



## Test Kit Technologies, Inc.

### The Use of the VERI-FRY® Water Emulsion Titrables (WET) and Free Fatty Acid (FFA) Tests to Evaluate Active Filter Efficiencies

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**Problem:** More and more fryer operators are utilizing active filter materials in their operations. The question is how does one know that they are really doing anything more than removing particulates?

**Background:** One of the standard quality control and maintenance procedures in deep-fat frying operations at all levels is filtration. This simple operation removes crumbs and other particulates from frying oils, which can improve food color and eliminate potential active sites for reactions to occur. The effect on the actual chemistry of the oil is slight.

More operators are turning towards systems that actually alter the chemistry of the frying oil. These active systems have the potential to enhance oil life and improve overall food quality. The concern many operators have expressed is how they can evaluate such systems before purchase and how to monitor performance once a system is installed.

**Using the Quick Tests to Evaluate Filter Efficiencies:** The VERI-FRY® WET and FFA allow those companies that are considering active filtration, or have installed such systems, to perform tests on oil right at the process line, since no glassware is needed and no solvents are used. It is recommended that before any testing of any new system is conducted, data be gathered on existing systems. Use the quick tests to track oil degradation from the time it is fresh until you are considering either discarding it or the product quality is beginning to suffer. Save the test gel tubes so that you can actually see how the oil has degraded.

To test the active system, take samples of oil before and after filtration. The before and after samples will provide information as to how the filter system is performing and can be compared to your "old" system results. Use both the FFA and WET tests. Some active systems employ compounds containing metals, such as calcium and magnesium. These will react with the fatty acids in the oil forming "soaps" and reducing the FFA level. While reduced FFA levels create the illusion of progress, the "soaps" are worse for your system than the FFA.

Using these tests on oils following installation of a filter system allows you to track system performance, and quickly react if the system begins to "get out of control".

**Benefits of Using the Quick Tests:** The VERI-FRY® WET and FFA tests provide you with the tools to quickly collect a great deal of information on your oil. They are less expensive than traditional testing procedures, can be saved and examined at a later date, and provide fryer operators with tool to instantly determine when a component of the degrading oil is getting out of line. Having these tools for "on-line" decision making can prevent costly holds and/or rejection of product and can provide the basis for rapid evaluation and correction of potential problems.