



# Moisture Control is a Crucial Step in Quality Food Processing: MoistTech Represents the Diamond Standard

Moisture is important in any manufacturing process, but when it comes to food processing, excess moisture can ruin products and create excess waste. And what is worse than a wasted effort? Economical losses and decreased productivity. With continuous online moisture measurement, food production plants will find huge money savings.

Knowing the moisture content of the materials used throughout the food and baking process has become one of the most critical components in the industry as many raw materials sold today are based upon weight. MoistTech moisture sensors can provide a quick test of the moisture levels of the manufacturer's raw ingredients, effectively saving purchasing plants a lot of money.

While moisture is our major focus, we also supply analyzers for the continuous online measurement of protein, fat/oil, sugar, seasonings, caffeine and other constituents or elements that absorb the NIR beam.

## ***Moisture measurement and control can provide immediate benefits:***

- Reduce dryer usage and energy costs
- Proper control of the infeed and dryer exit
- Better final product quality
- Consistency of your final product
- 100% product inspection

Realizing that many food processing companies use many primary reference measurements, either in-house or outsourced, MoistTech's NIR moisture sensors are easy to set-up and use which will provide instant and precise measurements due to no constituent losses in handling. With instant measurements provide manufacturers savings in analysis cost, delivering times and shipping costs.

It is also important to know the moisture content during the mixing stage in the food manufacturing process as water affects quality and consistency of the end product. Variations and excess moisture in



mixes can result in clumping and out of spec recipe formulas. Testing food moisture during this time will allow adjustments to be made throughout the mixing process to manage moisture levels.

Manufacturers strive to have the best finished product. The amount of water a product has affects the taste, appearance, consistency, stability as well as the shelf life. Testing the moisture levels of the final product insures manufactures that they have the highest quality product and consistency.

Whether finished products have too much or too little moisture is a main concern for food manufacturers. Some food items are sold by weight, which reduces costs, can make the item lower in fat/calories and preventing it from being too dry. Adding too much water can affect the crunch by making the item taste stale or even worse contributing to bacteria/mold growth.

Sensing moisture content throughout the process also provides food manufacturers cost savings in energy and fuel costs, as well as having less product waste. With continuous NIR online moisture testing, manufacturers can monitor moisture levels which they in-turn, can precisely control ovens, dryers, roasters and fryers to optimize the production process with minimum energy requirements.

## Near Infrared Technology and Food Production

Although the discovery of Near-Infrared (NIR) is attributed to William Herschel in the late 19th century, the first industrial application was not until the 1950s. NIR spectroscopy and imaging are fast and nondestructive analytical techniques that provide chemical and physical information of virtually any matrix. NIR can tell us things about a product in a similar way to visible light. When light hits a product, it will interact in various ways. Transmitted light will pass through the product while backscattered light will reflect from the product. Light will also be absorbed by the product. Absorption is the key to the most effective moisture measurement analysis technique.

**"When looking at moisture measurement systems, be sure to evaluate features that will be most beneficial to your operation"**

## A Crucial Aspect

Immediate ROI is seen with the installation of a moisture measurement system as the plant controllers can instantaneously notice the reduced waste, energy usage and overall increase in product quality.

When looking at moisture measurement systems, be sure to evaluate features that will be most beneficial to your operation. The best ones to look for are:

- **One-time calibration:** Pre-calibrating the sensor to be ready to read your specific application
- **Multiple applications can be read:** The moisture measurement system can remember up to 50 different applications and measurements so you can easily switch back and forth to allow the machine to acknowledge a new product is being read.
- **Immediate results:** The sensor produces hundreds of readings per second to allow the user to have immediate access to the product moisture content, allowing for increased or decreased dryer control.
- **All equipment included:** Everything needed to operate the sensor is included and the software can be installed on an unlimited number of devices, allowing for better access throughout the process.
- **State-of-the-art technology:** Continually researched and updated technology allows for the most accurate results in the moisture measurement industry.
- **Installation:** Ideal for installations on chain and screw conveyors.

MoistTech is very experienced with the requirements in the production of foods and snack foods. Our sensor calibrations, measurement wavelengths, algorithms and sensor optical requirements are pre-set at the factory. Typical accuracy is about  $\pm 0.1\%$  moisture. Typical analog range is 0-10% moisture. The outputs can be adjusted to optimize PLC or recording requirements.



MOISTTECH CORP 6408 PARKLAND DRIVE SUITE 104 SARASOTA FL 34243 941-727-1800