AI - POWERED NUTRITION ANALYZER FOR FITNESS ENTHUSIASTS

TEAM ID : PNT2022TMID04240

TEAM LEADER : NIRANJAN KUMAR S (412519205092)

TEAM MEMBERS : RAGAVI M (412519205107)

MRUDHULA M S (412519205086)

SANDEEP R(412519205115)

DEPARTMENT : INFORMATION TECHNOLOGY

COLLEGE NAME : SRI SAIRAM ENGINEERING COLLEGE

SOLUTION FIT DEVELOPMENT:

HONEY-PROFILING:

The Honey-Profiling method is available on Bruker's **FoodScreener Essential Honey**, a cost-effective system dedicated to beekeepers, honey packers and honey associations (dedicated to honey analysis only). It is also compatible, with the versatile NMR FoodScreener™ platform, which also supports Bruker's Wine-Profiling™ and Juice-Profiling™ methods .

JUICE-PROFILING:

Automated push-button NMR solution based on 400 MHz including evaluation and reportingReliable screening method providing targeted and non-targeted multi-marker analysisStatistical analysis is based on an extensive NMR spectroscopic database of more than 16.000 reference juices, obtained from production sites all over the world and is regularly updated.Targeted Analysis:

Simultaneous absolute quantification of relevant organic compounds with reference to A.I.J.N. and NMR distributionNon-Targeted Analysis: NMR-Profile is compared with the corresponding group of reference spectra.Deviating concentrations (even of unidentified compounds) are detected automatically.Classification Analysis, e.g. the determination of fruit originDetermination of fruit content (detection of addition of water, amino acids or sugar).

SOLID FAT CONTENT:

Bruker is the No. 1 source of Benchtop NMR Analyzers for Solid Fat Content (SFC). While the mq-one SFC Analyzer provides the best possible price- and footprint-to-performance ratio, the mq series offers a field-upgradeable SFC Analyzer. Bruker minispec systems are calibrated with uniform methods to guarantee trustable results that can be compared with other factories around the world.The NMR method is the only officially approved method for SFC determination. It is superior to the tedious and time-consuming method of dilatometry, which is used to derive the Solid Fat Index (SFI) values. Further, the SFC determination by NMR is by far more accurate over NIR (near-infrared) applications and thus the choice for the QC lab:

- The minispec NMR method is very accurate and reproducible.
- Easy to calibrate using the three Bruker SFC standards.
- Analyses take less time to complete than SFI determinations.

- NMR yields an SFC value from a single measurement when the Direct Method is employed.
- The SFC procedure does not overly depend on operator technique and judgment.

TOTAL FAT AND MOISTURE:

The analysis of total fat and moisture by TD-NMR is as easy as inserting the non-grinded sample into an empty tube, weighing the sample, and insertion of the sample tube into the minispec machine. A couple of seconds later accurate and reliable results for percent total fat and moisture will be displayed.

This traditional TD-NMR standard method works fine for a big range of samples, like food and feed, seeds, press cake and residues, single seeds and corn, but also for medical powders and tablets, chemicals like sulfur, polymers, and others.