

Grazing Tolerant Lucerne Selection Trial

2016 | Penfield Research Station | Trial Sown 14/09/2011 | Grazed 24/11/2011 – 23/11/2016

S&W Seed Company has taken the term 'grazing tolerant' very seriously with its selection of new lucerne material. The ability to select plant germplasm through a five year intensive grazing trial, has proven critical to give farmers confidence in new lines coming through the S&W Seed Company lucerne breeding program. The strength of this trialling model will be replicated in the future with more selections being made with this key grazing tolerance trait.

The trial protocol was established in conjunction with NSW DPI and IP Australia to give a measure of true grazing tolerance. After the lucerne was established it was grazed every three weeks (or when grazing was required) to a residual height of about 30 millimetres.

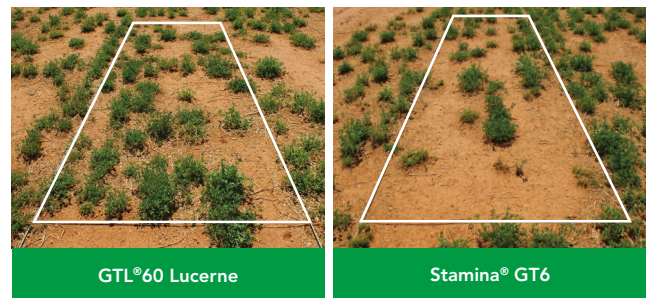
Approximately 20 Merino wethers were used to graze the trial each time, this was the number of animals adequate to graze the trial down within at least a three to four day period so we could manage frequent grazing events but not expose the lucerne to extended periods of set stocking.

The basis of this grazing management was to make sure the lucerne was put under frequent grazing pressure, but not deliberately set stocked. In the first three year period the trial was grazed 32 times, and in the recent two year period was grazed 18 times.

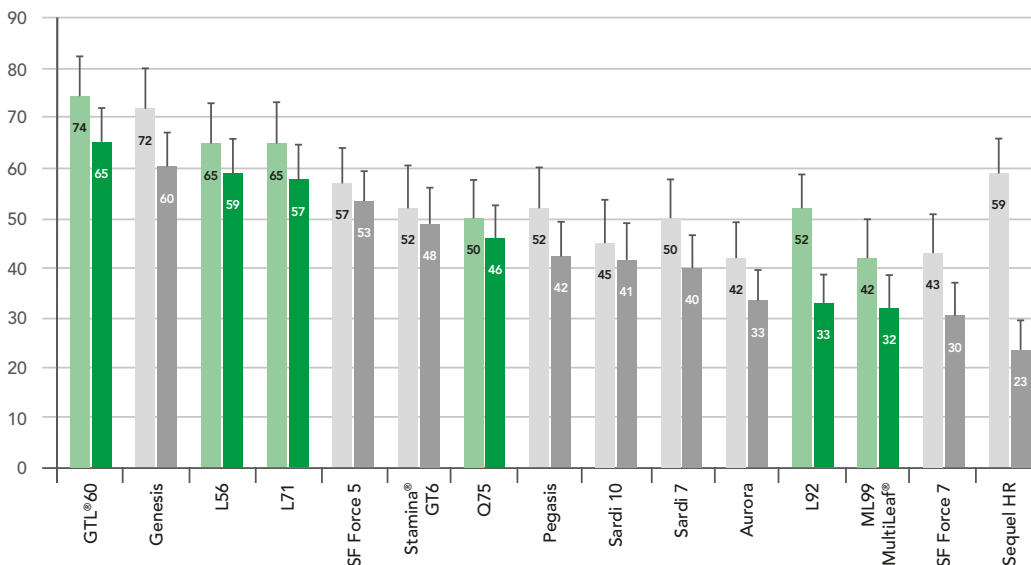
Plant counts were taken initially and results have been measured based on the percentage of residual plant counts remaining after the three and five year periods.

Originally the trial was established at a dryland sowing rate of four kilograms per hectare resulting in an average starting plant count of 37 plants per metre square, which suited our target of 30 - 40 plants per metre square based on our average annual 420 millimetres rainfall.

The results shown in the graph on this page now indicate the updated results after five years of the trial period which has shown some significant differences in the performance of varieties, and quite a variation in the results that were seen after the three year period was measured, in particular some of the Highly Winter Active material has distinctly dropped off in the recent two years.



3 Year Count - November, 2014 - Av.5%LSD = 22.1
5 Year Count - November, 2016 - Av.5%LSD = 18.7



Percentage of residual plants after three and five years of grazing.

Lucerne stands are grazed to restrict flowering over a three year period to increase pressure on plants.