

Mint oil production moves south

February 24 2010

Peppermint (*Mentha x piperita L.*) essential oil is a major aromatic agent used extensively in chewing gum, toothpaste, mouth washes, pharmaceuticals, and confectionary and aromatherapy products.

Commercial production of peppermint essential oil is concentrated in the northwestern United States, where long days and cooler nights produce a successful peppermint crop yield with desirable oil composition. Current understanding is that large commercial production of peppermint may not be successful south of the 40th to 41st parallel because of the shorter days (less than 15 hours) in the summer and the inability of peppermint to form flowers under short days, which would affect oil composition.

However, the U.S. essential oil industry has been looking to expand mint production areas in the South due to the decline of peppermint production areas in Idaho and the northwestern United States due to expanding corn acreage. The peppermint essential oil production in the United States decreased 19.4% from 3.1 million kg in 2007 to 2.5 million kg in 2008. However, there is no prior research on peppermint productivity, essential oil content, and composition in the southeastern United States.

A 2-year field study in Mississippi evaluated the effect of nitrogen, growth stage (bud formation and flowering), and harvest time (first in mid-July, second beginning of October) on peppermint yields, oil content, and composition. The study by Zheljazkov et al. was published in the January-February issue of [Agronomy Journal](#).

Zheljazkov and colleagues found that biomass and oil yields were higher from the first cut than from the second. Overall, nitrogen increased biomass and oil yields. Contrary to literature reports that peppermint requires long days north of the 41st parallel to reach flowering, peppermint in Mississippi did reach flowering. The average oil yields at bud formation and at flowering were 165 and 122 kg/ha, respectively, and were greater than the average peppermint essential oil yields for the United States in 2008.

Zheljazkov proposes, "Our results suggest the first harvest in Mississippi should be delayed until the end of July to promote accumulation of the main oil ingredient, menthol, in peppermint oil. Peppermint could provide two harvests per growing season under the Mississippi climate, with oil yields and composition similar to those from other peppermint production regions."

More information: View the abstract at agron.scijournals.org/cgi/content/abstract/102/1/124 .

Provided by American Society of Agronomy

Citation: Mint oil production moves south (2010, February 24) retrieved 26 April 2024 from <https://phys.org/news/2010-02-mint-oil-production-south.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.