

Phytochemical Production from In Vitro Established Shoot Culture of *Eclipta alba* (L.) Hassk: A Medicinal Herb

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ABSTRACT

The plant diversity of our country is facing serious threat due to over exploitation for their use in pharmaceuticals, agrochemicals, food and flavour compound. Thus, conservation and sustainable use of plant diversity is essential to protect plant resources and meet the demand for future. *Eclipta alba* (L.) commonly known as Bhringaraj, is a small, branched annual medicinal herb of family Asteraceae and has been used since long back to treat several human diseases including liver disorders, gastrointestinal problems, skin infections, hair tonic, anti-aging agent. The medicinal property of this plant is due to the presence of several phytochemicals such as wedelolactone, β -sitosterol, β -amyrin, triterpenes. Thus, the present study was aimed to isolate the medicinally useful phytochemicals from in vitro established shoot cultures of *E. alba*. The shoot cultures were established by culturing the nodal explants on 0.65% (w/v) agar gelled Murashige and Skoog (MS) medium having 3% (w/v) table sugar, 1.0 mg/l 6-benzyl aminopurine. The in vitro regenerated shoots were harvested and dried and used for phytochemical extraction. The compounds extracted showed presence of phenolics, flavonoids and free radical scavenging activity. Thus, it can be concluded that the shoot cultures of *E. alba* is the source of various bioactive compounds and can be exploited for production of therapeutic phytochemicals without disturbing the nature.

Keywords: *Eclipta alba*, herb, shoot culture, phytochemical, liver disorders, gastrointestinal problems

