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Biofuels

JAI Guest Editors

Lou Honary

Charles Conconi



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Journal of ASTM International (JAI) Scope

The JAI is a multi-disciplinary forum to serve the international scientific and engineering community through the timely publication of the results of original research and critical review articles in the physical and life sciences and engineering technologies. These peer-reviewed papers cover diverse topics relevant to the science and research that establish the foundation for standards development within ASTM International.

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Foreword

THIS COMPILATION OF THE *JOURNAL OF ASTM INTERNATIONAL (JAI)*, STP1477, on *BIOFUELS* contains papers published in JAI highlighting the many aspects of biofuels as a reference source for those involved in research, development, and/or the use of biobased fuels. Topics are widely varied and present unique and comprehensive areas of biofuels, the use of industrial crops and algae, enhancing existing esterification processes and new advancements.

This STP is sponsored by ASTM Committee D02 on Petroleum Products and Lubricants. The JAI Guest Editors are Prof. Lou Honary, University of Northern Iowa's National Ag-Based Lubricants Center, Waterloo, IA and Msc Eng. Charles Conconi, Mercedes-Benz do Brasil, São Bernardo Do Campo, Brazil, Ph.D. student of EESC.

The editors are pleased with the quality of the research papers submitted for review and publication and are certain the compilation of these papers will be helpful in advancing the development of biobased fuels.

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Overview

Crop oils and fuels derived from them present properties that are suitable for industrial and automotive lubricants and fuel applications. They also present an alternative to petroleum when the demand for this finite resource is ever increasing. In the United States, National policy has created a new impetus for promoting and using biofuels. Moreover, worldwide demand for petroleum, combined with geopolitical issues related to petroleum producing regions, has created a more accepting market and more vigorous search for alternative fuels.

The United States is the largest worldwide supplier of agricultural products and oilseeds. Advanced mechanized farming, combined with superior seed and related technologies, has made the countrys farmers highly efficient producers of commodity crops. Similarly, Canadian and European countries have invested significant amounts of resources in advancing production technologies for canola and rapeseed, respectively. Other countries, such as Brazil, have also increased production of oilseed crops, such as soybeans, to the point of being competitive in the world market.

This book provides a large array of topics related to biofuels. The editors selected the articles for their usefulness and variety. The topics range from detailed technical to economic and efficiency related subjects. We are certain the collection of these papers will be a useful reference for those interested in the research, development, and use of biofuels.

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