In Vitro Cultivation of *Dolichandrone*

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PREFACE

During ethno medicinal studies, it was noticed that effusion of leaves of *Dolichandrone falcata* along with curd is effective against piles. A method of therapy has been developed which healed the piles within four days. A pre and post treatment blood analysis report clearly indicates its effectiveness on piles. Leaves of this plant was analyzed for its active component and found that it is rich in chrisin 7- rutinoside as one of the biomolecules.

Dolichandrone falcata L. named Medhshingi is belongs to family Bignoniaceae which is a deciduous tree upto 6-15 m high, grows fairly abundantly in central India, Bihar, and the Deccan plateau. Medhshingi is a small deciduous tree with bluish-gray bark, peeling in irregular woody scales. Leaflet blade is about 1.2 cm long and wide. Flowers are white, borne in mostly 1-3 flowered corymbs.

Flower stalk is 1/2 inch long. Sepal tube is 1.2-2 cm, split on one side to the base. Flower petals are frilly. Capsules are nearly quadrangular, curved like a sickle. The capsules look like curved sheep horns, hence the common name Medhshingi. This tree grows somewhat slowly even in the best soils.

The effusion of leaves of *D. falcata* along with curd is effective against disorder piles. A method has been developed which heals the piles within four days. After HPTLC analysis of the leaves it was noticed that chrisin 7- rutinoside is as one of the biomolecules effective on piles.

It was noticed that 16 species of genus *Dolichandrone* have been reported in India and rest of the world. Among all these species, five species have been reported from Aurangabad region.

The next step of research was to standardize the protocol for *in-vitro* micropropogation taking leaf, shoot tip and seed as explants. All explants were surface sterilized with 0.1 to 0.5% mercuric chloride depending on choice of explant. These explants were washed with sterile distilled water for 4-6 min for removing excess Mercuric chloride. The result showed 0.3% HgCl2 concentration was effective for controlling the contamination.

Callus formation and proliferation have been observed in internode, node, embryo and leaf explants cultured on MS media supplemented with BA, Kin, 2, 4-D, NAA, IBA and IAA as

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alone or in combination. The frequency of callus formation in node, internodes and leaf explants was low as compared to embryo explants. Callus developed from embryo, node, internodes and leaf explants, did not develop any shoot bud in regeneration media and the callus turned brown after 25-30 days of culture.

The shoots were transferred on MS medium supplemented with IBA/NAA separately or in combination. Rooting was best induced in microshoots excised from proliferated shoot cultures on full strength MS medium, containing 2 mg IBA + 0.6 mg NAA. The response of IBA/ NAA for rooting, in combination could be better than alone.