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Growth Conditions of *Zeyheria montana* Mart as a Source of Lapachol.

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Zeyheria montana Mart., is a species native to the savanna region of central Brazil. Roots contain lapachol, a naphthoquinone with anti-cancer properties which is a precursor of β -lapachone. Like camptothecin and topotecan, β -lapachone inhibits DNA topoisomerase I. Topoisomerase inhibitors, including β -lapachone, are effective against several types of cancer, including lung, breast, colon and prostate cancers. The use of β -lapachone in humans has been limited due to its toxicity. A new semi-synthetic analog 3-allyl- β -lapachone, however has lower toxicity in cell culture and greater potential as anticancer treatment. This study was conducted to evaluate lapachol content in *Z. montana* and its potential for domestication as a specialty crop. Seed germination and light condition studies were conducted to evaluate the conditions for propagation of the species and enhancement of lapachol yield. Results have shown that seed wing removal was beneficial to improve seed germination and light was not a requirement for germination. Storage at room temperature decreased germination from 90.2 to 30.5% after six months. Different light intensities were evaluated for lapachol production, and roots from plantlets maintained under darkness to $200 \mu\text{M m}^{-2} \text{s}^{-1}$ of light produced 50 times more lapachol than those kept at $800 \mu\text{M m}^{-2} \text{s}^{-1}$, indicating that the content of lapachol is enhanced under lower light intensities. It is desirable to grow *Z. montana* under shade conditions for lapachol production.