle drench resistance

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Graham Centre Beef Day 9 August Wagga Wagga NSW

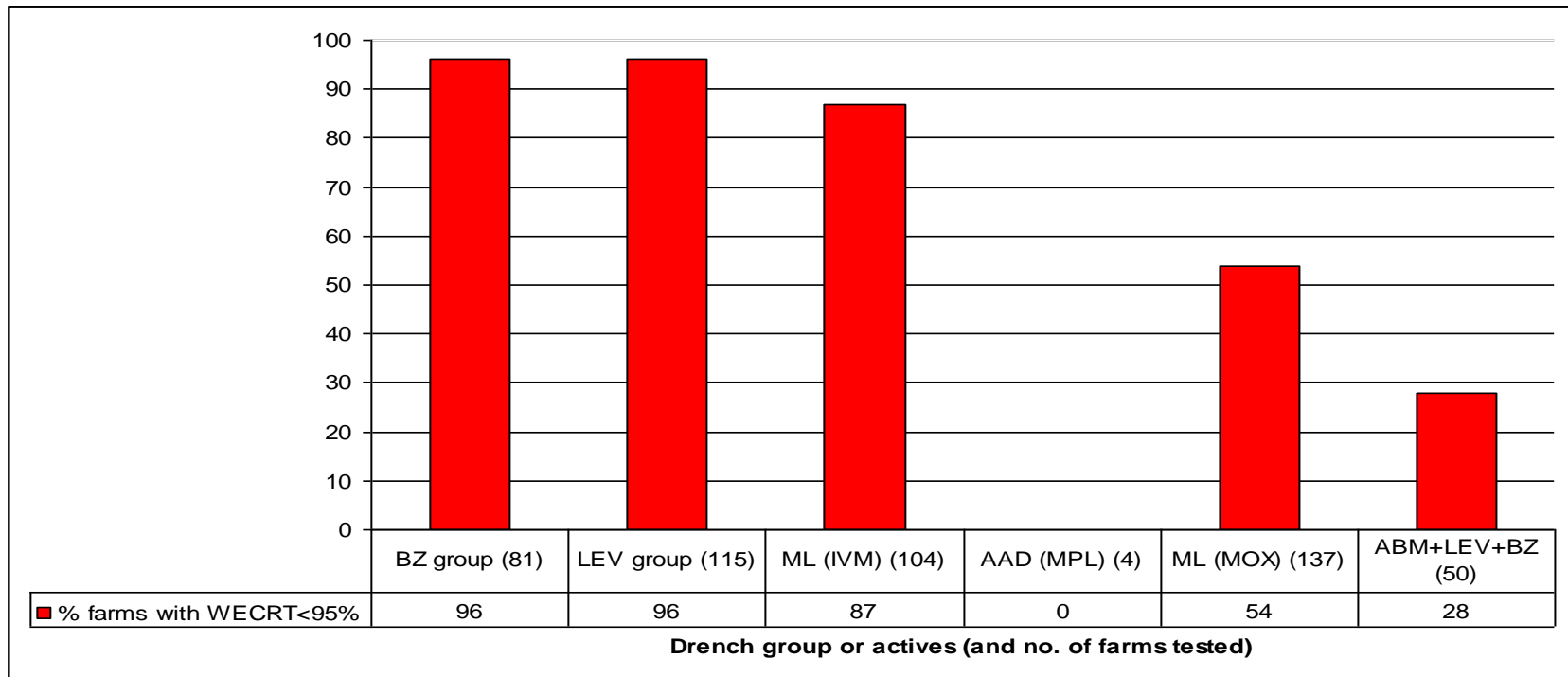
Worms are important! (if not obviously so)



Worms: number one or two in cattle (southern AU)

Resistance (**sheep** worms) overview Australia ~ 2009-2012

% of farms with efficacy (WECRT %) < 95% in any of *Haemonchus*, *Trichostrongylus* or *Teladorsagia* spp.



Percent of (sheep) farms with efficacy (WECRT %) less than 95% in any of *Haemonchus*, *Trichostrongylus* or *Teladorsagia* spp.
(Australia wide, 2009-2012) (Bailey *et al.* 2013)

BZ=benzimidazole group. LEV=levamisole group. ML=macrocyclic lactone group. IVM=ivermectin, which, like MOX and ABM, is an ML.
AAD=aminoacetonitrile derivatives group. MPL=monepantel, which is an AAD. MOX=moxidectin. ABM=abamectin. WECRT%=efficacy=%
reduction in worm egg count after treatment. *Haemonchus*=barber's pole worm. *Trichostrongylus*=black scour worm (and stomach hair worm).
Teladorsagia (*Ostertagia*) *circumcincta*=small brown stomach worm.

no longer just sheep worms

- resistance: no longer just a problem of worms of sheep / goats
 - cattle worms now affected too

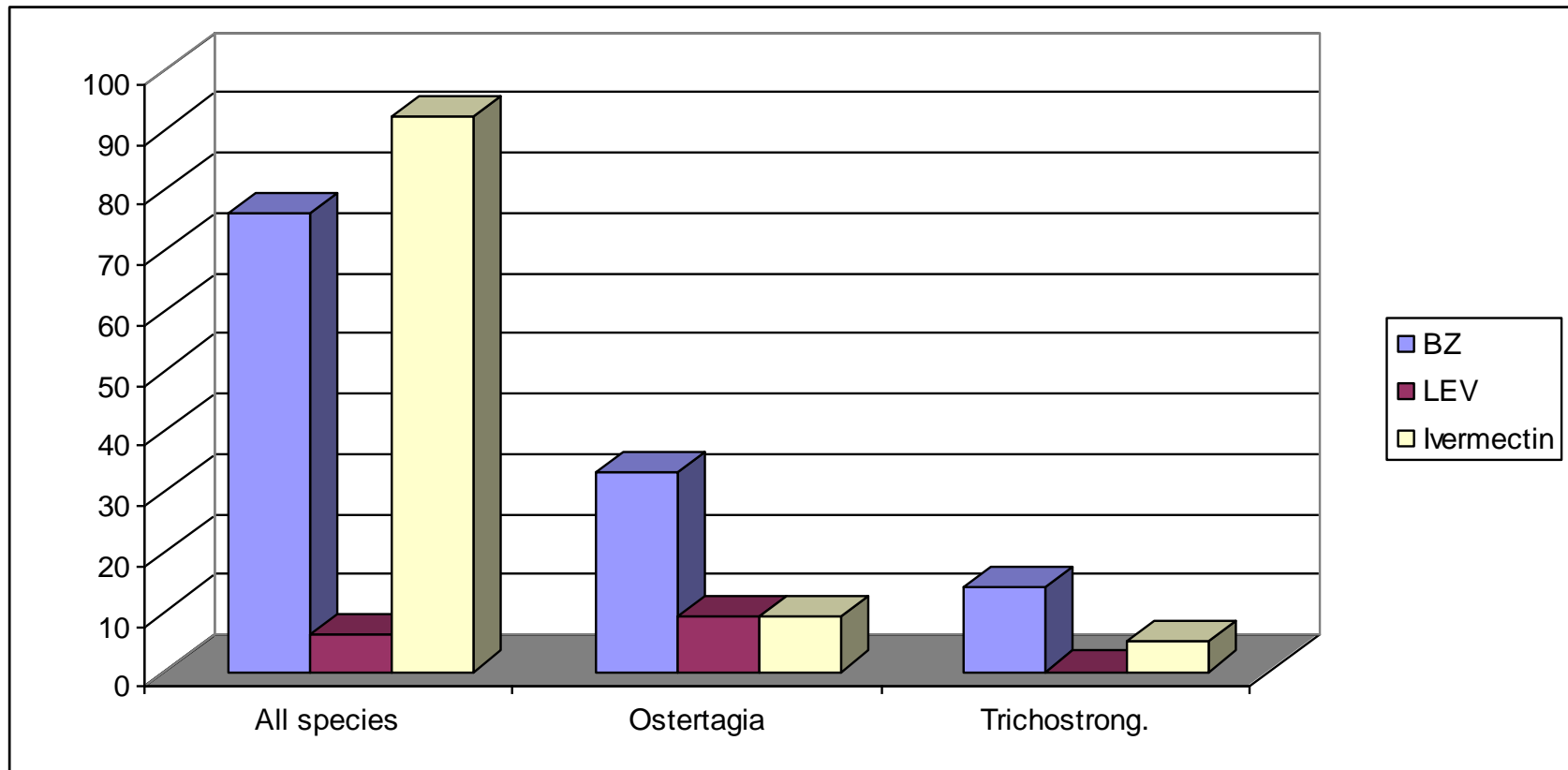
Resistance – recent interest

Cattle roundworms resistant to drugs

- Known in Australia for 20-30 years+
 - e.g. Eagleson and others, 1986 and 1992*
 - mostly regarded as a curiosity
- Resistance surveys in New Zealand
 - e.g. Waghorn and others (2006)
 - stimulated interest in reviewing the situation in Australia.

* BZ-resistant *T. axei* (stomach hair worm)

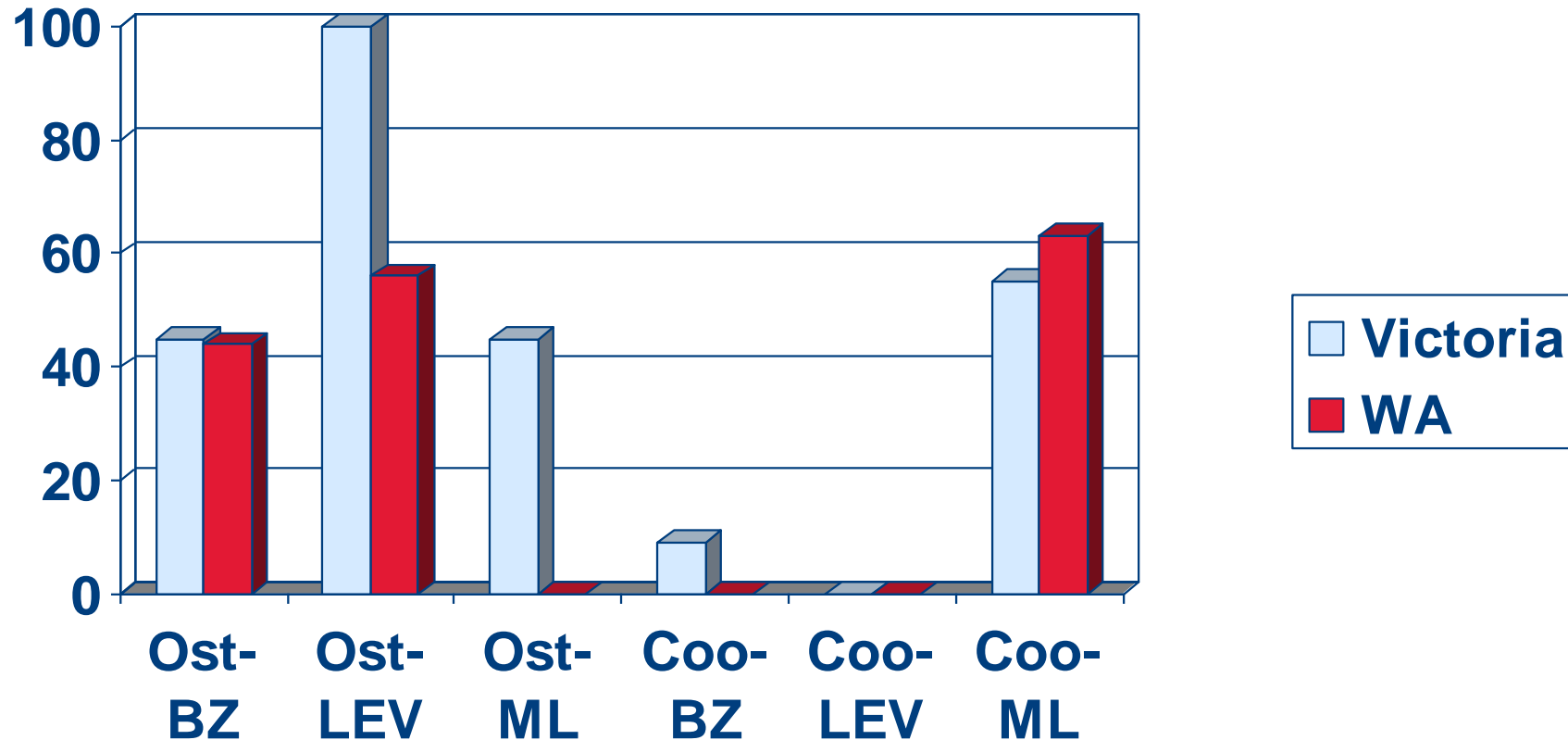
Cattle worm resistance North Island NZ, 2005*



Source: Waghorn (2006).

*Proportion (%) of farms with less than 95 percent reduction in worm egg counts following treatment. Sixty two farms surveyed. BZ=benzimidazole, LEV=levamisole.

Summary of recent Western Australia and Victorian drench resistance trials (beef cattle)*



'Efficacy' = WECR=faecal worm egg count reduction after drenching. * Victoria (Rendell, 2010) ** Western Australia (Cotter, Besier et al, 2010-11) Ost=Ostertagia (small brown stomach worm) Coo=Cooperia (small intestinal worm) BZ=benzimidazole ('white') LEV=levamisole ML=macrocytic lactone ('ML', 'mectin'). **Note: oral formulations used**, except injectable ivermectin in WA trials. ***WECR less than 95%" means there could be resistance**

Recent local cases*

Illthrift investigations (cattle). Drench resistance suspected.

- **Near Holbrook.** Ten days after **ivermectin** (backline): average egg count: 182 epg. Worm species left: barber's pole worm (*Haemonchus*), small intestinal worm (*Cooperia*), and small brown stomach worm (*Ostertagia*).
- **Cattle near Wagga. Eprinomectin®** backline. 13 days after treatment: counts up to 200 epg. PM of one steer:
abomasum: *Haemonchus* ~140 worms, ~60 *Ostertagia*.
small intestine: ~1020 *Cooperia*.

*Dr Tony Morton District Vet Hume LHPA (Wagga Wagga)

Resistance to fluke drenches

- Sheep and cattle: prevalence unknown; sporadic cases*
- Resistance found (SE Australia):
 - Sheep: triclabendazole; closantel/rafoxanide**
 - Cattle: triclabendazole
- Checking efficacy: do fluke worm egg counts***
 - On or just before day of drenching
 - 28 days after

*incl. recent case of flukicide (TCBZ, sheep) resistance in the Riverina (Berrigan))

** Rafoxanide (Ranide®) and closantel are in the same family (salicylanilides)

*** Alternative test: fluke faecal antigen test (available at Vet Diagnostic Lab, CSU Wagga Wagga)

Checking cattle drench efficacy: getting help

In no particular order:

- LHPA / Local Land Services Vets
- Private vets
- Drench company vets * and/or area managers
- Rural resellers

* Dr Vanessa Watson, Merial is here today and looking for co-operators (cattle drench efficacy trials).

Summary

Drench resistance (cattle worms)

- It's here. Likely to worsen
- **Check drenches** on your farm. WEC 14 days after drench (and preferably on day of drench as well)
- **Rotate** broad-spectrum drenches* and/or use broad-spectrum **combinations**. (Currently in AU: Eclipse®)

Drench formulations

- NZ trials** showed **oral was better** than injectable or pour-on (worms in the main were mostly variably resistant Cooperia)
- Even better: combinations of unrelated oral broad-spectrum drenches ??

Weaners and worms (higher rainfall areas)

- Develop and test a good strategy
- WECs alone not a good guide to worminess in cattle
- Monitor weight gains. Do 'diagnostic' drench?
- Consider grazing management

Don't forget liver fluke

WEC: worm egg count * Drench rotation e.g.. ML, then BZ next time, then LEV next time i.e. don't use MLs all the time...or at least use a ML combined with another broad-spectrum drench. ** Leathwick and Miller, 2012

Thank-you for your attention 😊

