

ASCORBIC ACID CONTENTS FROM SOME FABACEOUS PLANT SPECIES GROWING IN RAJASTHAN DESERT

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ABSTRACT

Ascorbic acid contents of roots, shoots and fruits from three selected plant species of family Fabaceae like *Clitoria ternatea*, *Sesbania bispinosa* and *Tephrosia purpurea* have been analysed. Maximum ascorbic acid contents were found in the fruits of *Tephrosia purpurea* (59.10mg/100g.d.w.) while, minimum in the roots of *clitoria ternatea* (40.15mg/100g.d.w.).

KEY WORDS

Ascorbic acid contents, Fabaceous plant species, Rajasthan Desert

INTRODUCTION

The plant species of Fabaceae family growing in Rajasthan Desert are good and potential source of nutritionally and phytochemically 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 donor in photophosphorylation.

The role of ascorbic acid in plant growth and metabolism has been worked out by various workers [1-4]. Free endogenous ascorbic acid has been recently reported from some arid zone plant species [5-11].

MATERIALS AND METHODS

In the present investigation, attempts have been made to investigate the quantitative production of free endogenous ascorbic acid in the roots, shoots and fruits from three selected fabaceous plant species like *Clitoria ternatea*, *Sesbania bispinosa* and *Tephrosia purpurea*.

Fresh and healthy roots, shoots and fruits of selected plants collected from Bikaner district 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 [12]. Absorbency of each of the sample was measured on a spectronic-20 colorimeter (Bausch & Lomb) set at 546nm against blank. Values are expressed in mg / 100 g.d.w

RESULTS AND DISCUSSION

Quantitative estimation of ascorbic acid contents from various plant parts is given in the following **Table 1**.

Table 1: Ascorbic acid contents (mg / 100 g.d.w) various parts of selected plant species

Plants	Roots	Shoots	Fruits
<i>Clitoria ternatea</i>	40.15	52.08	57.10
<i>Sesbania bispinosa</i>	47.12	50.01	54.66
<i>Tephrosia purpurea</i>	56.26	55.10	59.10

The roots, shoots and fruits of all the three plant species showed variation in the ascorbic acid contents. Maximum ascorbic acid contents were found in the fruits of *Tephrosia purpurea* (59.10mg/100g.d.w.) while, minimum in the roots of *Clitoria ternatea* (40.15mg/100g.d.w).

The present study thus indicates that fabaceous plants of arid region of Rajasthan are good source of

ascorbic acid (Vitamin C) so these can be used as livestock feed.

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