

Nutrient Profile and Food Value of Indigenous Herbs

D. Agrahar, B.P.S. Yadav, J. J. Gupta and S. K. Sahoo
Division of Animal Nutrition

ICAR complex for NEH Region, Umroi Road, Umiam-793103, Meghalaya (India)

The Northeast is abundant in flora and fauna, many of which have not been analyzed for their nutritional quality. Thus, the present study is an endeavor to identify some of the indigenous green leafy herbs which are either eaten by man or animals and to explore its utility in animal feeding specially in herbivores like rabbits and guinea pigs.

Ten green leafy herbs (*Amaranthus viridus*, *Alternanthera philixeroides*, *Sechium edule* SW, *Fagopyrum cymosum* Meissn., *Sonchus* sp., *Hydrocotyle asiatica* L., *Vernonia anthelmintica* Willd., *Eclipta alba* Hassk., *Plantage erosa* wall. and *Curcuma* sp. Wild) available in abundance were analyzed for the proximate principles, calcium, phosphorus and iron and toxic metabolites like tannins and phenolics (AOAC, 1980; Swain and Hills, 1959).

The proximate analysis (Table-1) revealed that the highest dry matter (DM) content was obtained in *Sechium edule* SW (15.14 g/100g). The highest crude protein and crude fibre content was recorded in *Alternanthera philixeroides* (8.36 g/100g DM) and *Plantage erosa* Wall. (19.31 g/100g DM) respectively. Mineral and toxin analysis (Table 2) showed that the highest levels of calcium and phosphorus were recorded in *Sechium edule* SW (3.47 and 0.37%) respectively on DM basis. *Eclipta alba* Hassk had the highest (0.13%) level of iron. The maximum level of tannins among the herbs studied was present in *Fagopyrum cymosum* Meissn., (0.65%) and phenolics in *Vernonia anthelmintica* Willd., (1.26% of DM)

The weeds other than *Amaranthus viridus*, *Alternanthera philixeroides* and *Fagopyrum cymosum* Meissn. cannot be used as a part of animal rations due to low levels of dry matter, crude protein and crude fibre. Even in *Amaranthus viridus*, *Alternanthera philixeroides* and *Fagopyrum cymosum* Meissn., the levels of crude protein and crude fibre are not adequate to use as sole feed. The nutritional profile *Sechium edule* is adequate. However it is impractical to use since the plucking of the leaves affects the fruit bearing capacity of the plant. Therefore *Amaranthus viridus*, *Alternanthera philixeroides* and *Fagopyrum cymosum* Meissn., needs further tests to ascertain its feeding and nutritive values in animals.

REFERENCES

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Table 1. Proximate nutrient composition (on % DM basis) of herbs

Sample	Dry matter	Energy	Crude Protein	Ether Extract	Crude Fibre
<i>Amaranthus viridus</i>	12.49± 0.26	3.16± 0.02	7.09± 0.02	3.39± 0.03	12.05± 0.001
<i>Alternanthera philixeroides</i>	10.78± 0.20	5.09± 0.01	8.36± 0.01	3.37± 0.08	12.13± 0.11
<i>Sechium edule sw</i>	15.14± 0.11	4.7± 0.01	7.4± 0.001	3.34± 0.05	16.04± 0.01
<i>Fagopyrum cymosum</i>	12.28± 0.11	4.21± 0.02	8.13± 0.02	2.49± 0.10	14.77± 0.10
<i>Sonchus sp.</i>	14.56± 0.63±	3.7± 0.10	5.52± 0.01	5.9± 0.001	13.49± 0.01
<i>Hydrocotyle asiatica L</i>	11.68± 0.97±	4.2± 0.01	4.78± 0.03	1.69± 0.19	15.01± 0.21
<i>Vernonia anthelmintica Willd</i>	8.26± 0.09	4.3± 0.05	7.24± 0.01	2.34± 0.001	11.53± 0.12
<i>Eclipta alba Hassk</i>	4.59± 0.02	3.92± 0.01	6.55± 0.001	3.74± 0.03	14.92± 0.25
<i>Plantage erosa Wall</i>	9.39± 0.14	4.29± 0.001	5.87± 0.03	2.37± 0.03	19.31± 0.08
<i>Curcuma sp.</i>	3.35± 0.01	4.17± 0.01	4.37± 0.001	3.94± 0.01	18.29± 0.03

Table 2. Mineral, tannins and phenolics content (% DM basis)

Sample	Total Ash	Calcium	Phosphorus	Iron	Tannins	Phenolics
<i>Amaranthus viridus</i>	15.16	1.16	0.07	0.0024	0.027	0.555
<i>Alternanthera philixeroides</i>	12.58	0.69	0.06	0.004	0.028	0.838
<i>Sechium edule sw</i>	16.62	3.47	0.36	0.015	0.021	0.480
<i>Fagopyrum cymosum</i>	12.29	1.04	0.37	0.005	0.065	0.982
<i>Sonchus sp.</i>	13.54	1.53	0.24	0.015	0.040	0.655
<i>Htydrocotyle asiatica L</i>	11.29	1.66	0.16	0.124	0.036	0.555
<i>Vernonia anthelmintica Willd</i>	14.88	0.93	0.3	0.122	0.036	1.268
<i>Eclipta alba Hassk</i>	13.11	1.75	0.13	0.130	0.024	0.705
<i>Plantage erosa Wall</i>	12.8	1.99	0.2	0.115	0.435	0.652
<i>Curcuma sp.</i>	14.59	0.74	0.26	0.049	0.037	0.816