

NUTRITIONAL VALUE OF COMMON PLANTS AROUND THE LOWER LAKES

Introduction

This fact sheet summarises feed test information for 25 common plants growing around the Lower Lakes Region of South Australia, as well as defining common feed terms used in this fact sheet and in feed test results. Additional information regarding identifying plants can be found in the *Lower Lakes Plant Guide: A field guide of common plant species in the Lower Lakes, South Australia* and information on grazing the lake edge in the fact sheet *Grazing management of the Lower Lakes Lake Edge*.



Cattle grazing around Lower Lakes (photo J. Reseigh)

Feed Terms

The following is a list of the meanings of the terms used in this fact sheet. You will find this list helpful for understanding nutrition and analysis of feed test results.

Dry Matter (DM)

The total amount of feed remaining after water has been removed. It may vary from less than 10% for lush pasture to 90% for dry straw or grains. All analysis are expressed on a dry matter basis, as the water content can vary considerably, and the dry matter contains the active ingredients (protein, energy, fibre, minerals and vitamins).

Digestible Dry Matter (DMD)

An estimate of the percentage of dry matter digested by animals **including** minerals in the feed. As minerals have no energy value, this figure tends to overestimate the energy content of feed stuffs - especially if feed is mineral rich e.g. saltbush.



Strawberry Clover (*Trifolium fragiferum*) (photo K. Strother)

Digestible Organic Dry Matter (DOMD)

An estimate of the percentage of dry matter digested by animals **excluding** minerals. This only takes into account the energy in the organic matter in the feed stuff. This is now used (from September 2005) to calculate ME.



Samphire (*Halosarcia* spp.) (photo K. Strother)

Feed Test Results

Plant Samples	Test Date	Dry Matter %	Digestibility (% DMD)	Digestibility (% DOMD)	Energy ME	Protein %	NDF %	Comments
Water Buttons (* <i>Cotula coronopifolia</i>)	Summer	23	65	62	9.6	5.7	37	Low in fibre, lacks protein in summer, but good for finishing stock in winter.
	Winter	8	82	76	12.5	21.3	31	
Sea Barley Grass (* <i>Critesion marinum</i>)	Summer	84	46	46	6.4	5.6	69	Poor summer feed, low digestibility, energy and protein
	Winter	26	63	61	9.3	12.3	56	
Couch Grass (* <i>Cynodon dactylon</i>)	Summer	48	63	60	9.2	13.6	56	Good maintenance feed in summer. Poor winter feed
	Winter	52	42	42	5.5	9.3	70	
Tall Wheat Grass (* <i>Elymus elongatus</i>)	Summer	44	52	51	7.4	8.2	51	Low digestibility, better suited to cattle than sheep
	Winter	34	59	56	8.3	15.6	59	
Wimmera Ryegrass (* <i>Lolium rigidum</i>)	Summer	84	60	57	8.7	6.2	57	Very good winter feed, can finish stock
	Winter	19	77	72	11.6	17.8	43	
Curly Ryegrass (* <i>Parapholis incurva</i>)	Summer	85	56	54	7.9	7.5	64	Good winter feed, maintenance feed in summer
	Winter	27	75	70	11.2	11.2	48	
Water Couch (* <i>Paspalum distichum</i>)	Summer	39	62	62	9.6	11.6	56	Good summer maintenance feed
	Winter	70	60	58	8.7	6	71	
Salt Water Couch (* <i>Paspalum vaginatum</i>)	Summer	27	55	55	8.1	7.3	62	Maintenance feed in summer and winter
	Winter	54	57	55	8.2	6.7	67	
Kikuyu (* <i>Pennisetum clandestinum</i>)	Summer	38	61	58	8.9	9.3	59	Maintenance feed in summer and winter
	Winter	64	57	55	8.1	10.7	62	
Bucks Horn Plantain (* <i>Plantago coronopus</i> ssp)	Summer	54	57	55	8.2	3.9	54	Very low in protein in summer, good winter feed
	Winter	10	76	71	11.5	12.5	37.4	
Strawberry Clover (* <i>Trifolium fragiferum</i>)	Summer	30	70	66	10.4	13.9	34	Very good feed in summer and winter, use for finishing stock
	Winter	14	78	73	11.8	27.7	28	
Creeping Salt Bush (* <i>Atriplex prostrata</i>)	Summer	14	77	72	11.6	19.1	34	Very good feed in both summer and winter
	Winter	12	86	80	13.2	20.4	31	
Spiny Flat Sedge (* <i>Cyperus gymnocaulos</i>)	Summer	37	54	52	7.6	6.7	59	Poor digestibility and low in energy
	Winter	29	50	50	7.1	14.8	56	

Feed Test Results continued

Plant Samples	Test Date	Dry Matter %	Digestibility % (DMD)	Digestibility % (DOMD)	Energy ME	Protein %	NDF %	Comments
Emu Grass (<i>Distichlis distichophylla</i>)	Summer	62	42	42	5.5	7.9	65	Very poor feed, low in digestibility, ME and protein plus high in fibre
	Winter	67	38	28	4.8	6.9	68	
Common Spike Rush (<i>Eleocharis acuta</i>)	Summer	41	45	45	6.2	7.6	59	Poor summer feed but good in winter
	Winter	25	70	66	10.3	14.4	52	
Sampshire (<i>Halosarcia</i> sp)	Summer	21	73	68	10.9	11.5	37	Excellent feed test result but poor palatability
	Winter	15	78	78	12.8	16.6	25	
Sea Rush (<i>Juncus kraussii</i>)	Summer	55	37	38	4.8	6.8	62	Very poor feed, stock would just survive on.
	Winter	65	34	35	4.1	5	66	
Common Reed (<i>Phragmites australis</i>)	Summer	39	54	52	7.6	10.6	60	Low in energy and protein in winter
	Winter	81	44	44	5.9	5.8	69	
Aust. Salt Marsh Grass (<i>Puccinellia stricta</i> var <i>stricta</i>)	Summer	83	45	45	6.2	6	68	Good winter feed
	Winter	25	66	66	10.4	16.4	55	
Creeping Brook Weed (<i>Samolus repens</i>)	Summer	42	49	48	6.8	5.2	51	Good winter feed, average summer feed
	Winter	24	62	59	9	11.2	42	
Glasswort (<i>Sarcocornia quinqueflora</i>)	Summer	21	67	64	9.9	9.3	42	Average feed quality
	Winter	24	66	63	9.8	15.7	38	
Spiky Club Rush (<i>Schoenoplectus pungens</i>)	Summer	31	49	48	6.8	8.4	57	Maintenance feed
	Winter	30	61	58	8.9	8.7	56	
River Club Rush (<i>Schoenoplectus validus</i>)	Summer	26	60	58	8.8	6.5	63	Very poor quality in winter, average summer feed
	Winter	42	40	41	5.3	4.2	67	
Seablite (<i>Suaeda australis</i>)	Summer	16	78	73	11.8	11.1	34	Ideal fibre, good digestibility, energy and protein
	Winter	15	72	68	10.8	14.1	41	
Narrow Leaf Bull Rush (<i>Typha domingensis</i>)	Summer	17	56	54	8	12.1	58	Very poor winter feed high in fibre, average summer feed with good protein
	Winter	92	36	38	4.6	4.1	68	

Summary of Sheep and Cattle Nutrient Requirements

	Energy density ME (MJ/KG DM)	Protein content (%)	NDF (%)
Ewe / wether - maintenance	8	8 %	30-55 %
Ewe - late pregnancy	10	14 %	30-43 %
Ewe - lactating	11	15 %	30%
Weaner lamb	11	16 %	30-35 %
Dry cow – maintenance	8	8 %	30-60 %
Cow – lactating	10.5	15 %	30-35 %
Weaner Steer	11	16 %	30-40 %

Feed Terms (continued from page 1)

Metabolisable Energy (ME)

The feed energy actually used by the animal, calculated from digestible organic matter percentage, and expressed as megajoules per kilogram of dry matter (MJ/kg DM).

Crude Protein (CP)

The amount of true protein (composed of amino acids) plus non-protein nitrogen, expressed as a percentage of dry matter.

Neutral Detergent Fibre (NDF)

The percentage of total cell wall material or plant structure in a feed. This includes lignin (not digestible), cellulose (partly digestible) and hemicellulose (digestible). NDF is the most useful measure of fibre content currently available. Usually, the lower the NDF, the more an animal will eat.



Grazing of pasture grasses on the lake (photo B. Gunn)

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