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Sommario/riassunto	Environmental and political concerns are generating a growing interest in alternative engine fuels such as biodiesel. Biodiesel is a renewable energy source produced from natural oils and fats, which can be used as a substitute for petroleum diesel without the need for diesel engine modification. In addition to being biodegradable and non-toxic, biodiesel is also essentially free of sulfur and aromatics, producing lower exhaust emissions than conventional gasoline whilst providing similar properties in terms of fuel efficiency. The greatest drawback of using pure vegetable oils as fuels are their high viscosity, although this can be reduced by techniques such as dilution, micro-emulsification, pyrolysis or transesterification. Of these processes, the transesterification of vegetable oil triglycerides in supercritical methanol has been shown to be particularly promising, producing high yields of low-viscosity methyl esters without the need of a catalyst. Furthermore, these methyl esters have a considerably lower flash point than that of pure vegetable oils. Biodiesel: A Realistic Fuel Alternative for Diesel Engines describes the production and characterisation of biodiesel, along with current experimental research work in the field.

The book will be of great interest to advanced undergraduates, postgraduates and researchers in renewable energy, as well as to fuel engineers.