Insect populations of six dryland pastures grown in Canterbury

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Publication details

This presentation was made at the 78th annual New Zealand Grasslands Conference held at Caroline Bay Hall, Timaru 2-4 Nov 2016.

It is associated with the following publication:

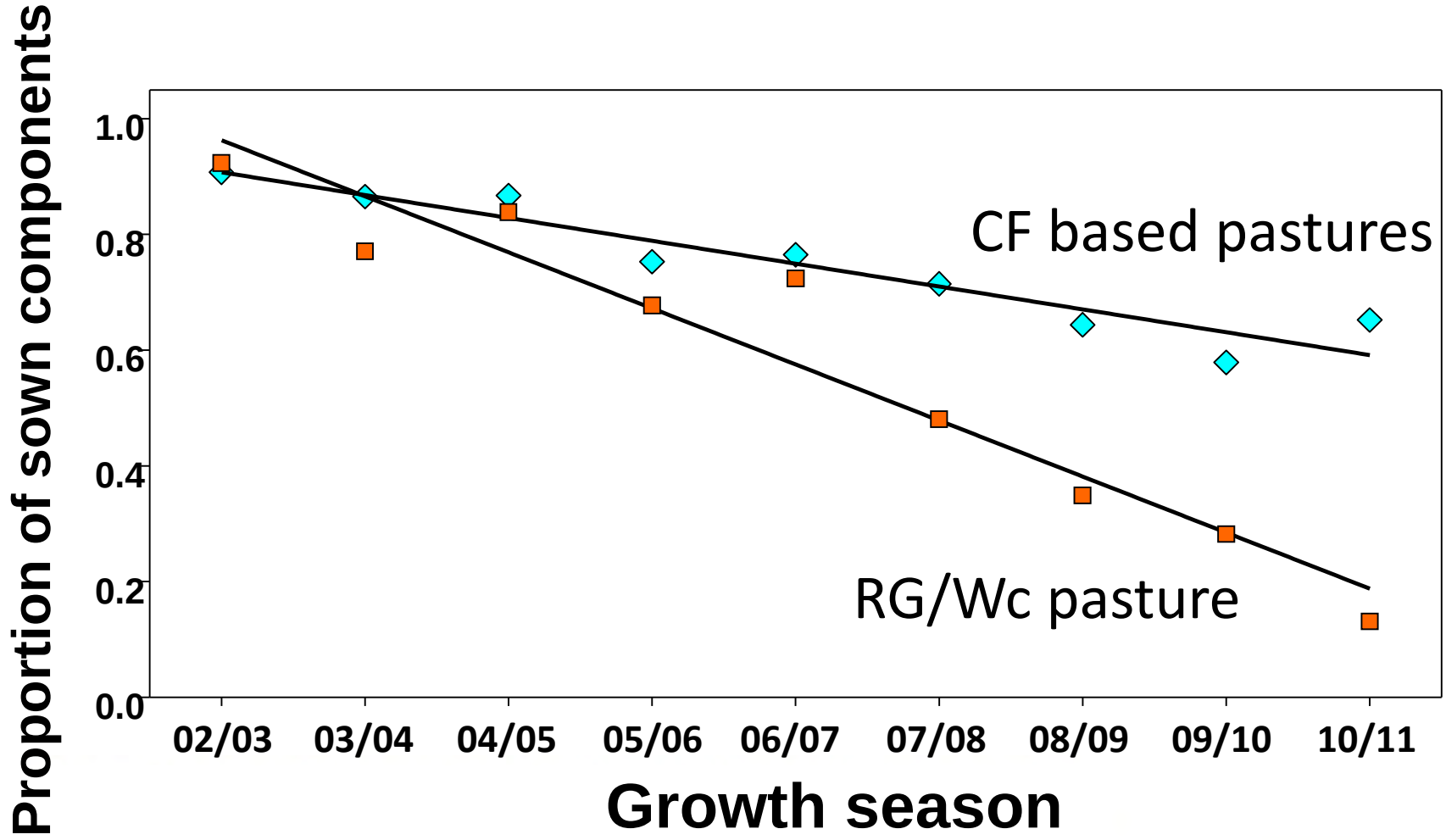
Morris, N.J., Smith, M.C., Mills, A., McNeill, M.R. and Moot, D.J. 2016. Insect populations of six dryland pastures grown in Canterbury. *Journal of New Zealand Grasslands*, **78**, 109-116.

Introduction

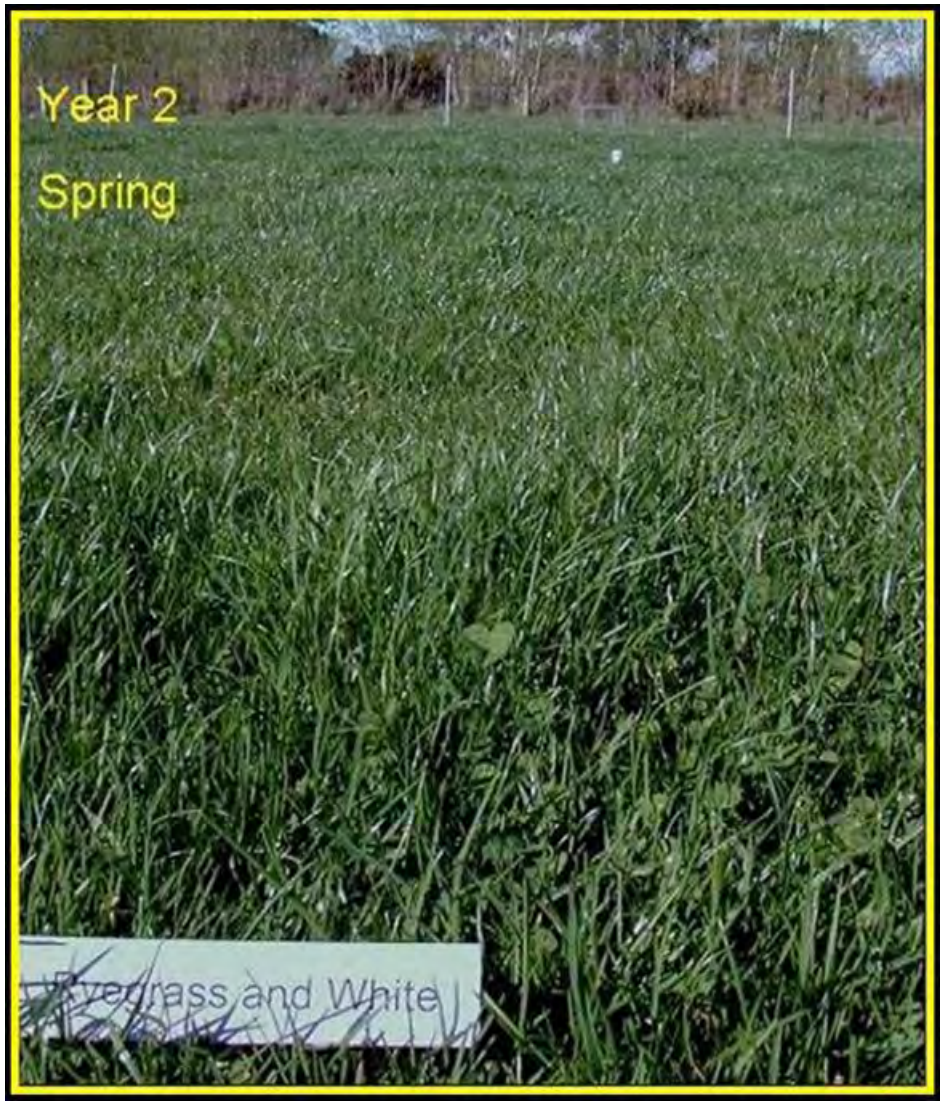
- To determine whether ‘MaxClover’ autumn and winter pest populations may have contributed to differences in pasture persistence from Years 5 to 9.

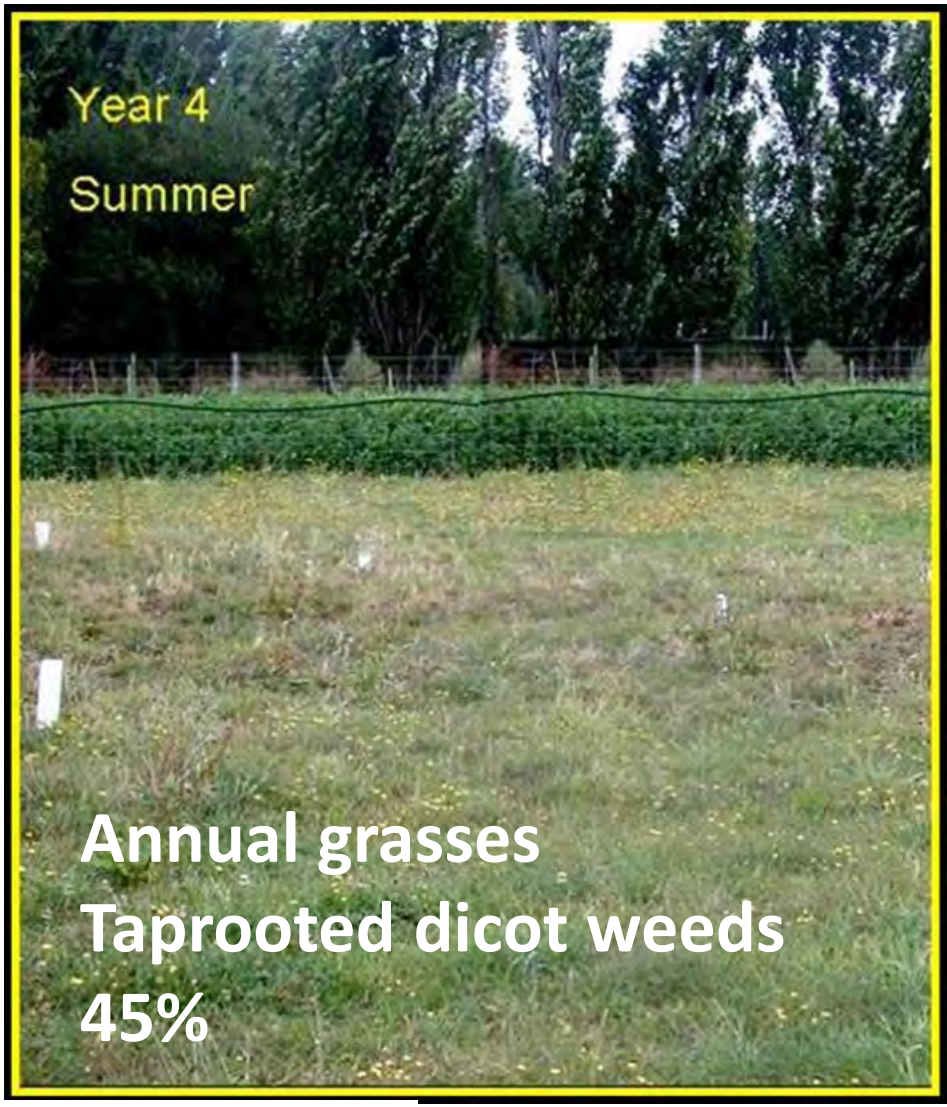
- Sown species declined ~10% per year in RG/Wc pastures compared with 4% per year in CF based pastures (Mills *et al*. 2014).

Change in the proportion of sown pasture components (grass + clover) over time



Mills *et al*. 2014





RG/Wc pastures


Rg/Wc
Lucerne
CF/Sub
CF/Balansa
CF/Cc
CF/Wc
beef+lamb
new zealand
‘MaxClover’ 2002-2012

Exotic pasture pests

New Zealand's specialist land-based university

All photos provided by AgResearch

Native pasture pests

New Zealand's specialist land-based university

All photos provided by AgResearch

Below ground pests

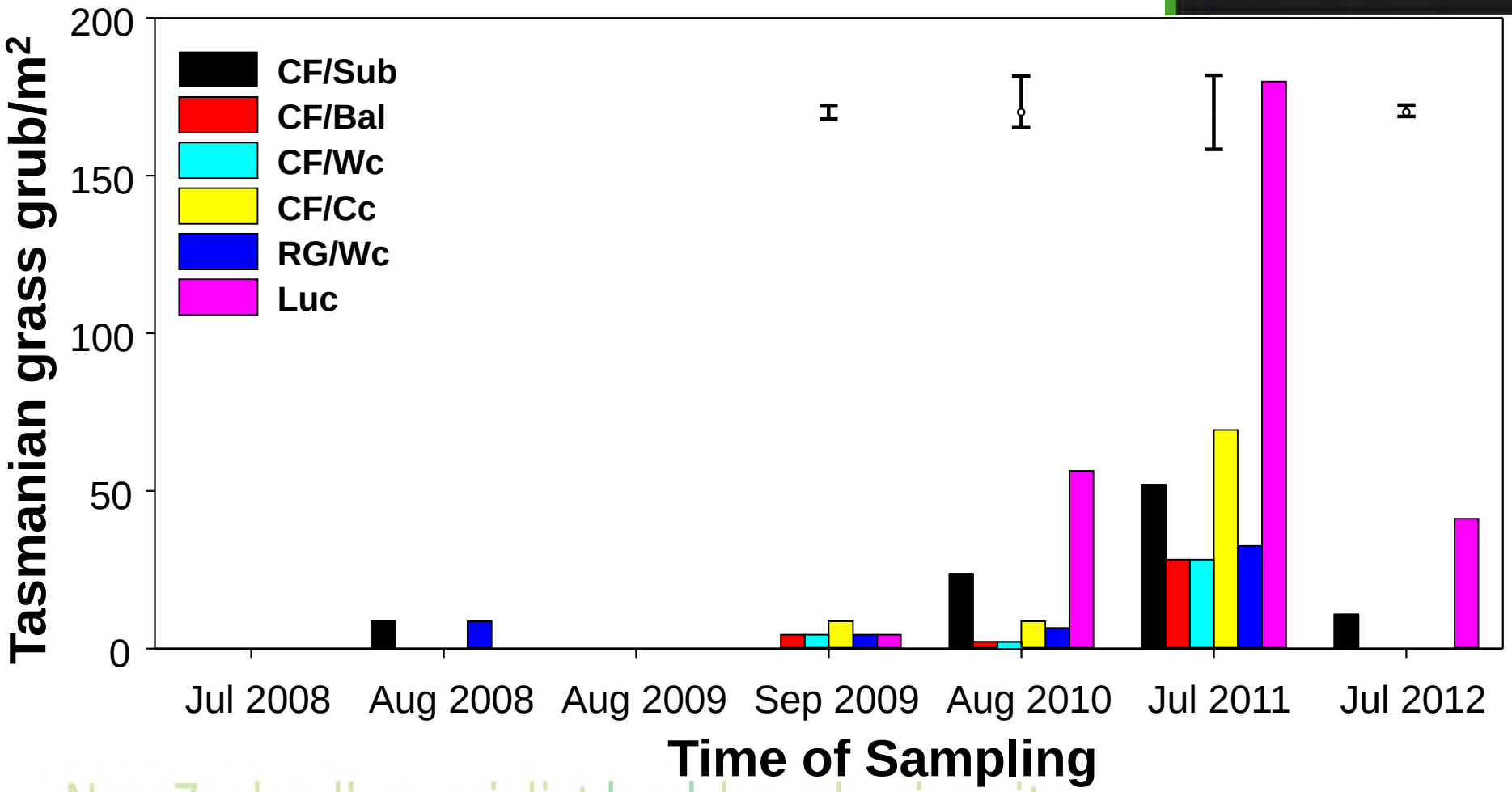
- Grass grub
- Tasmanian grass grub
- Porina

Above ground pests

- CRW
- ASW
- *Sitona discoideus*

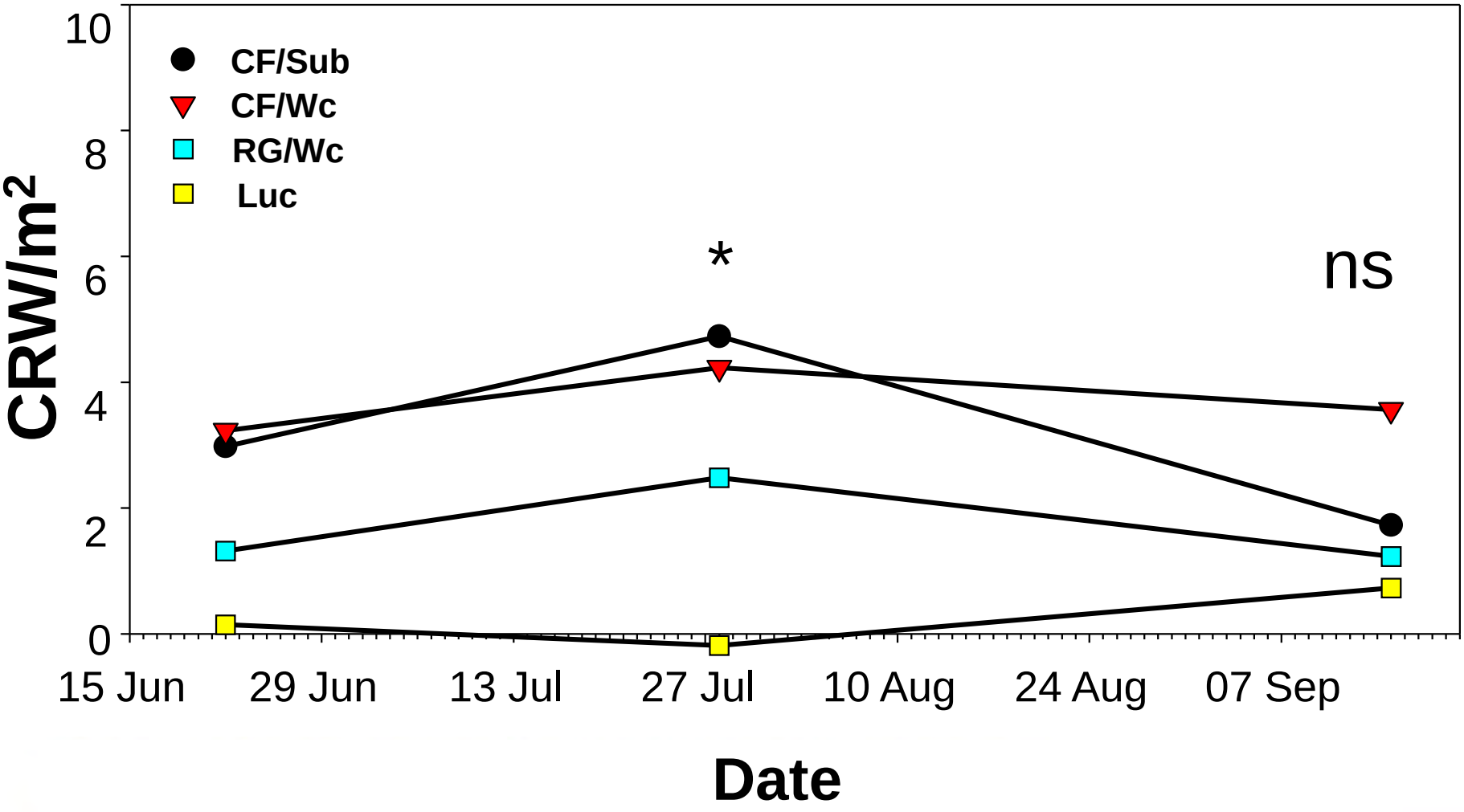
Modified blower-vac

Tasmanian grass grub



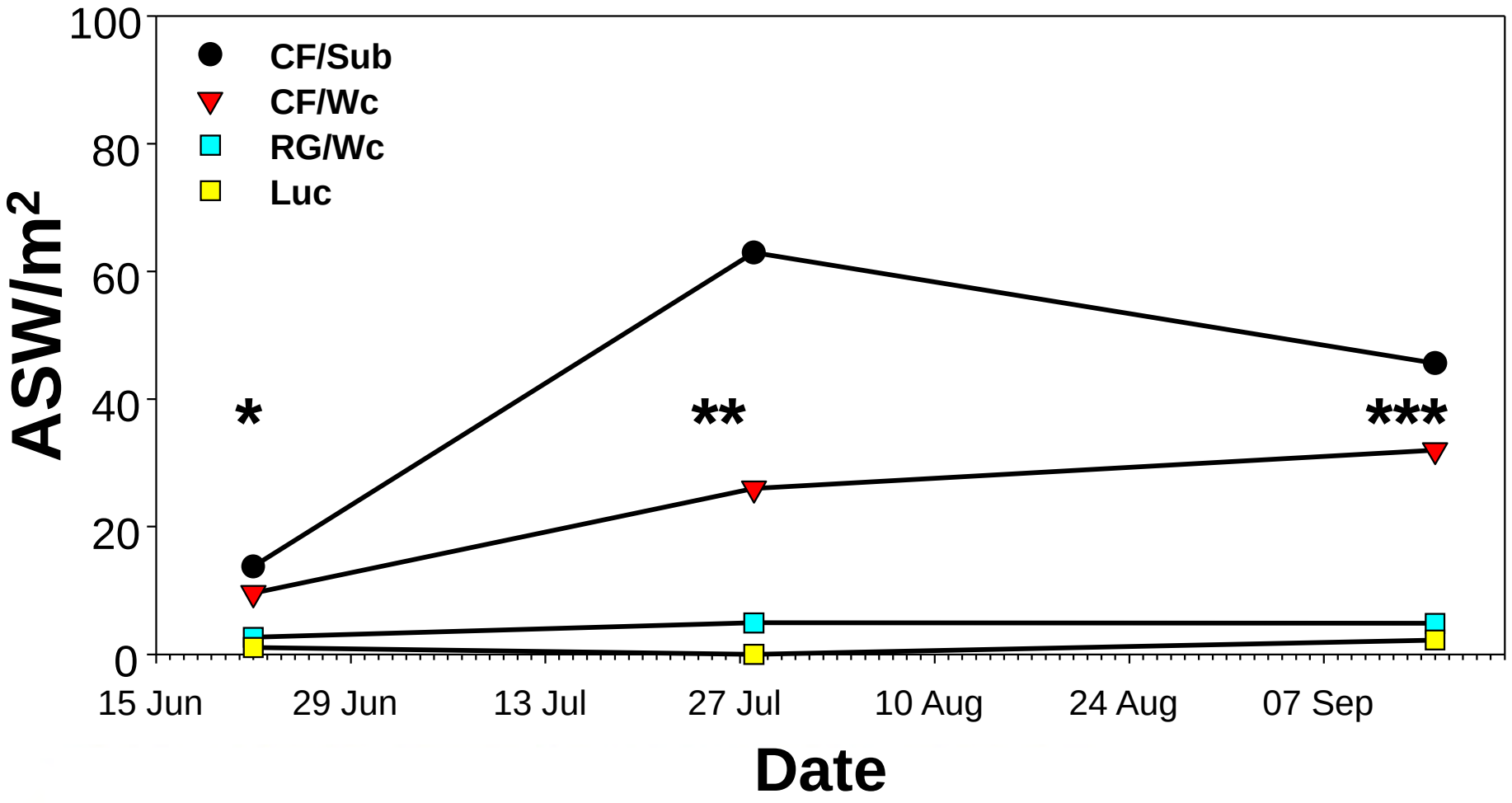
Morris *et al*. 2016

Clover root weevil



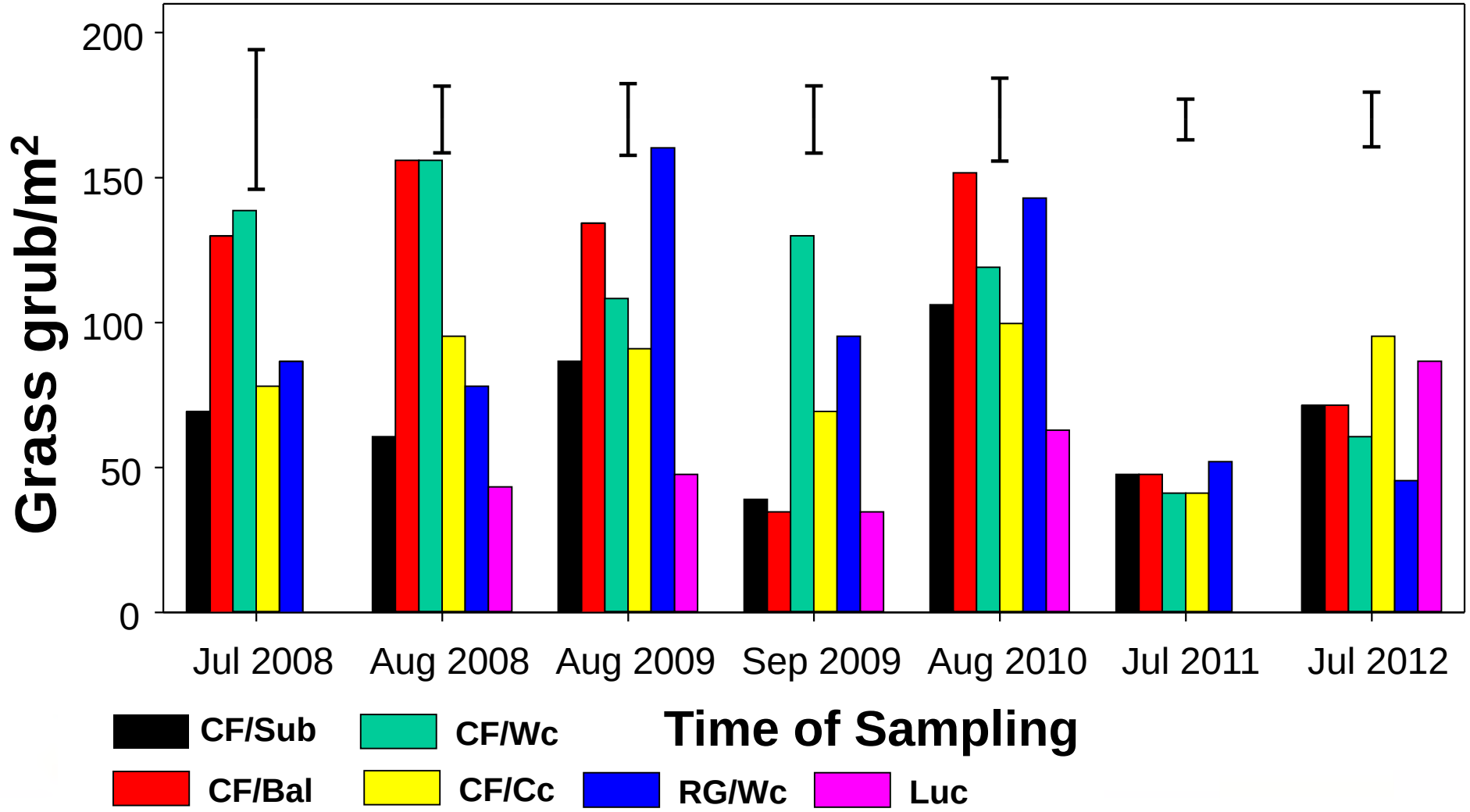
Morris *et al*. 2016

Argentine stem weevil



Morris *et al*. 2016

Grass grub



Morris *et al*. 2016

Conclusions

- Grass grub only species present above reported damaging threshold levels
- RG/Wc pastures less tolerant to grass grub than CF under similar levels of insect pressure and abiotic stress
- White clover target species for grass grub
- ASW at high populations in CF pastures in 2010 contributed to long-term decline in these pastures
- CRW was well under damaging threshold levels

Acknowledgements

- Financial assistance from Beef + Lamb New Zealand through the Pastoral 21 programme.

- Pasture agronomy students (PLSC 321).

- Dr. Scott Hardwick (AgResearch).