

EverGraze 5. Tall wheatgrass hedges cut wind speeds

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Mortalities of twin lambs can be up to 50%, with the primary causes of death being cold stress and poor maternal condition (Donnelly 1984). To reduce the loss of twins at lambing at the Hamilton EverGraze site, hedges were established by sowing strips 1 metre wide with tall wheatgrass (cv Tyrrell) planted in a north-south direction, separated by 10 m-wide inter-rows of Italian ryegrass. During September 2006, wind speeds were measured at various distances from a hedge, at a lamb height of 40 cm. Wind speeds were logged every 10 minutes, and compared with wind speed in an open area, and wind speed and direction at a standard reference height of 2.4 m. Since protection from wind is more important when wind speeds are high, only data from periods when the wind speed at 2.4 m exceeded 14 km/hr are reported here. Winds exceeding this speed occurred 25% of the time. Hedge height at the time of measurement was approximately 1 m.

When winds were from the north-west, west or south-west, wind speed 0.2 m east of the hedge was 1 to 7% of that in open areas (Fig. 1). There was little protection on the western side of the hedge. During northerlies, good protection was only available in the middle of the hedge.

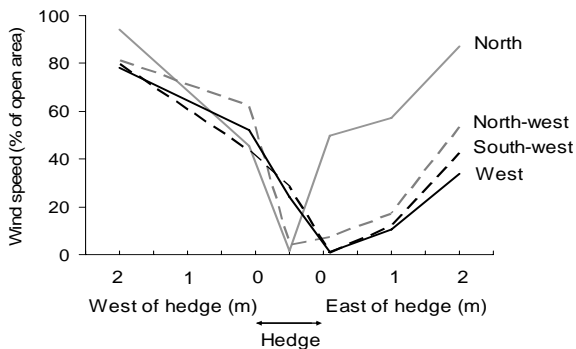


Figure 1. Wind speed as a percentage of that in an open area, in relation to wind direction and distance from each edge of the hedge.

Relationships from Donnelly (1984) indicate that if lambs were able to seek shelter equivalent to 1% of open wind speeds, twin mortality rates for a 55 kg ewe lambing at Hamilton in September would fall from 29% to 6%.

EverGraze is a CRC Salinity, MLA and AWI research and delivery partnership

Reference

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.