

Shining the light on slow growth

Pasture growth on the Hamilton *EverGraze™* experiment in south-west Victoria has been comparatively slow this winter (see Table 1). The question on the minds of local researchers has been: “Which factors have been important during the 2008 winter period?”.

The major factors that can limit pasture growth during winter are: soil moisture, air and soil temperatures, water-logging and solar radiation.

According to *EverGraze* team member, Steve Clark (DPI Vic), March-June 2008 had below average rainfall totals that would have limited autumn growth and resulted in smaller than normal plants heading into winter (see Figure 1).

“However, July and August have been wet, so during the past two months soil moisture was not limiting,” Steve explained.

“Water-logging has not been a problem either with insufficient rain for puddling to occur and none of the inundation we saw throughout 2007.”

June air temperatures were above average but July and August have been colder than normal (see Table 2).

“August is on track for a record low mean daily maximum temperature,” Steve said.

“We have had few frosts, so the low mean temperatures are due to sustained cold days rather than a few frosty mornings dragging down the means.

“Similarly, we have had few warm days, exceeding 15 °C on only four occasions this winter to date.”

By contrast, soil temperatures have been above or close to average throughout winter.

TABLE 1. Mid-winter feed on offer (DM t/ha) for 2007 and 2008

	2007	2008
Avalon (ewes)	3.11	2.01
Avalon (steers)	2.29	1.70
Lucerne (ewes)	2.35	1.86
Lucerne (steers)	2.22	1.47
Tall fescue (ewes)	3.20	1.80
Tall fescue (steers)	2.85	1.47

FIGURE 1. Cumulative rainfall for 2008 at *EverGraze*, Hamilton, compared with the long term average and 2007

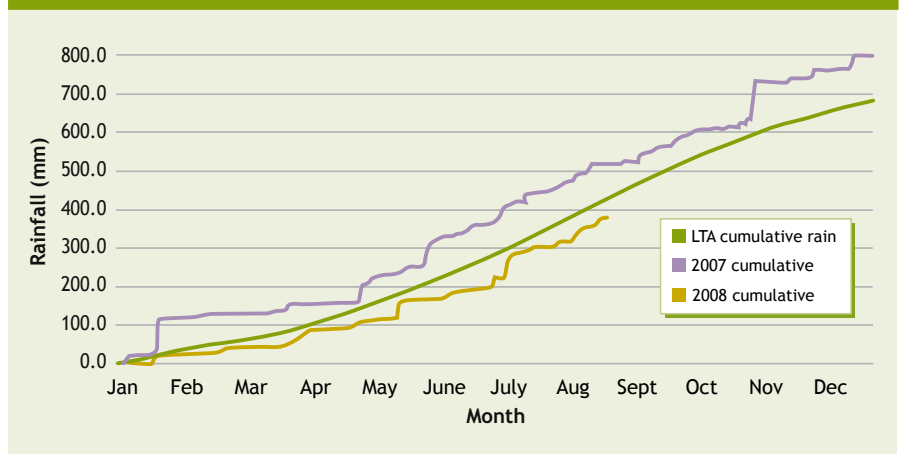


TABLE 2. Limiting weather parameters for pasture growth June, July and August¹ 2008

Month	Temperature (°C)									
	Rainfall (mm)		Maximum		Minimum		Soil		Radiation (MJ/m ²)	
	2008	Average	2008	Average	2008	Average	2008	Average	2008	Average
June	34	67	13.5	12.6	5.8	4.6	9.9	8.4	4.2	6.1
July	107	83	11.4	12.0	2.8	4.1	8.1	7.6	5.0	6.9
August ¹	67	82	11.0	13.0	2.8	4.5	8.2	8.3	6.0	9.5

¹Up to 25th August

Blame it on the sunlight

The standout weather parameter this winter has been solar radiation. The mean daily solar radiation totals for each of June, July and August have been the lowest recorded at the *EverGraze* Hamilton site and about 30 per cent below normal.

“Basically, there have been many overcast gloomy days when the sun has made little impression,” Steve explained.

“This coupled with small plants entering the winter months and low temperatures has contributed to the slower winter growth on the *EverGraze* site this year.

“Here’s hoping for good spring rainfall but plenty of sunshine as well.” ☺

More information

Steve Clark, *EverGraze*, DPI Victoria

T: (03) 5573 0977

E: steve.clark@dpi.vic.gov.au

