

Feature

Western Australian sandalwood seed oil: new opportunities

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Summary

Western Australian Sandalwood (Santalum spicatum R.Br.) is an economically important timber crop. Sandalwood seeds have been identified as a potential secondary source of income prior to harvesting the tree. Chemical and toxicological studies of the seed have found that the kernels contain nearly 50% of a drying oil. This oil is comprised mainly of unsaturated fatty acids. The presence of an unusual acetylenic fatty acid has been confirmed. The oil was found to cause no pathological abnormalities in mice but reduced fat deposition. Acetylenic fatty acids are known to inhibit eicosanoids and stimulate certain enzymes, even though dietary consumption is yet to be trialled. The oil has potential uses in cosmetic and external pharmaceutical applications. Vegetable oils used in pharmaceutical and cosmetic formulations require high oxidation stability and antioxidant activity and benefit from the presence of other compounds such as sterols and tocopherols. This article summarises the research conducted over a half a century on sandalwood seeds and considers suitable uses and the future research needed to commercialise this oil.