

A NOTE ON NUTRITIVE VALUE OF FORAGES FOR NILGAI

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Summary. Nutritive value of some forages preferred by Nilgai (*Boselaphus tragocamelus*) in Changa Manga Forest Plantation, has been estimated by chemical means and compared with that of *Cenchrus ciliaris*. The forages examined were generally found capable of supplying sufficient quantities of digestible fats and proteins to the animal.

Introduction. Blue bull (*Boselaphus tragocamelus*), locally known as nilgai, is one of the species of wildlife which has become almost extinct in Pakistan. Residential population of the animal in area between Siphon (Lahore district) and Bajwat (Sialkot district) is reported as 25 and approximately the same number is reported to dwell in the Changa Manga Forest Plantation (2).

In the present communication nutritive value of some of the common forages preferred by nilgai has been estimated through chemical means and compared with that of *Cenchrus ciliaris*, a nutritive grass relished by cattle throughout the country.

Material and Methods. Eighteen forages browsed by nilgai were collected from Changa Manga Forest Plantation in June, 1975. The samples were dried in shade and brought to our laboratories in Peshawar where these were powdered in grinder and stored in glass stoppered jars. The contents of fats, proteins, fibres, carbohydrates, mineral ash and moisture were determined following methods prescribed in A.O.A.C. (1).

Results and Discussion. Nutritive components of forages collected from Changa Manga are given on page 77 alongwith mean values of *Cenchrus ciliaris* samples earlier collected from Thal.

The proteins, fat and carbohydrate components, estimated above, were calculated in terms of digestible nutrients by multiplying them with respective digestive co-efficients. Since these values are not known in respect of forages under question, the same were taken equal to those of hay as mentioned by Williams (3) and reproduced below:

Nutritive component	Digestibility coefficient
Carbohydrates	64
Proteins	57
Fats	53

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Name of forage	Moisture %	Total ash %	Fats %	Fibres %	Proteins %	Carbohy- drates %
<i>Acacia leucophloea</i>	14.6	14.9	3.4	35.4	12.4	19.3
<i>Acacia modesta</i>	11.0	33.5	2.1	23.2	13.8	16.4
<i>Albizzia lebbek</i>	10.5	9.4	3.0	26.9	19.0	31.2
<i>Amarantus spinosus</i>	13.5	2.7	4.1	19.2	10.5	50.0
<i>Andropogon annulatus</i>	11.3	11.0	1.1	41.9	5.7	29.0
<i>Cedrela toona</i>	9.8	14.6	3.6	22.3	13.6	36.1
<i>Cordia myxa</i>	12.5	14.5	2.3	37.9	13.8	19.0
<i>Cynodon dactylon</i>	10.5	1.2	3.8	30.7	10.2	43.6
<i>Dalbergia sissoo</i>	13.5	18.3	2.9	13.6	17.1	34.6
<i>Eclipta alba</i>	10.0	24.3	3.2	11.9	9.1	41.0
<i>Ficus glomerata</i>	12.0	15.2	0.2	2.4	12.1	58.1
<i>Ficus religiosa</i>	11.0	11.7	3.0	28.8	15.3	30.2
<i>Mentha sylvestris</i>	15.7	19.4	3.3	30.9	11.0	19.7
<i>Morus alba</i>	16.2	20.5	5.1	13.6	20.5	24.1
<i>Oxalis corniculata</i>	10.7	0.9	5.7	14.2	11.7	56.8
<i>Periploca aphylla</i>	16.5	20.0	2.1	27.6	15.0	18.8
<i>Prosopis specigera</i>	11.2	7.0	2.8	29.1	9.4	40.5
<i>Tamarix dioca</i>	13.0	21.3	2.1	12.5	10.4	40.7
<i>Cenchrus ciliaris</i>	7.8	9.6	0.9	34.5	7.0	40.2

Digestible nutrients of forages under examination and of *Cenchrus ciliaris*, calculated on the basis of above mentioned coefficients, are tabulated below:

Name of forage	Fats %	Proteins %	Carbohydrates %
<i>Acacia leucophloea</i>	1.9	7.1	12.4
<i>Acacia modesta</i>	1.1	7.9	10.5
<i>Albizzia lebbek</i>	1.5	10.8	20.9
<i>Amarantus spinosus</i>	2.2	6.0	32.0
<i>Andropogon annulatus</i>	0.6	3.3	18.5
<i>Cedrela toona</i>	1.9	7.8	23.1
<i>Cordia myxa</i>	1.2	7.9	12.2
<i>Cynodon dactylon</i>	2.0	5.8	27.9
<i>Dalbergia sissoo</i>	1.5	9.7	22.1
<i>Eclipta alba</i>	1.7	5.2	26.2
<i>Ficus glomerata</i>	0.1	6.9	37.2
<i>Ficus religiosa</i>	1.6	8.7	19.3
<i>Mentha sylvestris</i>	1.7	6.3	12.6
<i>Morus alba</i>	2.7	11.7	15.4
<i>Oxalis corniculata</i>	3.0	6.7	36.3
<i>Periploca aphylla</i>	1.1	8.6	12.0
<i>Prosopis specigera</i>	1.5	5.4	25.9
<i>Tamarix dioca</i>	1.1	5.9	26.0
<i>Cenchrus ciliaris</i>	0.5	5.0	25.7

Thus all the forages under examination, except *Ficus glomerata*, were richer in digestible fats as compared to *Cenchrus ciliaris*. Similarly, the content of digestible proteins of these forages, except in case of *Andropogon annulatus*, was also higher. Digestible carbohydrates were, however, on the whole lower than that of *C. ciliaris*. The exceptions being *Oxalis corniculata*, *Eclipta alba*, *Tamarix dioca*, *Amarantus spinosus*, *Cynodon dactylon*, *Prosopis specigera* and *Ficus glomerata*.

Palatability of 5 species out of those analysed by us has been estimated through feeding trials by Mirza and Khan (2). Judging from this point of view the palatable forages analysed by us are, in order of preference, *Morus alba*, *Ficus religiosa* and *Tamarix dioca*, while amongst grazeables the most favoured species is *Cynodon dactylon*. *Oxalis corniculata* is also liked by the animal but to a lesser extent.

Conclusion. The above studies indicate that although the forages under examination are generally lower in carbohydrates, these are capable of supplying sufficient quantities of digestible fats and proteins required for healthy growth of the animal.

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References

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