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Nutritive Value of Alligator Weed [*Alternanthera philoxeroides* (Mart.) Griseb.] and its Possible Utility as a Fodder in India

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Alternanthera philoxeroides (Mart.) Griseb., commonly called alligator weed, is a native of Argentina and South America. This weed is a perennial succulent plant, which grows in aquatic, marshy and waterlogged areas. It was first reported in India from Bihar and West Bengal (Maheswari, 1965). Since then it has spread in 16 states of India. It has been reported to be used as a leafy vegetable by people in Kerala (India) where it is sold as a delicious leafy vegetable in the market by the name of '*kozhappa*'. It was reported to be grown in backyard in almost all the Australian states as a leafy vegetable by Sri Lankan community. At Jabalpur (Madhya Pradesh, India), alligator weed vernacularly called as '*Pulla chara*' is harvested from the aquatic bodies and sold during summer season to dairy owners who use alligator weed as a substitute of other green fodder like berseem, jowar, maize, etc.

The samples of alligator weed from in and around Jabalpur were analyzed.

Table 1. Moisture and dry matter content in different forms of alligator weed

Parameter	Average value
Moisture (%) in aquatic form	
Whole plant (stem and leaves)	91.18±0.48
Leaf	87.66±0.30
Stem	94.06±0.85
Moisture (%) in terrestrial form	
Whole plant (stem and leaves)	85.23±0.34
Leaf	84.18±0.40
Stem	86.26±0.33
Dry matter (%) in aquatic form	
Whole plant (stem and leaves)	8.82±0.48
Leaf	12.34±0.30
Stem	5.94±0.85
Dry matter % in terrestrial form	
Whole plant (stem and leaves)	14.77±0.34
Leaf	18.82±0.40
Stem	13.74±0.33

In terrestrial form, moisture was less (85.2±0.35%) than aquatic form (91.18±0.5%). The moisture per cent was higher in stem than leaf (Table 1). In general, it was observed that the crude protein content increased with reduction in crude fiber content. Crude protein and crude fiber in alligator weed was 15 and 16%, respectively (Table 2). This weed is a good source of protein, carbohydrate, calcium, magnesium and other nutritional requirements of animals, this may be the reason that the dairy owners use it as a green fodder substitute. However, it will be pertinent to mention that water bodies, particularly in urban areas, is a great source of accumulation of heavy metals due to draining of waste water from nearby houses, factories, etc. which may be absorbed by the alligator weed and may reach in the food chain through milk of dairy animals. Therefore, a detailed study about the absorption and accumulation of heavy metals by alligator weed is also required before recommending it as a substitute of green fodder.

Table 2. Nutritional composition of alligator weed

Crude fibre (%)	16.30±0.3
Crude fat (%)	3.96±0.06
Crude protein (%)	14.58±1.43
Ash content (%)	16.30±0.1
Pectin (%)	1.400±0.20
Ca (%)	2.90±0.1
Mg (%)	2.50±0.26
Phosphorus (%)	0.18±0.01
Total phenolics (mg 100 g^{-1})	4.1±0.20
Total carbohydrates (mg g^{-1})	15.4±0.20
Total free amino acid (mg g^{-1})	1.92±0.02

REFERENCE

Maheshwari, J. K. 1965. Alligator weed in Indian Lake. *Nature* **206** : 1270.