

Functionality and application of high oleic soybean oil for the replacement of partially hydrogenated oils: An industry perspective

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A major product line in our company portfolio has been reformulated using high oleic/ low linolenic soybean oil (HOLL, Plenish™). The development work was the response to the company's internal nutritional policies and government regulations of *trans* fatty acids from partially hydrogenated oils.

Fortuitously, the deployment and industrialization of this new oil by major suppliers coincided with our development work. Equally important to meet our objectives was the access to limited quantities of experimental HOLL oil long before its full agricultural deployment.

HOLL oil presented a set of key physicochemical and logistic characteristics that made it suitable for our applications (US Patent No. 9,101,149). Some of those key characteristics were: a favorable fatty acid profile, proper concentration and type of tocopherol homologs, growing areas close to major production sites and the existence of a fully developed infrastructure for soybean oils. All these factors converged to produce a readily available oil, free of hydrogenation with a considerable oxidation stability. Like in all significant developments, there were also significant challenges. For example the introduction of new raw materials creates challenges in the supply chain: complications ironically resulted from the mentioned large soybean oil infrastructure, where an acceptable segregation of HOLL and commodity soybean oils may be problematic.