Pasture Grass and Fodder Evaluation and Selection for Dry Season Feeding in Nakuru, Kenya

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Introduction The major constraint to livestock production in Kenya is availability of quality feed resources throughout the year . Farmers offer their livestock with natural pasture and other grown fodders such as Napier (Pennistenum perpureum) or crop residue such as maize stover or wheat straw .Nutritional characteristics of these feeds mentioned are of low digestible nutrients with crude protein of less than 6% .As a result animals fed solely on these feeds do not produce to their potential .The objective of this study was to evaluate and select pasture and fodder species for quality ,tolerance to drought ,for dry season feeding in Nakuru Kenya .

Materials and methods Data were obtained from established pastures and fodders at Lanet Research Centre Nakuru .These included Star grass ,Rhodes grass ,Guinea grass ,Sweet potato vine types ,Lecauna and Sesbania sesban .Lanet Research Centre is situated at an altitutde of 1920 m above sea level and receives 800 mm of rainfall per annum . .The soil is deep loam with an average maximum and minimum temperatures of 26℃and 10℃ respectively .Grass leys were sampled using a quardrant at half flowering stage when dry matter (DM) and the protein levels are at their optimum .The sweet potato vines were sampled after 90 days and the leucaaena and Sesbania sesban at 1 metre high .The sampling was done in both dry and wet season and averaged DM analysis was done by drying samples at 1050C 24 hours in an oven .Crude protein was analysed using official methods of association of analytical chemists (AOAC 1990) .

Table 1 *Yield and nutritive composition of ley grass legumes sweet potato vines and fodder trees on dry matter basis .*

Ley grasses	DM%	CP%	NDF%	ADF	ADL
Star grass	29 .8[b]	9 .36	69 .29	42 .78	4 .93
Elmba Rhodes	20 .33	12 .45	64 .31	49 .94	4 .57
Boma Rhodes	21 .73	11 .18	68 .34	42 .62	4 .35
Guinea grass	17 .55	14 .36	62 .78	40 .95	3 .96
Sweet potato vines cultivars :					
Wagabolige	14 .6	18 .4	34 .82	31 .19	7 .86
Marooko	14 .6	18 .8	32 .73	31 .36	6 .76
K158	16 .5	19 .5	28 .16	35 .16	6 .30
Fodder tree legumes :					
Lauceana	38 .51	26 .12	44 .98	20 .98	4 .66
Sesbania sesban	18 .84	26 .74	33 .70	27 .58	3 .91

Dry matter and crude protein content of the grass ley species showed variability . Star grass had the highest DM while guinea grass had the highest protein content with lowest DM .The sweet potato cultivars showed excellent nutritive characteristics . Cultivar K158 had the highest dry matter 16 .5% and 19 .5 crude protein content while cultivar Wagabolige had the lowest crude protein content of 18 .4 .These cultivars showed high tolerance to drought and had digestibility of 80% when fed to sheep (Irungu et al ,2004) .Fodder trees ,Laucaena ,Sesbania sesban ,had significant differences in dry matter content with Laucaena showing high content of 38 .51% while Sesbania sesban had 18 .84% .The fodder trees however showed excellent tolerance to drought .

Conclusions The pasture and fodders species tested showed potential for dry season feeding .Sweet potato vine cultivars had excellent nutritional characteristics .Star grass had highest dry matter yield in the pasture grass group while boma Rhodes had the highest protein content of 12 .17% with good dry matter of 21 .73 .Laucaena had the highest dry matter content 38 .51% while Sesbania had 18 .84% .All the pasture and fodder species evaluated could be used for dry season feeding in Nakuru Kenya .

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