



## ***Withania Coagulans* (Stocks) Dunal - Medicinal Uses in The Western Rajasthan Desert, India**

**M.K. Singhadiya & Sandeep  
Kr. Chouhan**

Botanic Garden Indian Republic  
Botanical Survey of India,  
Noida (U.P.)



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### **INTRODUCTION**

One of these plants which is used to treat various diseases is *Withania coagulans* (Stocks) Dunal - a rare plant of the Western Rajasthan desert. The plant is also important for the property of coagulating milk, possessed by its berries; they are extensively used locally for this purpose in North-West India and adjoining countries. The milk coagulating properties are due to presence of an enzyme. The plant particularly fruits, leaves and roots are also locally used in the treatment of the various diseases.

In India, it is found in (North-West India) Himachal Pradesh, Punjab, Uttarakhand and Rajasthan. In Rajasthan, it is sporadically distributed in Barmer, Jaisalmer and Jodhpur districts of Western Rajasthan desert, categorised “vulnerable species” by Pandey et.al (2012). In Western Rajasthan desert, the fruits are extensively used as emetic and diuretic. While surveying the local market it was found that the fruits of *W. coagulans* were adulterated with the fruits of *Withania somnifera*, a common species. The fruits of the both the species look similar but are not fully enclosed by the accrescent calyx in *W. coagulans*. In the field *W. coagulans* can also be distinguished from *W. somnifera* by elliptic-lanceolate or oblanceolate leaves and unisexual flowers. In *W. somnifera* the leaves are ovate, oblong or obovate and the flowers are bisexual.

### **USES**

The plant is locally famous for the property of coagulating milk, possessed by its berries. The fruits are commonly used for the treatment of Diabetes mellitus. For this, the local people soaked the fruits in water for whole night. After sieving the fruits, the water so collected is drunk by the diabetic patient for about a month and is very effective.

It has also antimicrobial, carminative, anthelmintic, antifungal, hepatoprotective, cardiovascular, free radical scavenging, anti-inflammatory, antitumor, immunosuppressive, depressant properties. It is also used in flatulence and dyspepsia. The decoction of the plant is taken orally for curing asthma, biliousness stranguary and fresh plant paste applied externally for healing wounds. The seeds are diuretic, useful in lumbago, ophthalmia and lessen the inflammation of piles. The ripe fruits are sedative, used in intestinal affections. Leaves are used as febrifuge and as blood purifier. The tender branches are used as toothbrush (Chadha, 1976; Gupta, 2012; Jaiswal, et al., 2009; Mishra, 2008; Mishra, et al., 2013; Salwan, et al., 2012).

### CONSERVATION

*Withania coagulans* is rare in the Western Rajasthan desert, only countable collections have been made from the areas like Barmer, Jaisalmer and Jodhpur districts. The probable reasons for the scarcity of this plant are over exploitation for various economic uses like medicinal “Paneer making” properties, rapid urbanization and over population of both human being and livestock. The other probable reasons for the rarity of the plant are badly disturbed ecosystem, lower range of adaptability, grazing, climatic factors and polygamous-dioecious, unisexual flowers. The fruits are commonly used by the local people as “Cheese making” (Paneer doda, Paneer band). All these factors put this plant in “vulnerable” state. Hence, the present authors recommend “ex-situ” conservation and multiplication of germplasm by Biotechnological methods. Also there is a need to create general awareness among people regarding sustainable use of such useful plants.

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