

Growing sorghum for biofuel

November 10 2010

Conversion of sorghum grass to ethanol has increased with the interest in renewable fuel sources. Researchers at Iowa State University examined 12 varieties of sorghum grass grown in single and double cropping systems. The experiment was designed to test the efficiency of double cropping sorghum grass to increase its yield for biofuel production.

The author of the report, Ben Goff, found that using sorghum from a single-cropping system was more effective for the production of ethanol. Since most of the ethanol currently produced in the United States is derived from corn, Goff suggests that corn may not be able to meet the energy needs of the country. According to the study, only 15 to 25% of the energy requirements would be fulfilled using corn or starch-based ethanol; however, ethanol produced from cellulose could be more effective than previous biofuels.

Goff states that from a production standpoint, growing sorghum as a sole crop is more efficient for [ethanol production](#), however, it remains to be seen whether the favorable long-term environmental benefits, such as reduced erosion potential, of the double-cropping systems merits the reduced total biomass production.

Although certain genotypes of sorghum from the double-cropping system yielded total biomass equal to those in the single-cropping study, all of the sorghum varieties in the single-cropping system had consistently higher ethanol yields.

The author theorizes that these altered chemical compositions could be

attributed to the different [cropping systems](#).

Goff recommends that further research on double-cropping systems for [ethanol](#) production should focus on efforts to maximize production of sorghum, such as incorporating a winter crop that matures earlier in the season. This would allow planting of the sorghum closer to its optimal date and capitalize on its ability to produce greater and higher-quality biomass over a greater portion of the growing season.

More information: www.agronomy.org/publications/...abstracts/102/6/1586

Provided by American Society of Agronomy

Citation: Growing sorghum for biofuel (2010, November 10) retrieved 29 April 2024 from <https://phys.org/news/2010-11-sorghum-biofuel.html>

<p>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.</p>
--