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Sink or swim: Navigating the biofuels climate in an oil price recession

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With so much uncertainty plaguing global biofuels markets in 2015, producers, investors, traders and market participants of all backgrounds need answers on what direction the industry takes in 2016. How has the historic oil decline affected the biofuels outlook in the past six months, and what does it mean for the industry moving forward? Will policy setbacks in the US and UK continue to stunt biofuel industry growth in 2016? How can the markets thrive with explosively volatile feedstock agriculture prices dragging margins on for a rollercoaster ride? Will Asian and Middle Eastern markets continue to emerge as major consumers in 2016 and if so, how can Western holders capitalize? Platts offers answers to all of these questions with our vast and in-depth global biofuels market coverage. For nearly three years, I worked as a price reporter with an ear on the ground as US ethanol markets shifted all over the place, driven by wild corn prices and federal government policy swings. Now, my mission as a Biofuels Analyst is to provide insight into both the status quo in the global biofuels picture as well as the future of the markets, utilizing specific historical trends and dozens of producer margin models.

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Synthesis of biodiesel via supercritical reaction with non-edible oil

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In the present study, supercritical reaction technology has been successfully applied to synthesize Fatty Acid Methyl Esters (FAME) from methanol and *Cerbera Odollam*, a non-edible oil. *Cerbera odollam* or also known as sea mango is chosen as potential feedstock due to its high oil content of 56%. The initial part of the research was to optimize the extraction of sea mango oil from the seeds. It was found that optimum extraction conditions were obtained by using 15 g of sea mango seed, extraction time of 24 hours at room temperature. Subsequently, by using the oil, optimization study was carried out by employing supercritical methanol reaction via statistical analysis of design of experiment. Three independent variables were investigated which are reaction temperature (320 to 400°C), reaction time (10 to 50 min) and molar ratio of oil to solvent (1:20 to 1:60). The optimum conditions were found to be 380°C, 45 mol/mol of methanol to oil ratio and reaction time of 40 minutes to achieve 80% FAME yield. Finally, qualitative analysis of the FAME produced were conducted.

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