Internet-based Sheep Chill Warnings

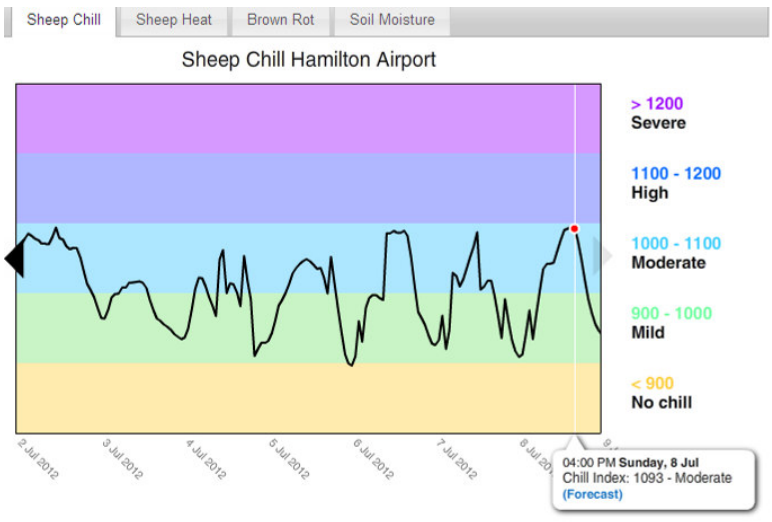
Website: www.dpi.vic.gov.au/vro

Initial navigation screen:

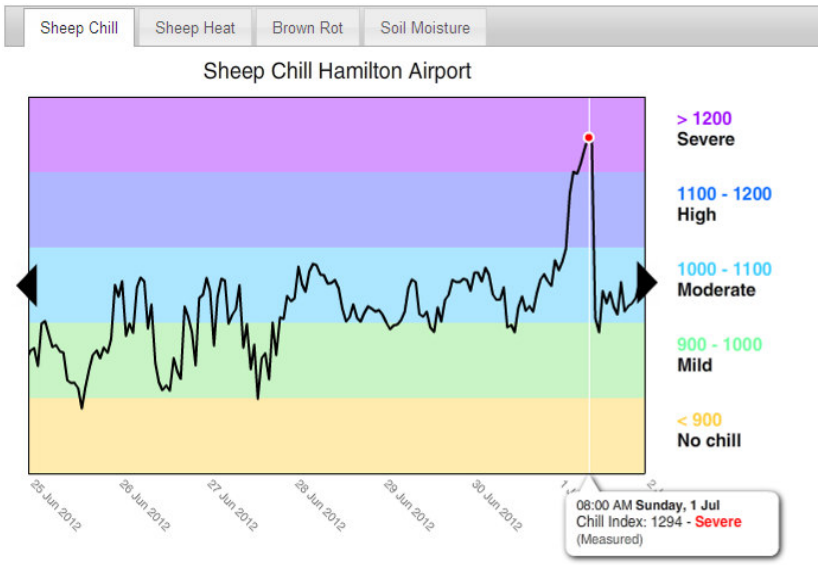
Corangamite	Goulburn Broken	Port Phillip and Westernport
Aireys Inlet	Eildon Fire Tower	Avalon Airport
Sheoaks	Kyabram DPI	Cerberus

Then choose “Hamilton” on either the map or the station list below the map.

A graph appears showing the Sheep Chill Index for the next week.



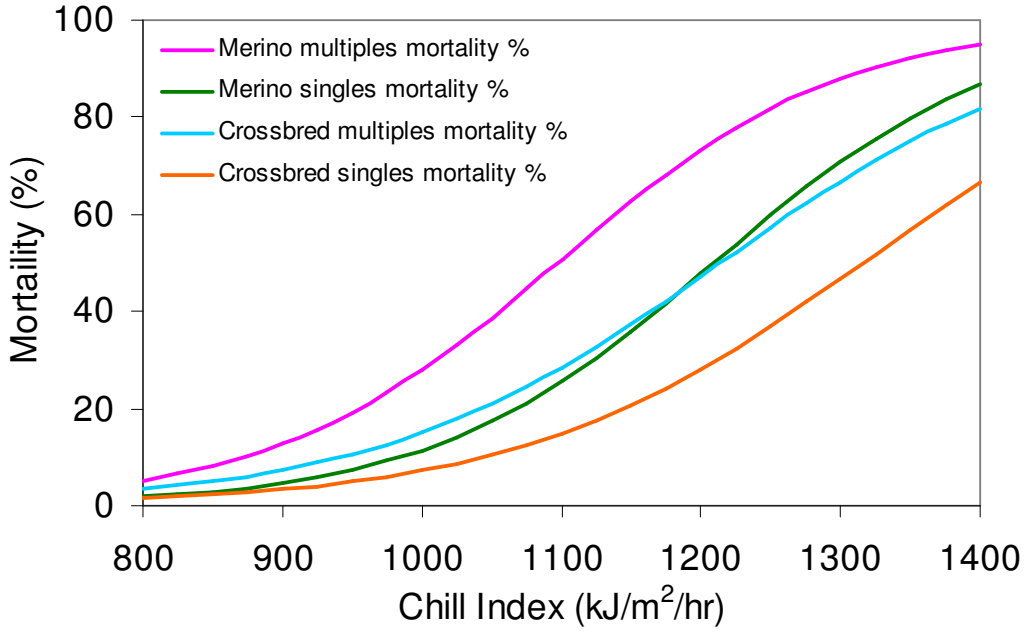
Click the black triangle at the left of the graph. This shows the previous week.



What do these chill levels mean for the mortality of newborn Merino twin lambs?

Chill (kJ/m^2/hour)	Merino twin lamb mortality (%)	
	Unsheltered	Sheltered
900	13	5
1000	28	13
1100	51	28
1200	73	51

What about other stock classes ?



Documentation available on the website:

Victorian Resources Online
Statewide

IBAW Project

Internet-based Agricultural Warnings are calculated daily by DPI Victoria from 7-day digital forecasts provided by the Bureau of Meteorology (BoM), and give advanced warning of weather events likely to affect agricultural production. Close to an extreme event or in emergency situations please consult the official BoM warnings http://www.bom.gov.au/vic/warnings/, which are issued 24 to 36 hours prior to extreme events.

Sheep chill

Newly shorn sheep and new-born lambs are susceptible to cold stress, which increases their risk of death. The graph shows the chill values (kJ/m^2.hour) for unsheltered conditions, calculated from forecast wind speed, temperature and rainfall[1,2]. Mortality rates increase rapidly at chill values over 1000 kJ/m^2.hour[3].

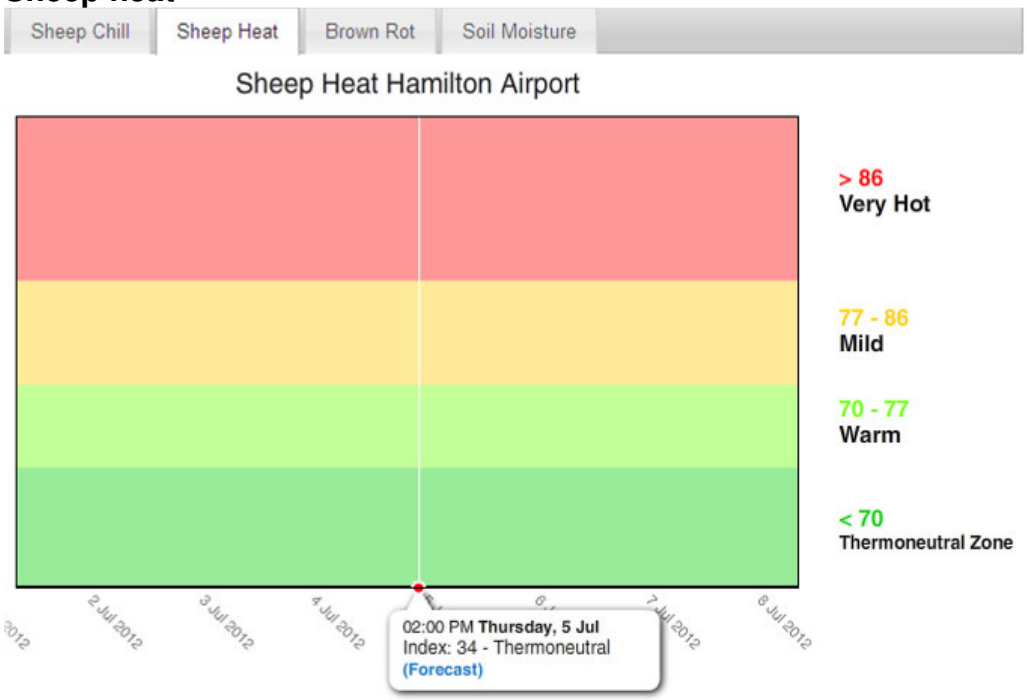
If there are periods of high chill within the forecast period, newly shorn sheep should be moved to sheltered paddocks to prevent deaths, and additional feed supplementation considered to generate additional body heat. Ewes should be moved to sheltered paddocks prior to lambing. Special-purpose lambing areas can be established with grass hedges to provide shelter from wind[4,5].

Lambs and ewes seek shelter from the wind

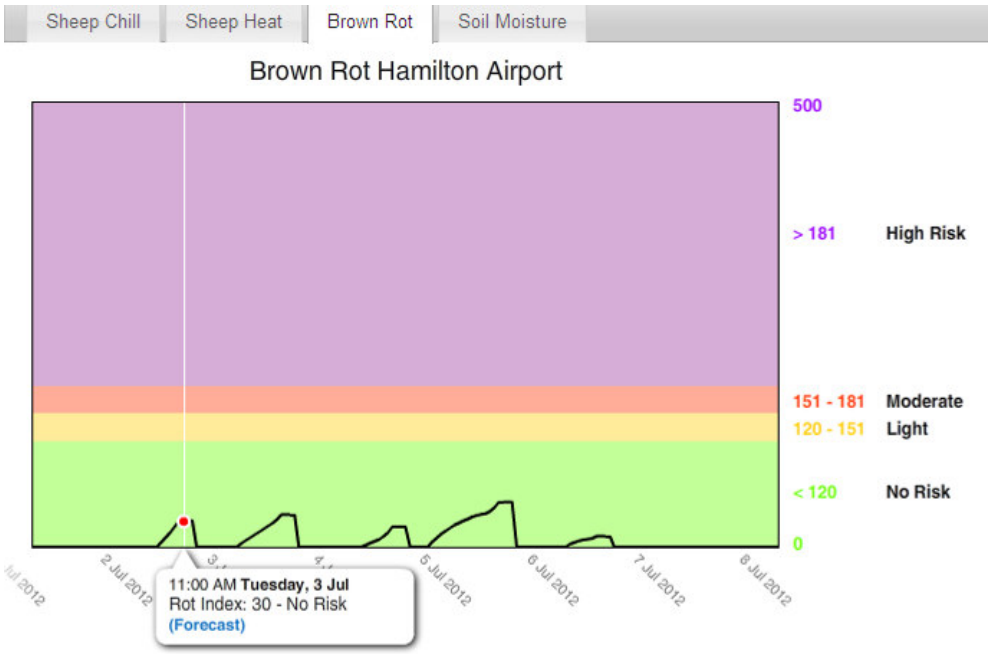
1. Nixon-Smith WF (1972) The forecasting of chill risk ratings for new born lambs and off-shears sheep by the use of a cooling factor derived from synoptic data. *Working paper No. 150, Bureau of Meteorology, Melbourne*
2. Wind speeds from the Bureau forecasts for a 10 m measurement height have been downscaled to a lamb height of 40 cm using an empirical relationship.
3. Donnelly, JR (1984) The productivity of breeding ewes grazing on lucerne or grass and clover pastures on the Tablelands of Southern Australia. III Lamb mortality and weaning percentage. *Australian Journal of Agricultural Research* **35,** 709-21
4. King B, Friend M, Behrendt R, Morant A (2012) Improving survival of lambs. EverGraze Exchange. http://www.evergraze.com.au/fact-sheets.htm
5. McCaskill M, Saul G (2008) Perennial grass hedges provide shelter at lambing. EverGraze Action. http://www.evergraze.com.au/fact-sheets.htm

Other indices

Sheep heat



Brown rot of stonefruit



Soil moisture