SMART TRAC II
MOISTURE & FAT ANALYSIS SYSTEM
Precise Results In Seconds

what makes **SMART Trac II** a better rapid analysis system?
it's direct, precise, & reliable
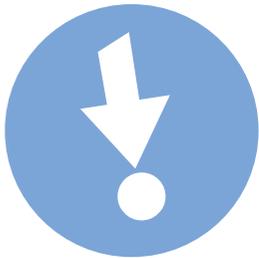
Direct measurement means delivering the right answer, no matter what; changes in color, additives, temperature, or granularity do not alter the results. Because the moisture and fat are being measured **directly**, costly maintenance calibrations are not required for accurate results, **saving time and money.**

By using AOAC approved methods, the SMART Trac™ II is able to provide a fast answer with the accuracy and precision traditionally seen in reference methods. Delivering **precision** within **0.01%** in an 8 second fat test proves that the SMART Trac II's **speed** does not sacrifice **results**.

This **reliable** workhorse is the gold standard in equipment. With built-in diagnostics and a signal lock before every test, SMART Trac II is able to deliver consistent results test after test. **Reduced down time**, paired with methods that **don't drift** or need recalibration, mean the SMART Trac II is a system you can trust.

what is **NMR** and how does it work?

water removed by SMART 6 → place sample on Trac film → roll sample and place in tube → pulse energy / signal / NMR signal sees only fat molecules
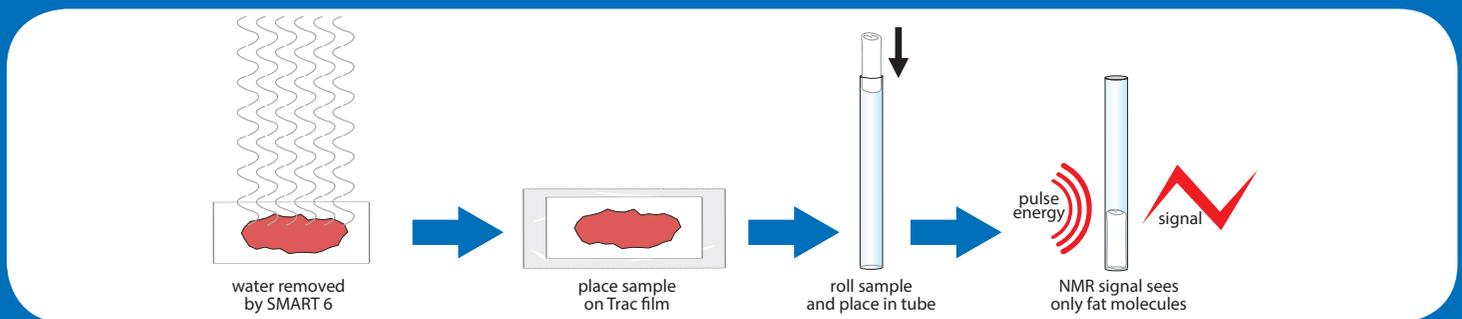
Nuclear Magnetic Resonance (NMR) is a technique that determines the amount of fat throughout an entire sample, not just the surface, in a non-destructive manner. The same technique as Magnetic Resonance Imaging (MRI) which has been widely used in the medical profession for years to image the human body, it is a well-established technology for this type of analysis. As a direct methodology, NMR requires no maintenance calibrations. The result is the same level of accuracy and precision as traditional long methods without the need for time consuming extractions and solvents.

CEM combines rapid drying with NMR to accurately measure fats and oils. The SMART 6™ removes all of the water molecules from the sample, eliminating signal interference and allowing the NMR to accurately measure the amount of fat content in a wide variety of food products.

The word "nuclear" in the name of the technique refers to the instrument's ability to analyze the nuclei of the sample's atoms. NMR technology does not generate or use ionizing radiation.

accurately analyze
a **WIDE VARIETY** of sample types
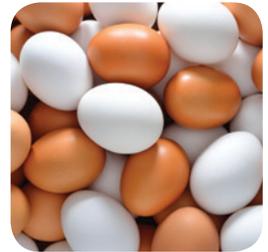
methods available for:

Butter	Donuts	Ice cream mix	Milk powder	Tater tots
Cheese	Dry pet food	Infant formula	Nacho cheese	Tofu
Chocolate	Eggnog	Soy infant formula	Pie dough	Wet pet food
Condensed milk	Egg yolk	Macaroni and	Peanut butter	Whey protein
Crackers	Fish meal	cheese	Potatoes	***And Many More!***
Cream	Fish filets	Mayonnaise	Poultry	
Cream cheese	Ham	Milk	Soybean oil	

what features are available?

Interactive Touchscreen
Large display and intuitive software with training videos simplify the testing process

Rapid New Methods
Create new methods with only 3 samples in as little as 45 minutes

Accurate and Precise
Direct analysis and AOAC methods provide accurate results, precise to within 0.01%

No Re-calibrations
Direct analysis means no drift, no re-calibrations, and minimal routine maintenance

Test Liquid & Powder
Any sample can be analyzed with accurate results

Internal Diagnostics
Faster service, less down time

are there methods included?

SMART Trac II has standard methods that are included with every instrument. Simply select from a list of methods and start analyzing without additional calibration. Custom methods are also available. Contact our applications support group and we can e-mail them to you directly. Combine this with the incredible stability of the SMART Trac II and you have a remarkably easy-to-use instrument that you never have to re-calibrate.

Have a method specific to your product that needs to be available at multiple sites? Transfer it using **Method Transfer**. Standardize testing across multiple plants using methods sent via email.

SMART 6 and SMART Trac II
a winning combination!

The SMART Trac II partners advanced, high performance NMR technology with the fast, reliable drying capability of the SMART 6 Moisture/Solids Analyzer to create a system which yields fast, accurate results without solvents or calibration. The **speed** of iDri™, the **versatility** brought by iPower®, and the **accuracy** that is available when using AOAC approved methods make the SMART 6 the best way to directly determine and remove moisture prior to fat testing.

Built on the robust and reliable SMART platform, the SMART 6 relies on innovative developments to determine the moisture/solids content of any type of sample, from wet to dry and anything in between. iPower technology brings together dual electromagnetic wavelengths, controlled by an intelligent processing system, to remove all moisture and volatiles prior to fat analysis, regardless of sample composition. Seamless integration between the two analyzers means determining the moisture/solids and fat content is as simple as touching "START" on the interactive touchscreen.

1 speed to analyze samples efficiently

2 versatility to handle any sample type

3 reliability to eliminate costly calibrations

4 consistently accurate for better results

see how you can **SAVE $$$**
## with the SMART Trac II

Standard NIR systems require validation and calibration maintenance, which can be quite expensive because they require anywhere from 10 to 100's of samples, or even more to calibrate the system.

Once created, calibrations on the SMART Trac II are set for the life of the system and they are robust enough to stand up to reformulations. No recalibration needed. Because the SMART Trac II directly measures the moisture and fat in each and every sample, methods do not need to be changed or updated.

More Savings with Better Accuracy*

(Chart: Savings vs lbs produced. Y-axis: Savings $0 to $300,000. X-axis: lbs produced 0 to 500,000.)
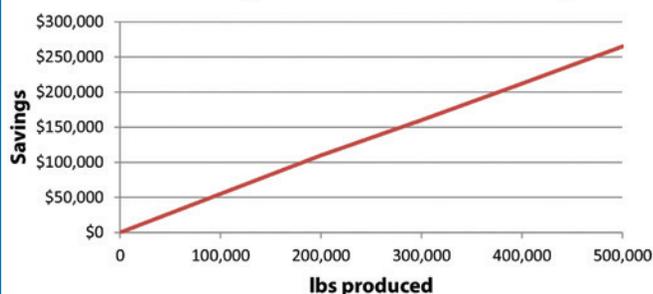
Cost of Ownership Savings
Savings of SMART Trac II over NIR

(Chart: Total Savings ($) vs Years of Ownership. Y-axis: $10,000 to $90,000. X-axis: 0 to 15. Red line: 5000 tests per year. Blue line: 2500 tests per year.)
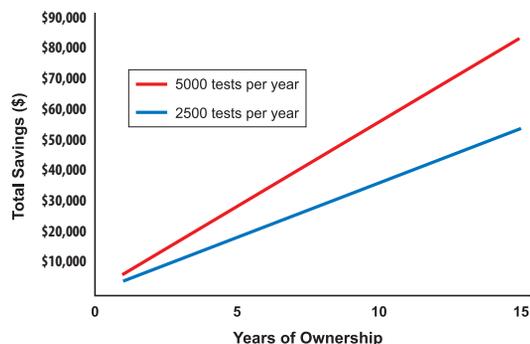
Example of a single customer's savings. Visit the SMART Trac II Resource Library to calculate savings at your plant.

Over 50,000 systems sold worldwide

CEM has been an ISO-certified facility since 1994

All systems serviced & supported by experts with an average of 15 years of experience

CEM invests 11% of annual revenue into R&D, the result... 11 R&D 100 awards

IQ/OQ/PQ Validation by certified CEM Technicians

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Our commitment to you doesn't end when your system is shipped; **it begins.**

~Michael J. Collins
President & CEO, CEM

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