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Research Article

COMPARATIVE EVALUATION OF ASCORBIC ACID CONTENTS FROM SOME TREE SPECIES OF JALORE DISTRICT OF RAJASTHAN

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ABSTRACT
Evaluation of Ascorbic acid contents of stems, leaves and fruits from three selected tree species growing in Jalore district of Rajasthan was carried out. Tree species like *Cordia dichotoma*, *Cordia gharaf* and *Dichrostachys cinerea* were collected from three different sites i.e. Ahore, Bhinmal and Sanchore areas of Jalore district for analysis. Among all the three tree species the in *Cordia dichotoma* maximum (96.45mg/100 g.d.w.) ascorbic acid contents were found in fruits collected from Bhinmal area while minimum (67.18 mg/100 g.d.w.) in stems of *Dichrostachys cinerea* collected from same area.

Keywords: *Ascorbic Acid Contents, Tree Species, Jalore District, Rajasthan*

INTRODUCTION
The tree species of growing in Jalore district of Rajasthan are good source of nutritionally important compounds so these can be considered as livestock feed. Ascorbic acid, also called as anti-scorbutic (Vitamin C), is an important primary product and well known for its property as an electron donner in photophosphorylation.
The role of ascorbic acid in plant growth and metabolism has been worked out by various workers (Arnon *et al.*, 2004; 1954; Aberg, 1958; Mitsui and Oi, 1961; Isherwood and Mapson, 1962).
Free endogenous ascorbic acid has been recently reported from some arid zone plant species (Kapoor, 1989; Harsh and Ahmed, 1994; Kapoor and Ritu, 1996; Kapoor *et al.*, 2004; Kapoor *et al.*, 2005; Kapoor and Mishra, 2013, Kapoor and Purohit, 20013; Kapoor and Pandita, 2013; Kapoor and Kumar, 2014; Kapoor and Swami, 2015).

MATERIALS AND METHODS
The present investigation deals with evaluation of free endogenous ascorbic acid contents of stems, leaves and fruits of three selected tree species growing in Jalore district of Rajasthan like *Cordia dichotoma*, *Cordia gharaf* and *Dichrostachys cinerea*.
The stems, leaves and fruits of all the three selected plant species taken for present investigation were collected from three different sites Ahore, Bhinmal and Sanchore areas of Jalore district. Plant parts were collected in polythene bags. The samples were dried, powdered and then used for the estimation of free endogenous ascorbic acid.
Fresh and healthy stems, leaves and fruits of selected plants collected from study area were dried and homogenized in a mortar with 2% metaphosphoric acid (MPA) (10 mg powder: 100 ml MPA) and allow to macerate for one hour.
The mixtures were centrifuged at low speed (2500 rpm) and supernatants were used for estimation of ascorbic acid following the colorimetric method (Jenson, 1962).
Absorbancy of each of the sample was measured on a spectronic-20 colorimeter (Bausch & Lamb) set at 546nm against blank. Values are expressed in mg / 100 g.d.w

RESULTS AND DISCUSSION
Concentration of the ascorbic acid in the various parts (stems, leaves and fruits) of all the selected tree species i.e. like *Cordia dichotoma*, *Cordia gharaf* and *Dichrostachys cinerea* were collected from three different sites i.e.
Ahore, Bhinmal and Sanchore areas of Jalore district fare presented in Table 1.

Table 1: Ascorbic Acid Contents of Various Plant Parts of Selected Tree Species

(Mg/100g.d.w.)

Plants	Stems			Leaves			Fruits		
	I	II	III	I	II	III	I	II	III
Cordia dichotoma	71.52	74.32	70.23	73.58	78.84	73.92	88.20	96.45	92.28
Cordia gharaf	69.73	73.28	68.80	71.84	79.16	74.88	93.49	90.88	89.77
Dichrostachys cinerea	70.44	67.18	70.66	79.54	72.85	78.32	94.82	90.42	89.65

I - Ahore
II - Bhinmal
III - Sanchore

In Cordia *dichotoma* maximum (96.45mg/100 g.d.w.) ascorbic acid contents were found in fruits collected from Bhinmal area while minimum (70.23 mg/100 g.d.w.) in stems collected from Sanchore area.
In *Cordia gharaf* maximum (93.49 mg/100 g.d.w.) ascorbic acid contents was found in the fruits collected from Ahore area, while minimum (68.80mg/100 g.d.w.) in the stems collected from the Sanchore area.
In *Dichrostachys cinerea* maximum (94.82 mg/100 g.d.w.) ascorbic acid contents were found in fruits collected from Ahore area while minimum (67.18 mg/100 g.d.w.) in stems collected from Bhinmal area.
Among all the three tree species the in *Cordia dichotoma* maximum (96.45mg/100 g.d.w.) ascorbic acid contents were found in fruits collected from Bhinmal area while minimum (67.18 mg/100 g.d.w.) in stems of *Dichrostachys cinerea* collected from same area.

Conclusion

The present investigation shows that increasing amount of ascorbic acid contents in various plant parts of all selected tree species is directly proportional to growth of an arid zone plant in the direction of rooting to fruiting stages.
The present study thus indicates that tree species of this Jalore region of Rajasthan are good source of ascorbic acid (Vitamin C) so these can be used as livestock feed.

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