

Reject watermelons -- the newest renewable energy source

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Watermelon juice can be a valuable source of biofuel. Researchers writing in BioMed Central's open access journal *Biotechnology for Biofuels* have shown that the juice of reject watermelons can be efficiently fermented into ethanol.

Wayne Fish worked with a team of researchers at the USDA-Agricultural Research Service's South Central Agricultural Research Laboratory in Lane, Oklahoma, US, to evaluate the [biofuel](#) potential of juice from 'cull' watermelons - those not sold due to cosmetic imperfections, and currently ploughed back into the field.

He said, "About 20% of each annual watermelon crop is left in the field because of surface blemishes or because they are misshapen. We've shown that the juice of these melons is a source of readily fermentable sugars, representing a heretofore untapped [feedstock](#) for ethanol biofuel production".

As well as using the juice for [ethanol production](#), either directly or as a diluent for other biofuel crops, Fish suggests that it can be a source of lycopene and L-citrulline, two 'nutraeuticals' for which enough demand currently exists to make extraction economically worthwhile. After these compounds have been removed from the 'cull' juice, it can still be fermented into ethanol.

The researchers conclude, "At a production ratio of ~0.4 g ethanol/g sugar, as measured in this study, approximately 220 L/ha of ethanol

would be produced from cull watermelons".

More information: Watermelon juice: a promising feedstock supplement, diluent, and nitrogen supplement for [ethanol](#) biofuel production; Wayne W Fish, Benny D Bruton and Vincent M Russo; *Biotechnology for Biofuels* (in press); www.biotechnologyforbiofuels.com/

Source: BioMed Central ([news](#) : [web](#))

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