

Lucerne for dairy cattle

Lucerne is an extremely useful forage for dairy cows; however, the plant has a high crown and hence is sensitive to grazing. Highly winter active cultivars are more susceptible to defoliation damage than semi-dormant or winter dormant types. Stands should be rotationally or strip grazed. Defoliation frequency will be influenced by the winter activity level and by time of the year. Lucerne should be defoliated when the crown buds reach around 2.5 cm in length and should not be grazed below 5 cm in height. As a general rule, highly winter active and winter active cultivars can be defoliated every 4 weeks except in winter when the interval should be extended to 6 weeks. More dormant lucernes may require intervals of 4 to 6 weeks in warmer periods and 8-week intervals in winter.

Metabolic problems

Bloat control

Bloat is always a concern when grazing lucerne and management strategies must be in place to deal with it. The cost of bloat control is considerable and must be included when developing feed budgets.

Production management

Under irrigation, forage yields can range from 16-20,000 kg/ha of dry matter in the first year, to 10-16,000 kg/ha in the third or fourth year. Rotational grazing is essential for good stand persistence and 5-8 cm of growth should remain after each grazing.

Healthy, well-irrigated stands should be able to produce over 2000 kg/ha of dry matter in 4 weeks in summer, irrespective of the type of cultivar. In winter, growth capacity will vary with winter activity level. Highly winter active cultivars will produce 2000 kg/ha in 6 weeks, while semi-winter dormants will require 8 weeks for the same production.

Table 1. Annual yield and seasonal distribution of lucerne types (data from Gatton Research Station)

Cultivar type	Annual yield* t/ha	Spring	Summer	Autumn	Winter
Highly winter active	19.0	30	35	15	20
Semi-dormant	17.5	35	40	15	10
Dormant**	14.0	35	45	15	5

* Averaged over 3 years ** Not recommended for Queensland

Hay management

For stands grown solely for hay, 20 tonnes per hectare a year of hay in 6 to 8 cuts can be readily achieved if moisture is not limiting. Defoliation intervals for hay are similar to those described for grazing. Defoliation height should be around 5 cm, which should not defoliate new crown buds. In the warmer months, good quality hay can be made from lucernes of all activity classes. In areas where winters are cool, and heavy dews remain on the ground for long periods, it will be difficult to produce good winter hay. In these situations, highly winter active cultivars should only be used if the stands can be grazed in winter.

Milk production

Lucerne can produce from 14 to 16 litres a cow per day but stocking rate must be adjusted according to season to match the feed availability. Quality lucerne hay is a valuable supplement for both production- and drought-feeding.

Source: Queensland Department of Agriculture, Fisheries and Forestry; 2009