

# Priority tree fodder species in the Maasai silvopastoral system of Kajiado district, Kenya

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**Introduction** In an effort to improve pastoral land management systems, donor agencies have spent millions of dollars over the last two decades on research and development programmes. However, most of these programmes have been unsuccessful. The reasons for the failure are increasingly clear. Current thinking argues that more attention needs to be given to local knowledge systems and rural people's participation in development planning and implementation. The involvement of local communities in the research process is critical and has been shown by Ego (2001) to lead to the design of appropriate interventions. The main objective of this study was to elicit pastoralists indigenous knowledge on priority fodder species and the criteria used in evaluation.

**Materials and methods** A formal household survey, semi-structured interviews using key informants, tree inventory and group consensus method were used to elicit indigenous knowledge from informants.

**Results** Table 1 shows priority fodder species and pastoralists ratings based on selected criteria. Species evaluation was based on fodder quality (linked to nutritive factors) and physiological/physical/agronomic characteristics of the various species. From the pastoralists perspective, fodder quality is determined by: i) the ability of fodder to increase milk production and butter fat content, ii) the ability of fodder to fatten livestock and iii) the palatability of fodder. Physiological/physical/agronomic attributes which were also considered are: i) the ability of fodder to satisfy, ii) drought resistance, iii) ability to withstand multiple browsing, iv) forage biomass, v) fodder availability during the dry season, and vi) presence of both edible fruit/pods and leaves.

**Table 1** Key informants' ratings of 10 priority fodder species for cattle across selected criteria considered important to them

Fodder species in order of priority	Effect on milk prod. mean scores <sup>a</sup>	Fattening and standard deviations in parentheses	Drought resistant	Resistant to browsing	Palatability
<i>Acacia tortilis</i>	3.6 <sup>a</sup> (0.54)	3.7 (0.65)	3.8 (0.44)	3.2 (0.47)	4.0 (0.00)
<i>Grewia tembensis</i>	2.0 (0.60)	2.7 (0.45)	1.8 (0.54)	2.1 (0.58)	3.1 (0.56)
<i>Sericomopsis hildebrandtii</i>	3.3 (0.78)	3.2 (0.56)	1.4 (0.48)	2.6 (0.94)	3.6 (0.96)
<i>Phyllanthus sepialis</i>	3.0 (0.57)	2.6 (0.75)	1.3 (0.44)	1.7 (0.78)	3.6 (0.64)
<i>Lonchocarpus eriocalyx</i>	1.2 (0.44)	1.2 (0.40)	3.1 (0.58)	2.1 (0.88)	1.5 (0.50)
<i>Acacia mellifera</i>	2.4 (0.56)	1.7 (0.57)	3.4 (0.49)	3.6 (0.43)	2.8 (0.52)
<i>Grewia bicolor</i>	2.6 (0.44)	2.7 (0.45)	3.0 (0.40)	2.5 (0.50)	2.4 (0.56)
<i>Salvadora persica</i>	1.3 (0.64)	1.4 (0.56)	3.8 (0.34)	3.5 (0.50)	2.6 (0.63)
<i>Cordia ovalis</i>	2.0 (0.82)	1.9 (0.94)	3.6 (0.99)	3.4 (0.66)	1.8 (0.33)
<i>Acacia brevispica</i>	2.9 (0.78)	2.6 (0.64)	3.8 (0.78)	2.5 (0.74)	2.9 (0.34)

<sup>a</sup> Pastoralists were asked to rate species based on selected criteria, a rating of 4 =very good, 3 = good, 2=average and 1=poor.

**Conclusions** This research has shown that Maasai pastoralists use various skillful criteria to evaluate fodder species. One of the immediate implications of this, is for the scientific community to consider farmers'/pastoralists criteria when screening trees for fodder value so as to maximize on the potential of these species. This can be done by linking up scientific knowledge of animal nutrition with pastoralists' knowledge and objectives. For instance, if a pastoralist's objective is fattening of livestock for sale, then fodder species that are known to increase animal body weight should be promoted so that the pastoralist can realise his objectives.

## Reference

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