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Proximate analysis of some Indian traditional herbs used as feed additive in livestock and poultry

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Abstract

The present study was undertaken to assess the proximate composition of some Indian traditional herbs (*Curcuma amada*, *Asparagus racemosus*, *Bacopa monnieri* and *Aegle marmelos*) that may be further explored to be used as feed additive in ration of livestock and poultry. The proximate composition of the herbs was analyzed by standard methods described by AOAC (2005). The implications of the findings would be helpful for validation of these herbs as feed additive in the ration of livestock and poultry.

Keywords: feed additive, herb, proximate composition

1. Introduction

The beneficial effects of herbs in farm animals may arise from activation of feed intake and secretion of digestive enzymes, immune-stimulation, anti-bacterial, coccidiostatic, anthelmintic, antiviral or antioxidative characteristics (Uegaki *et al.*, 2001) [1]. Herbal feed additives could either influence feeding pattern, or influence the growth of favourable microorganisms in the rumen, or stimulate the secretion of various digestive enzymes, which in turn may improve the efficiency of utilization of nutrients or stimulate the milk secreting tissue in the mammary glands, resulting in improved productive and reproductive performance of dairy animals (Bakshi and Wadhwa, 2000) [2]. Realizing this, a number of herbs have been identified including *Curcuma amada*, *Asparagus racemosus*, *Bacopa monnieri* and *Aegle marmelos* which in turn may improve the efficiency of utilization of nutrients in both livestock and poultry.

2. Materials and Methods

The samples (*Curcuma amada*, *Asparagus racemosus*, *Bacopa monnieri* and *Aegle marmelos*) were analyzed in Department of Animal Nutrition, College of Veterinary and Animal Science, RAJUVAS, Bikaner as per AOAC (2005) [3].

3. Results

The proximate composition of different herbs for crude protein, ether extract, crude fibre, nitrogen free extract and total ash are presented in Table 1.

Table 1: Proximate composition of Herbs (% DM basis)

Botanical name (Local name/ common name)	DM	CP	EE	CF	NFE	Total Ash
<i>Curcuma amada</i> (Amba haldi)	94.18	10.09	0.84	6.26	72.79	10.02
<i>Asparagus racemosus</i> (Shatavari)	95.67	04.93	0.89	11.41	78.09	04.68
<i>Bacopa monnieri</i> (Brahmi)	95.32	07.42	0.73	09.88	73.12	08.85
<i>Aegle marmelos</i> (Bael)	95.65	02.28	0.67	59.31	36.73	01.01

The highest crude protein content was observed in *Curcuma amada* (10.09%) while lowest value was found in *Aegle marmelos* (2.28%). The ether extract was obtained maximum in *Asparagus racemosus* (0.89%) while minimum value was observed in *Aegle marmelos* (0.67%). The crude fibre content of the herb in study found highest in *Aegle marmelos* (59.31%) and lowest in *Curcuma amada* (6.26%). The total ash content among all was found highest in *Curcuma amada* (10.02%) while lowest value was obtained in *Aegle marmelos* (1.01%).

4. Conclusion

The implications of these findings with respect to nutritional value can be beneficial in validating the use of medicinal herbs as a feed additive in ration of livestock and poultry for better utilization and optimum productivity.

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