



Test Kit Technologies, Inc.

The Use of the VERI-FRY[®] Diagnostic Test Series For Monitoring Quality of Incoming Frying and Cooking Oils

Problem: Many companies have established programs for monitoring the quality of their incoming ingredients and raw materials. Is there a simple way to do this for bulk oil shipments?

Background: Very few bulk oil users, and this includes industrial producers of batter and breaded products, salad dressing manufacturers, snack food producers, and others, set their own specifications for oil quality, much less check adherence to established specifications. What happens most often is that the supplier sets the specifications with little or no input from the buyer. The buyer needs a way to assure each receipt of goods is suitable for use.

Oil specifications generally include values for free fatty acids, peroxide value, color, smoke point, peroxide value, and perhaps several other characteristics. Many of these quality specifications relate very little to actual performance in a product or fryer. These are also characteristics which cannot be checked on a loading dock, but require a laboratory and a competent scientist or technician. These are not measurements that can be done by non-technical dock or warehouse staff.

The objective of incoming material quality programs is to assure that only suitable quality foods, ingredients, and other materials enter the plant. Sampling after unloading is completed defeats this purpose. The objective is to check materials before off-loading and reject the load if it fails to measure up to the buyer's standards.

For Assuring Compliance With Specifications On Incoming Bulk Oil: The VERI-FRY[®] diagnostic test series, that is, the Total Polar Materials (TPM), Water Emulsion Titrables (WET), and Free Fatty Acid (FFA) tests, can provide food processors with a tool to test and judge bulk oil samples on the receiving dock. To initiate such a program requires two steps: setting your own specifications, including these three parameters; and developing a protocol to test on the dock. Fresh oils usually have TPM, WET, and FFA values of 2-4%, 0 ppm, and 0.01-0.3%, respectively. Values can vary, however. The test series can be used as a screen to monitor compliance with established specifications. The vials can be examined visually, or, should more precision be needed, a simple colorimeter can be employed. If the tests indicate that a load is "out of control", more comprehensive testing can be conducted.

Benefits Of Using The VERI-FRY[®] Series To Monitor Incoming Bulk Oils:

The major benefit of any incoming materials inspection/test program is to protect the safety and quality of the products manufactured with those materials. Running a product or line with an ingredient or component which is not below standard can adversely affect finished product quality or performance or affect how the product runs on the production line. Reduced operating efficiencies or finished product performance cost both time and money, and if the finished product quality suffers, can cost a producer customers. Veri-Fry tests are an easy way to gain confidence in production right from the start.

Note: WET (Water Emulsion Titrables) includes monoglycerides from the oil and ingredients, lecithin from coatings, nitrogenous compounds formed from amino acids in proteins (surfactants/detergents), and generally alkaline ingredients, among them being metal salts of fatty acids ("soaps").