Cultivation of Tinosporacordifolia (Willd.) Miers Ex Hook.F. &Thoms.-A Medicinal Plant in High Demand.

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Abstract
Tinosporacordifolia is known by different names like Giloy, Guduchi, and Amrita etc and is an important medicinal plant which is used in treatment of different diseases, urinary infection, skin diseases, leprosy, rheumatoid arthritis and many more. Since last few decades throughout the world much stress is laid on herbal treatment because adverse effect of synthetic drugs has become a common feature. Obviously, this has put enough pressure on demand of this valuable plant. It is therefore essential to find out the possibility of large scale cultivation of Tinosporacordifolia. As the plant is usually propagated through cuttings, the resource material was obtained from NBPG, the cuttings were planted in Botanical garden of VBU and different treatments were given to find out optimum condition for better growth, one set of experimental cutting was given cow dung whereas the second set was provided Vermicompost. Another set of experimental cutting was fed with pongamia powder which is a known biofertilizer. The fourth set was regularly given mixture of cow dung and Vermicompost. A control set was maintained which was planted in normal soil. Regular morphometric data were collected to assess growth of this plant in different conditions. Result clearly indicate that the mixture of cowdung and vermicompost proved to be the best condition for cultivation of Tinosporacordifolia. This was followed by vermicompost. Cowdung and Pongamia also proved to be suitable agent for growth enhancement of the test plant.

Keywords-

Introduction-
Tinosporacordifolia (Willd.) Miers is a climbing shrub, and belongs to Menispermacea family. It is a glabrous and succulent shrub. It is an important drug of Indian Systems of Medicines since times immemorial (Bhalerao et al 2015). A variety of active components derived from the plant like alkaloids, steroids, diterpenoidlactones, aliphatics, and glycosides have been isolated from the different parts of the plant body, including root, stem, and whole plant (Saha et al 2013). Tinosporacordifolia (Giloy) has been used as antidiabetic, anti-inflammatory, anti-spasmodic, Jaundice, urinary tract infections, skin diseases, digestive tract, cancer and cures many more diseases. Rapid depletion of natural resources of medicinal plants accompanied with its cumulative rise in demand has triggered the necessity to counter balance the present alarming situation. An easy and viable way to meet the growing demand is to increase the proximity through proper cultivation practices. Tinosporacordifolia (Willd.) Miers ex Hook. F. & Thoms. is one such medicinal plant with high demand in Ayurvedic pharmaceutical industries. It is a climbing shrub with a succulent stem. Leaves are heart shaped, juicy and cordate. Flowers are greenish, unisexual and bloom in summer. Male flowers are small, yellow or green coloured in cluster whereas female flower occur singly. Fruits are pea shaped, fleshy shiny turn red when boiled and occur in winter. It grows in India including our state Jharkhand. It is one of the most important medicinal plants and is called as magical herb due to its property of curing many diseases (Srivastava, 2011). Constituents isolated from this plant belongs to different classes of alkaloids, diterpenoidlactone, glycosides, steroids, polysaccharides and aliphatic compounds. The plant is rich in Calcium and Phosphorus (Khosa and Prasad 1971; Akhtar, 2010).

There are many practical applications of ecology in conservation biology, wet land management, National resource management (agro ecology, agriculture, forestry, agroforestry, fisheries), community health, econoimics, basis and applied science and human social interactions.

The National Medicinal Plant Board has recorded that the demand for the stem of Tinosporacordifolia 2932.6 tonnrs for the year 2004-2005. The demand for medicinal plant by the pharmacies is seen to be moving in correspondence with the rate of growth of consumer demand for
the Ayurvedic medicines ten percent per annum from 1993 to 1996 (Suneetha and Chandrakanth, 2002) and the trend remains the same until date. It has been noticed that while the as the demand for the plants is growing there are limited in supply, increasing the problems of scarcity. To increase the production of medicinal plants. This rising demand can be achieved through cultivation of medicinal plant through vegetative propagation techniques.

**Objective-1.** To develop cultivation technique of *Tinosporacordifolia*.  
2. To study impact of biofertilizer on growth of *Tinosporacordifolia*.

**Material & Methodology** – Samples of *Tinosporacordifolia* were procured from NBPG (The National Bureau of Plant Genetic Resources. The samples procured from NBPG were grown in Botanical Garden of Vinoba Bhave University. Few cuttings were without manipulations which act as control. The other replica are being maintained by providing Vermicompost and Cowdung manure. Doses of Biofertilizers – Control 1 kg soil, BC (Biofertilizer Cowdung)-Soil (2/3 part)+1/3 part mixture of Cowdung + sand and powdered *Pongamiapinnata*, BV (Biofertilizer Vermicompost)-Soil (2/3 part)+1/3 part mixture of Vermicompost + sand +powdered *Powderedpongiapinnata*, BM(Mixture of Cowdung & Vermicompost)-Soil (2/3 part)+1/3 part mixture of Cowdung + Vermicompost + sand and powdered pongamia.

**Result-**

**Conclusion-** Result clearly indicate the mixture of Cowdung and Vermicompost proved to be the best condition for cultivation of *Tinosporacordifolia*. This was followed by Vermicompost. Cowdung and Pongamia also proved to be suitable agent for growth enhancement of the test plant.

**References-**

KiemPV, MinhCV, DatNT, KinhLV, Hang DT