

AWI Breech Strike R&D Technical Update
Maritime Museum, Sydney
20th August 2014

Breech Flystrike Genetics, Armidale
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CSIRO Agriculture Flagship



Reminder of flock structure and management

- **Two self-replacing breeding flocks**
 - **Armidale, NSW – fine/superfine wool, high summer rainfall**
 - **Mt Barker, WA – medium wool, Mediterranean environment**
- **2005 – 2009, 3 selection lines - Control, Commercial, Intense, selected primarily on indicator traits (wool cover, wrinkle, dags)**
- **After 2009, intermediate line removed; constrained to fine/superfine wool type; selection on breech flystrike history then indicator traits**
- **200 ewes per selection line**
- **Early years most sires from industry, selected on phenotype; later years only link sires from industry, selected on ASBVs**
- **After 2009 all progeny unmulesed**
- **Managed in a flystrike challenge environment, regular crutching but no preventative chemical treatments**

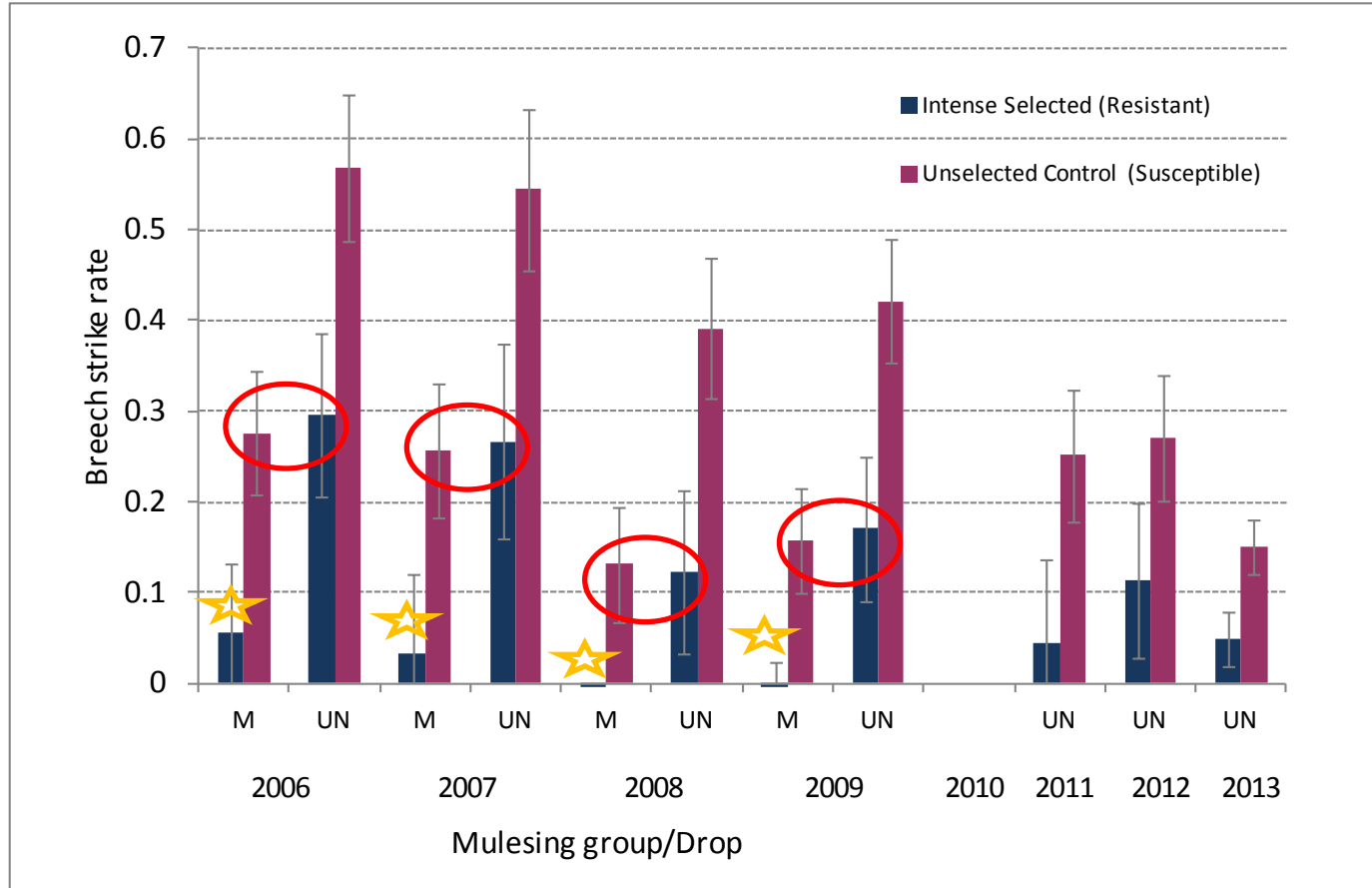


Summary

- **Year on year weaner flystrike rates**
- **2013-14 fly season**
- **Re-cap association between indicator traits and breech strike**
- **Genetic trends**
- **Tail docking methods (time permitting)**



Weaner breech strike (2006 – 2013 drop)



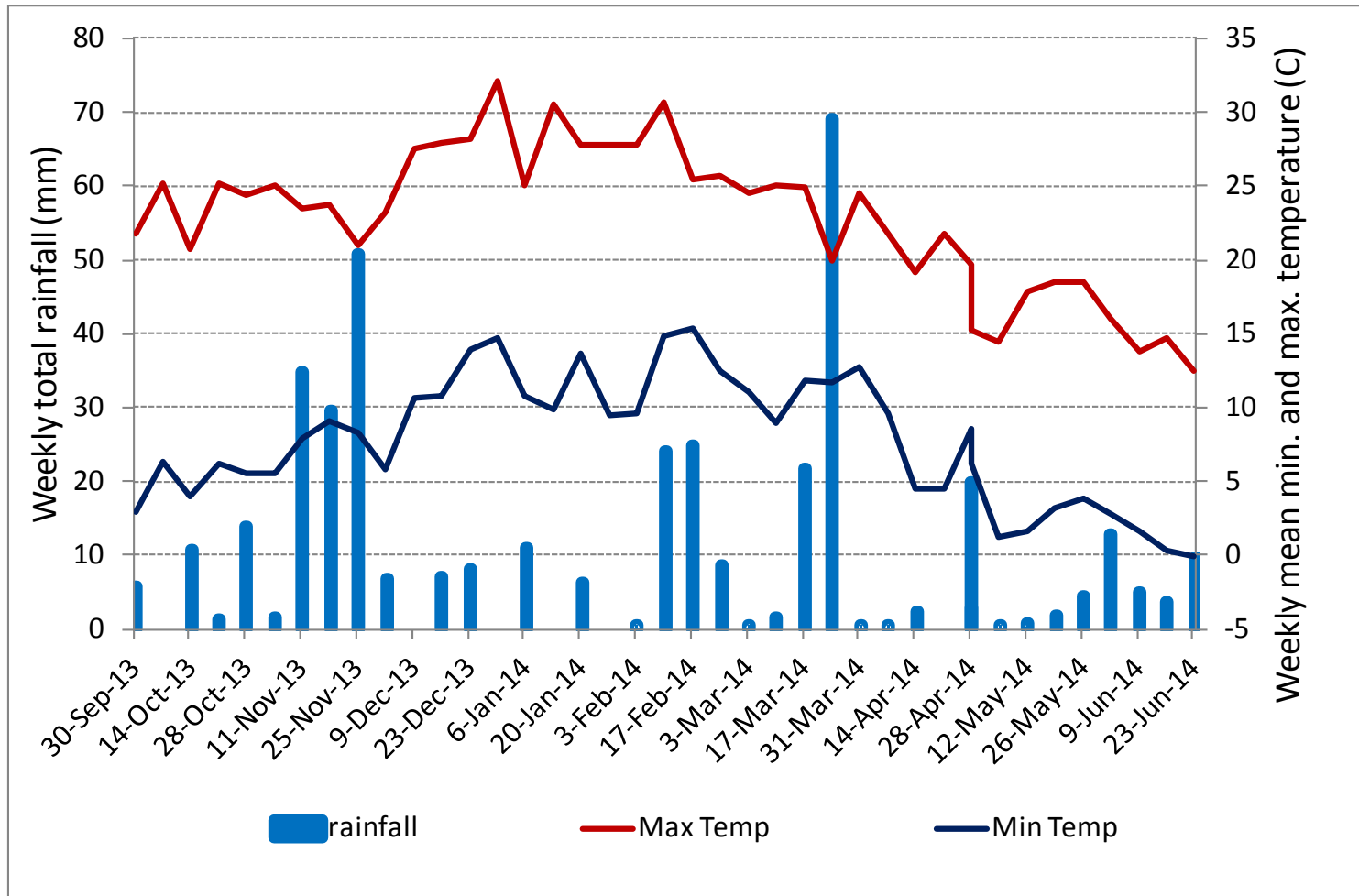
○
Comparing unselected mulesed and selected unmulesed

★
Strike on selected mulesed

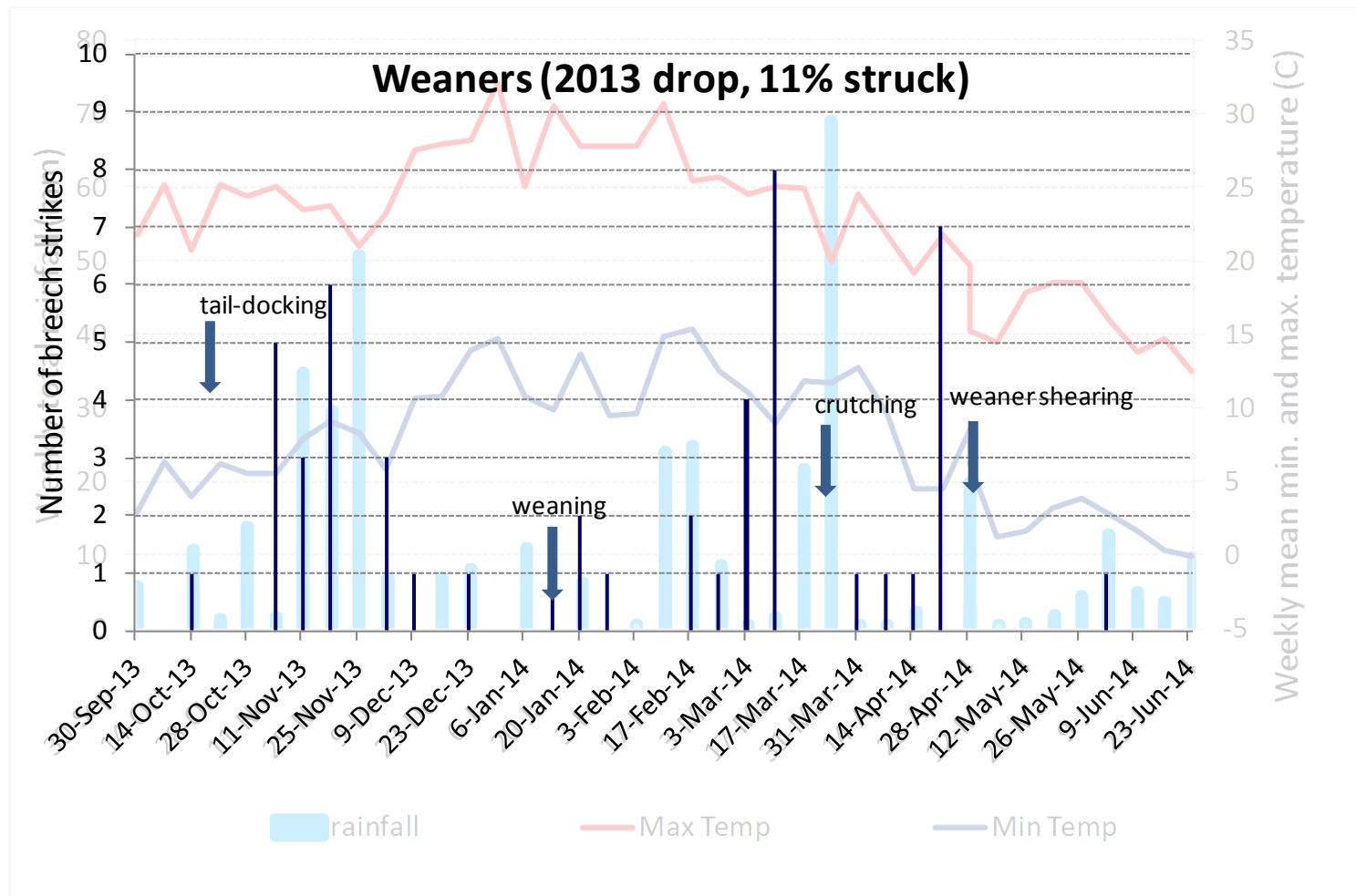
Overall wBRSTR	26%	24%	11%	14%	-	13%	19%	11%
Rainfall (Oct-Apr, mm)	557	602	527	570	573	653	475	346
(Long term average Oct-Apr 542mm)								



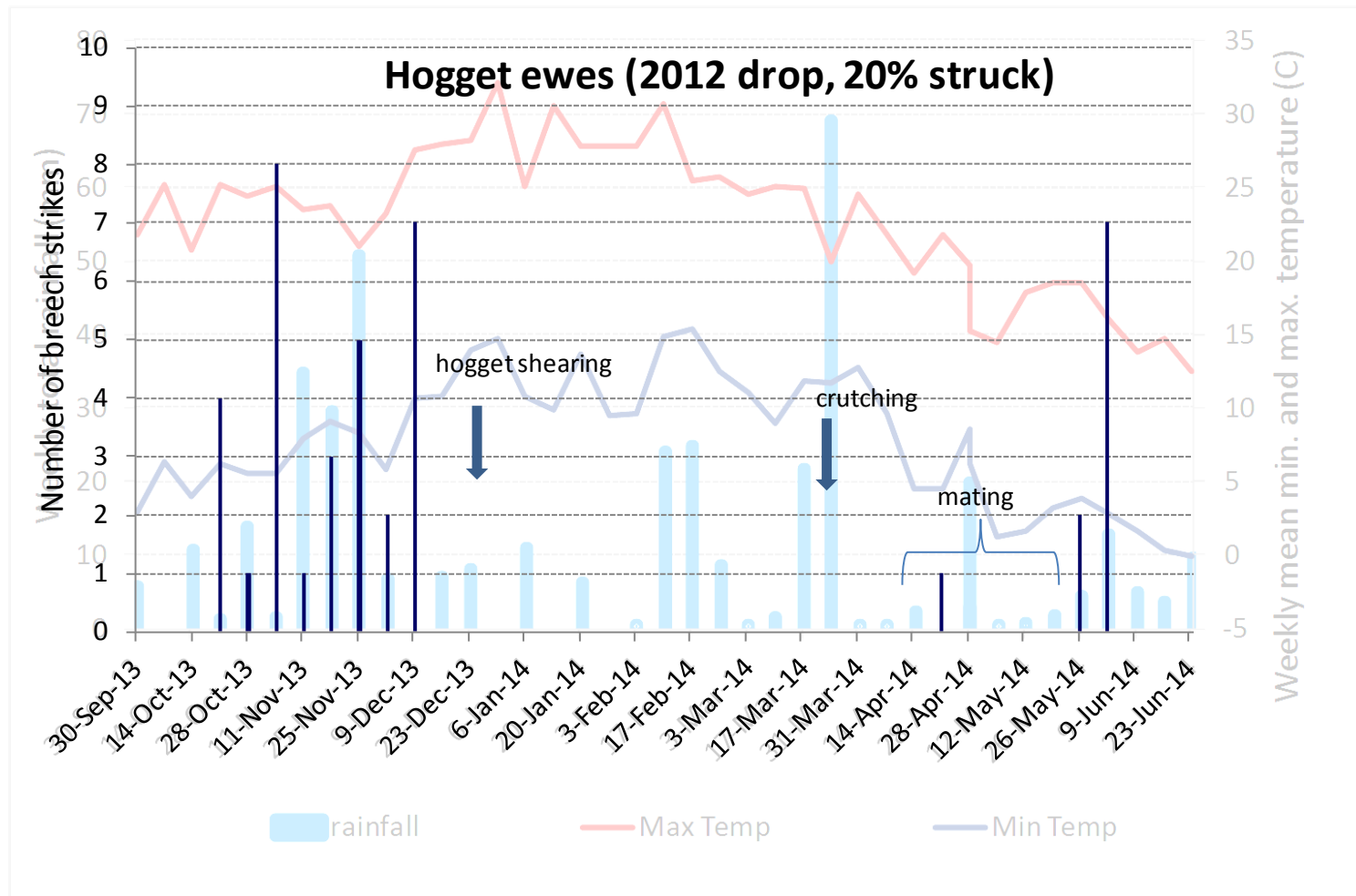
Weather conditions 2013-14 fly season



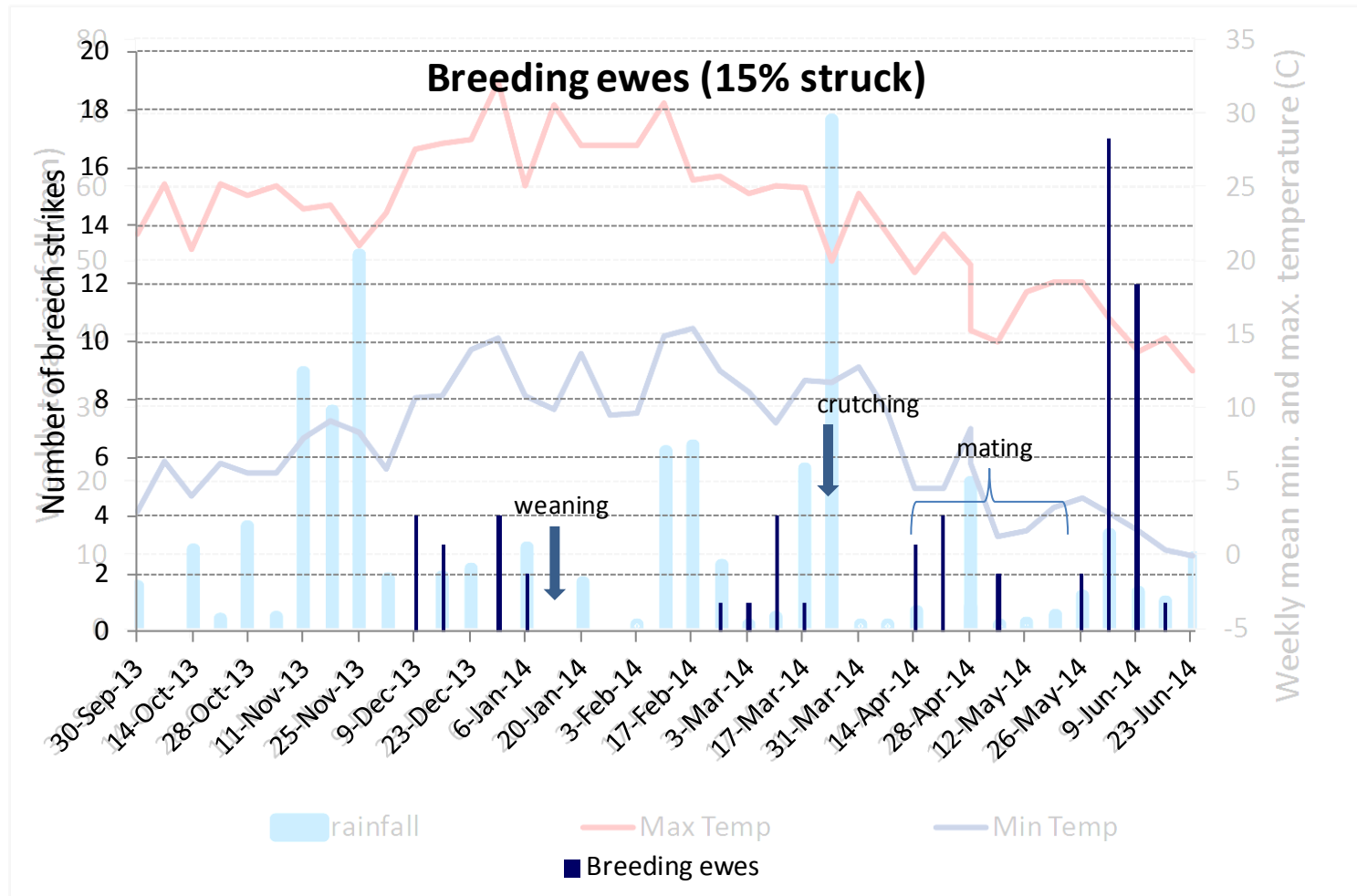
Flystrike - weaners



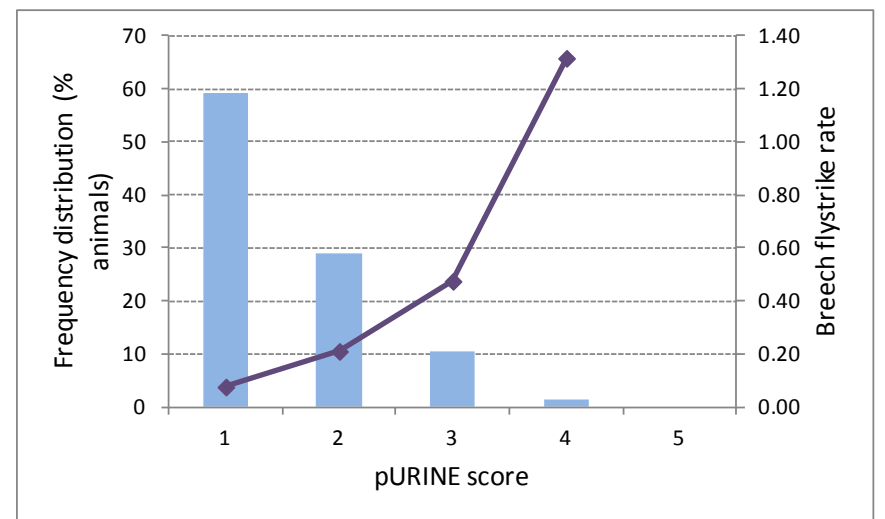
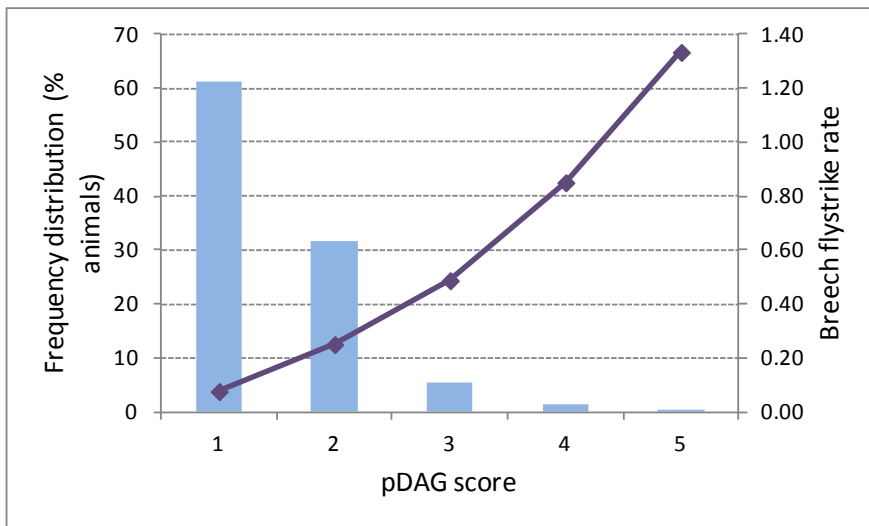
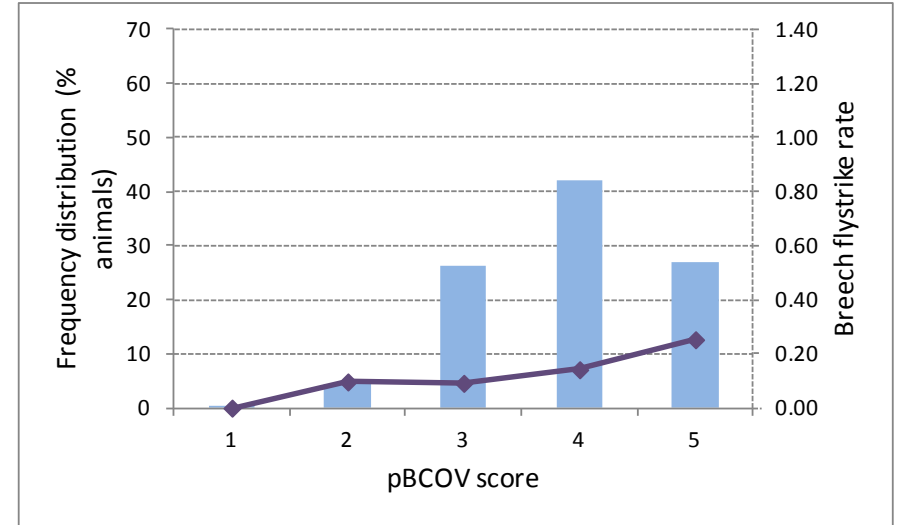
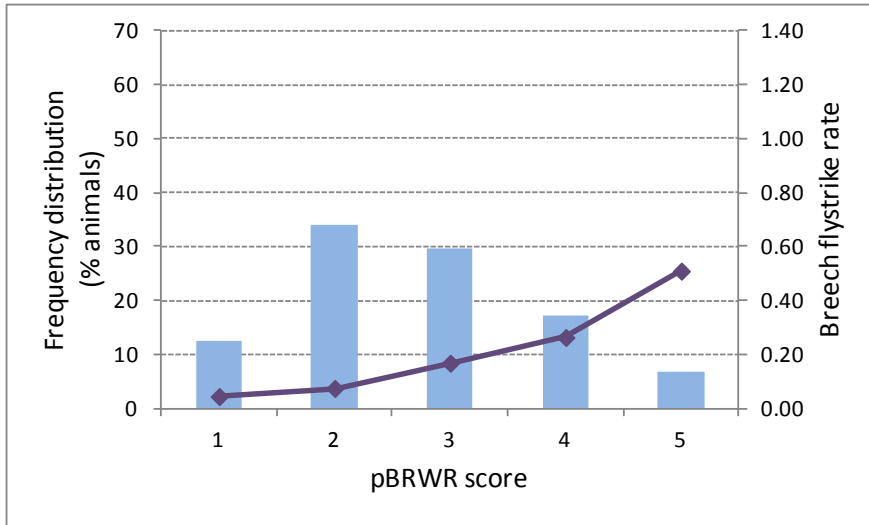
Flystrike hogget ewes



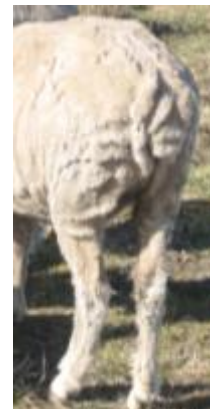
Flystrike - weaners



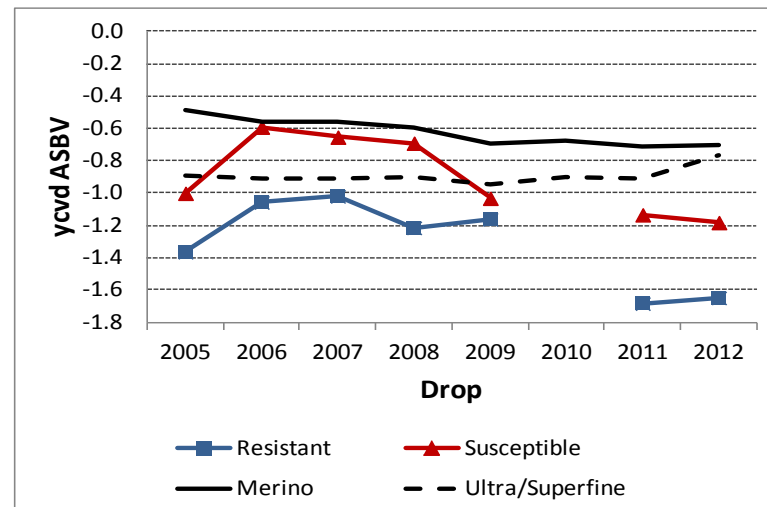
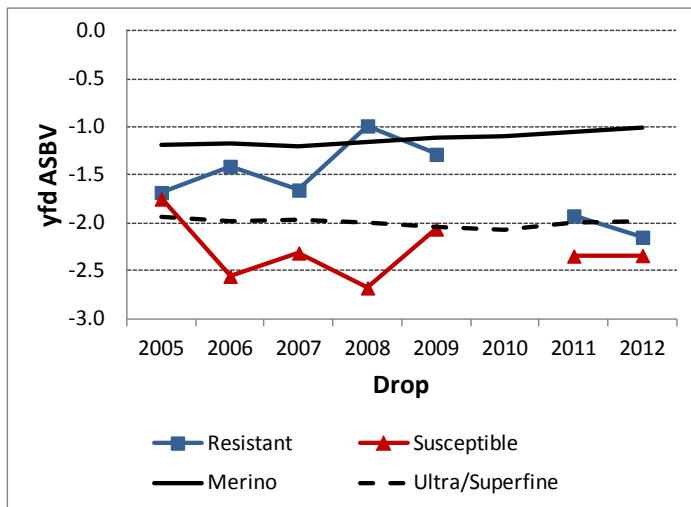
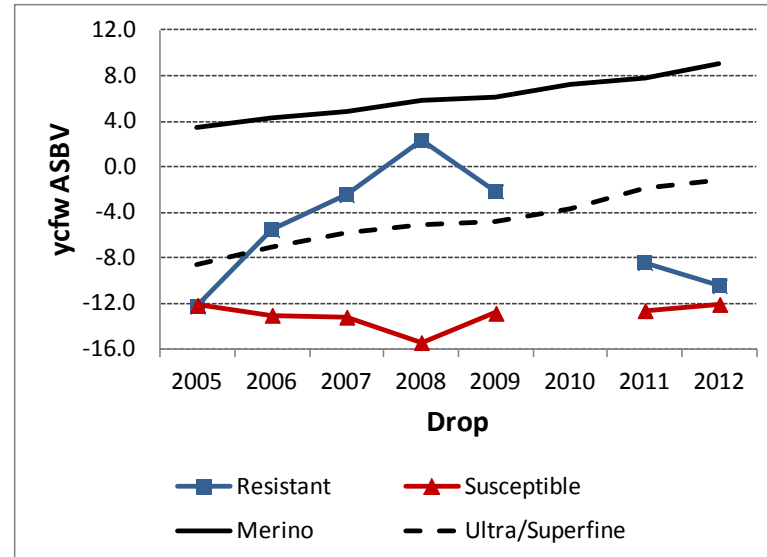
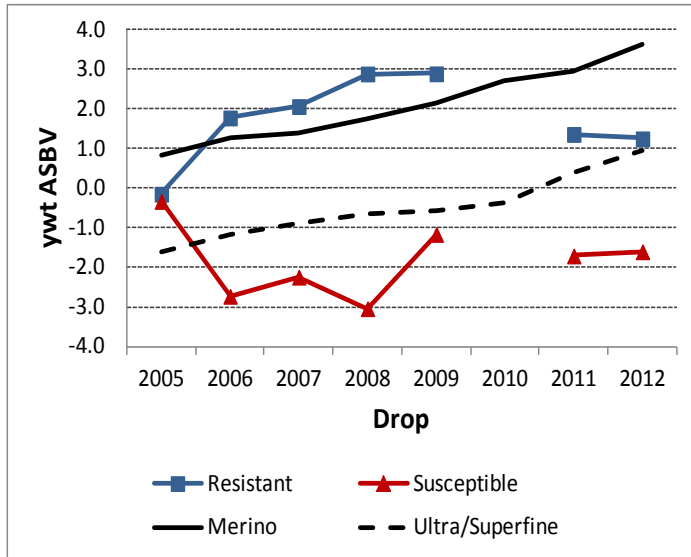
Indicator trait associations with breech strike



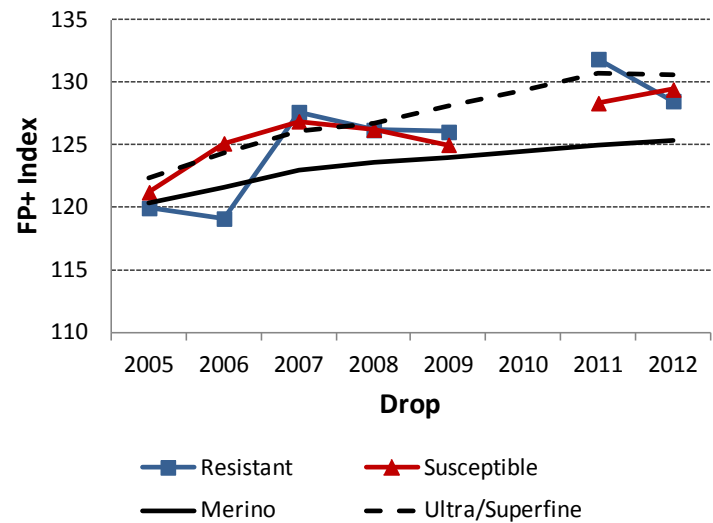
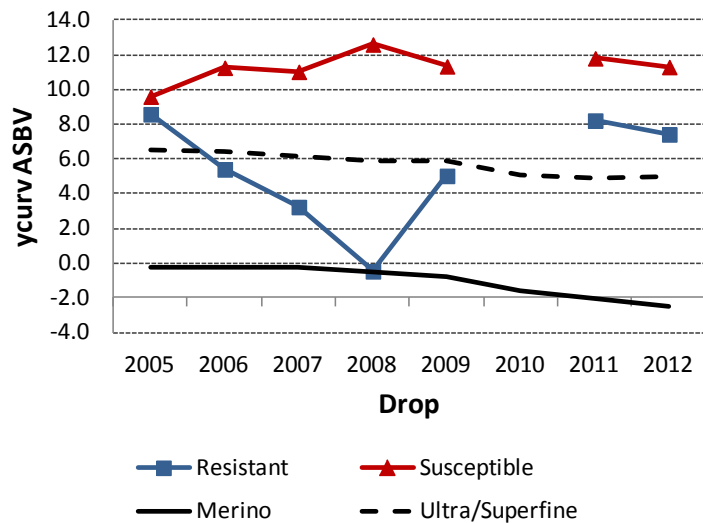
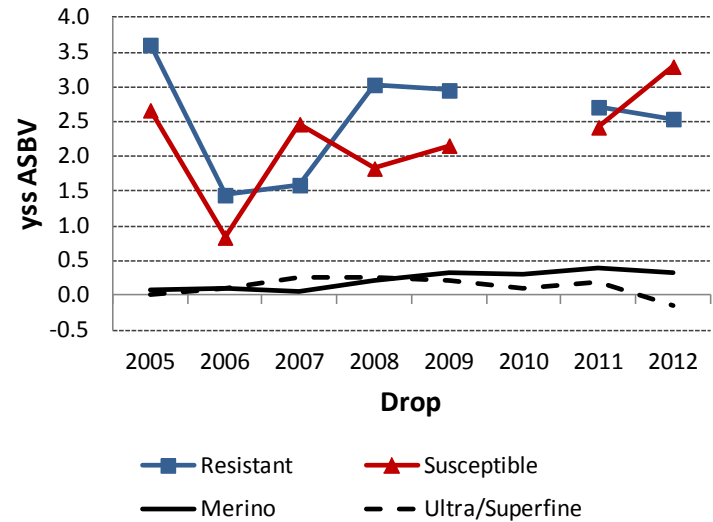
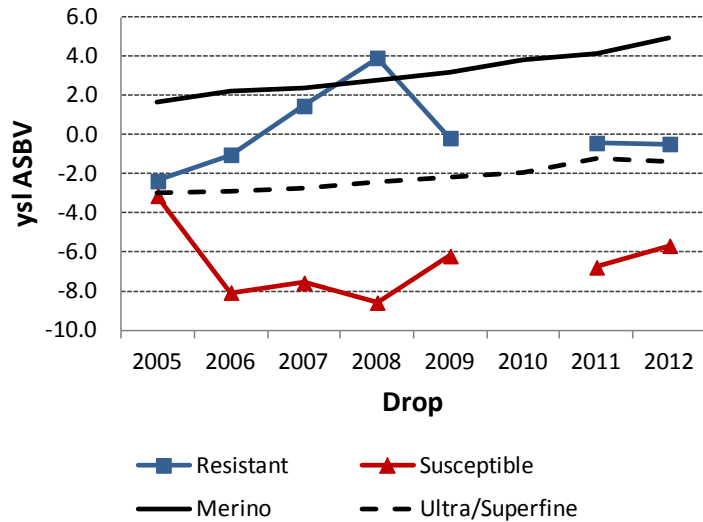
Example - Resistant and Susceptible



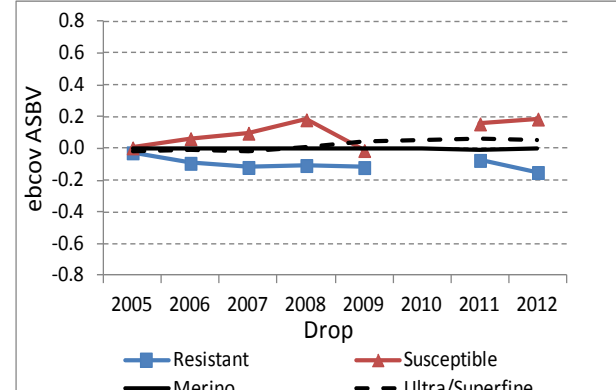
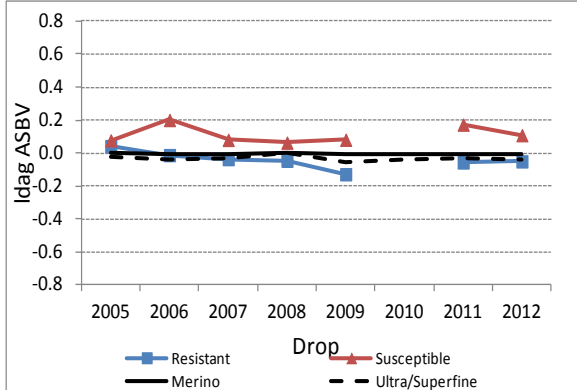
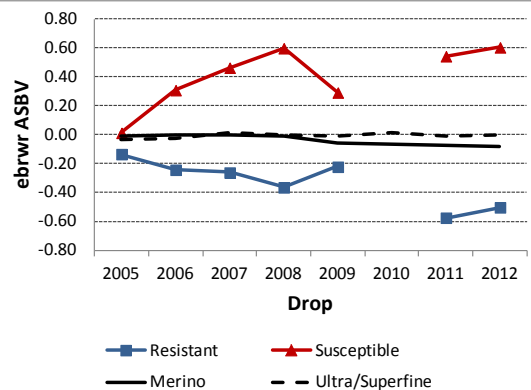
Genetic trends – production traits



Genetic trends – production traits



Genetic trends – flystrike and indicator traits



Tail docking methods

- 2 years running, docked tails using 4 methods and evaluate breech strike rates in later life
 - Hot iron (HOT)
 - Te Pari Patesco hot iron (TEPARI)
 - Knife (COLD)
 - Elastrator ring (RING)
- Assigned lambs to treatment groups balanced for line, sire, sex, birth-rear-type, age-of-dam, age (wt)
- Tail-docked by the same operator with same brief in both years
- 2012 drop have had 2 fly seasons, 2013 drop have had 1
- Results so far are inconclusive – treatments have ranked different in the 2 years



Tail-docking results

2012 drop					
Breech strike	lowest	—————→ highest			
Weaner	TEPARI	RING	HOT	COLD	
	14%	18%	18%	24%	
	←—————→				ns
Yearling	TEPARI	COLD	HOT	RING	
	18%	18%	19%	20%	
	←—————→				ns

2013 drop					
Weaner	COLD	HOT	RING	TEPARI	
	7%	7%	11%	16%	
	←—————→				Sig.

Interim conclusion – tail docking method doesn't matter





awi

Australian
Wool Innovation
Limited

2008