MEAT TRAC

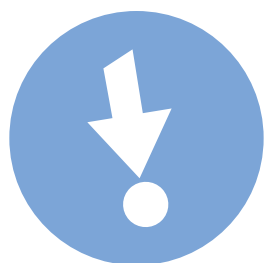## FAT, PROTEIN & MOISTURE SOLUTION
Precise Results In Seconds

what makes the **MEAT Trac**
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**.
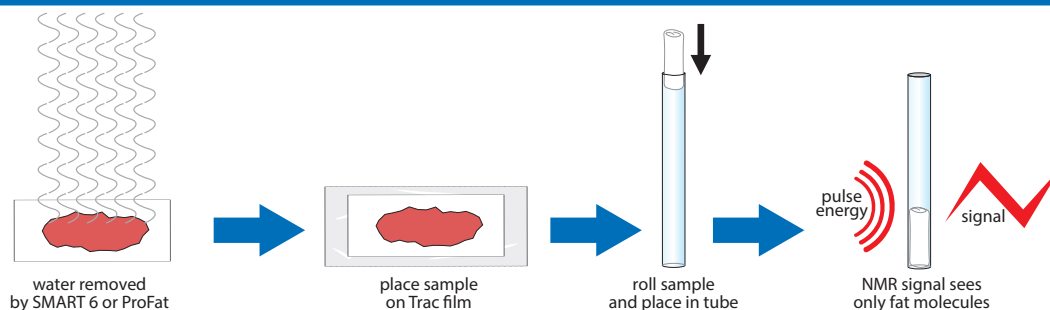
By using AOAC approved methods, it is able to provide a fast answer with the accuracy and precision traditionally seen in reference methods. Delivering **precision** within **0.1%** in an 8 second fat test proves that the **speed** does not sacrifice **results**.

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

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

water removed by SMART 6 or ProFat → 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.

accurate analysis of
all meat samples

	Raw Chicken & Beef Blend		Sausage		Jerky		Ham	
	Reference	ProFat	Reference	MEAT Trac	Reference	MEAT Trac	Reference	MEAT Trac
Fat	17.54	17.53	14.6	14.8	5.6	5.5	6.2	6.1
Protein	13.38	13.58	15.9	15.9	35.3	35.5	17.0	16.8
Moisture	63.22	62.99	64.00	63.80	30.37	30.50	67.84	67.78

what features are available?

Interactive Software
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 0.1%

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

PROTEIN analysis

Protein is an integral part of many meat processing facilities, and thus requires testing in order to maintain proper formulation and quality control. CEM has **THREE OPTIONS** for protein analysis, each one using a proven technology to fit the needs of any process.

For raw meat and pre-blends, the **SMART 6™ ProFat™ Meat Analyzer** uses least cost formulation software built on historical data to provide an accurate protein value based on moisture content. For QC and batch testing on cooked and raw products, the **MEAT Trac™ Analyzer** simply needs an ash value to accurately determine protein. For customers using protein to optimize formulations that require a direct test, the **Sprint® Protein Analyzer** uses official AOAC methods to determine protein with dye-binding technology on any type of product.

OPTION 1

OPTION 2

OPTION 3
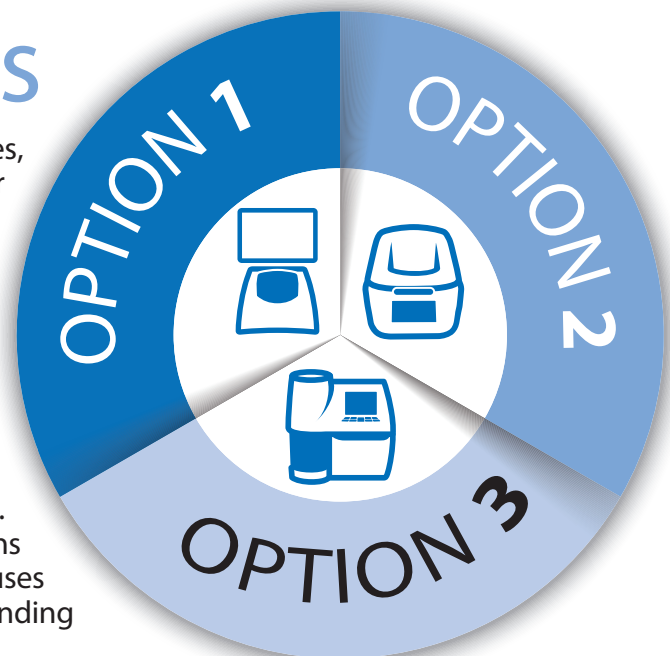
ProFat and **MEAT Trac**
a winning combination!

The SMART 6 ProFat Meat Analyzer combines an official AOAC method for microwave moisture measurement with data modeling analysis to rapidly evaluate fat, protein, and moisture in raw beef, pork, & poultry with superior accuracy and precision. When combined with the MEAT Trac, almost any meat product, raw or cooked, can be accurately analyzed in under 90 seconds. With an IP65 compliant option, the ProFat can be used at-line for virtually instant feedback to make critical decisions, such as blend corrections, product release, or least cost formulation. Solvents and re-calibrations are not required to maintain reliable results.

1 speed to analyze samples efficiently

2 versatility to handle any meat sample

3 reliability to eliminate costly calibrations

4 consistently accurate for better results

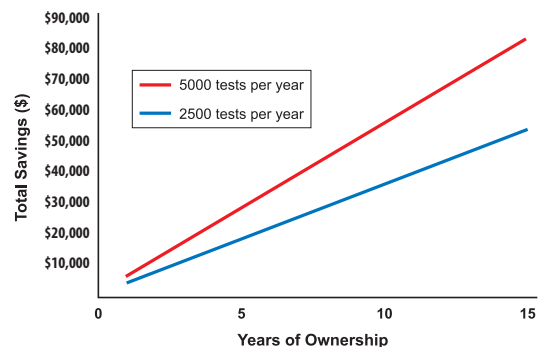## see how you can **SAVE** **$$$** with the MEAT Trac

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 MEAT Trac are set for the life of the system and they are robust enough to stand up to reformulations. No recalibration needed. Because the MEAT Trac 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*

Savings

$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0

0   100,000   200,000   300,000   400,000   500,000
lbs produced
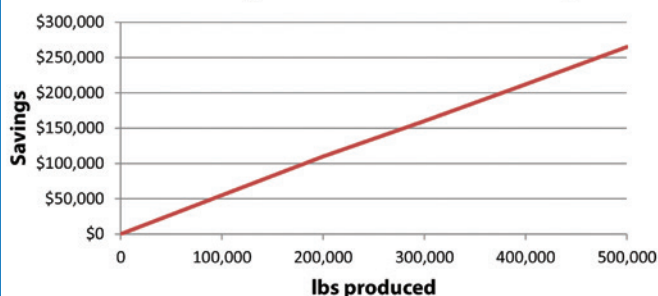
Cost of Ownership Savings
Savings of MEAT Trac over NIR

$90,000
$80,000
$70,000
$60,000
$50,000
$40,000
$30,000
$20,000
$10,000

Total Savings ($)

— 5000 tests per year
— 2500 tests per year

0   5   10   15
Years of Ownership

Example of a single customer's savings. Visit the MEAT Trac 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

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

~Michael J. Collins
President & CEO, CEM

CEM

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