

Using Acidity Measurement to Determine Fruit Quality

Description:

AN #: 07_003_11_001
Subcategory: Fruit Quality

Market: Food & Dairy
Product: HI 84432

Taste is one of our senses that enhances our interaction with the world. It has been known to change with age. Foods that we did not like as a child can become more palatable as we get older. There are thousands of taste buds on the tongue that are used to sense sweet, sour, bitter, salty and umami. Umami is described as a pleasant savory taste. The ability to discriminate different types of these tastes can be subjective. How sweet is sweet? For example, when eating strawberries, some taste very sweet and others not. Is it that there is a different amount of sugar content or is it our taste buds responding differently? The ability to differentiate between the different tastes is critical to a fruit processing plant that has to decide whether to accept a truckload of fruit or not. There are employees that have to make this decision, which can be subjective when left to taste alone.



Application:

A customer that processes various fruits approached Hanna Instruments for an instrument that can measure acidity. It is found that the sugar to acid ratio is an indicator as to whether fruits can be accepted or not. It is not to replace the employee that can actually taste the product, but to be an additional indicator to help determine the quality of the product. To help in determining the quality of the fruit, the ratio of sugar to acid is analyzed. The sugar content of the fruit is measured by a refractometer and the acidity level by titration. Since the person that receives the product is not scientifically trained, it is necessary to have a titration procedure that is easy to use. The **HI 84432** was the ideal solution.

Various fruits, including pineapple, strawberries, lemon and grapes were analyzed. The HI 84432 was able to display the results in units (citric, malic, and tartaric acid) according to the predominant acid present in the fruit being tested. The customer liked that the titration system was accurate, easy to operate and required very little sample preparation by the operator. They also liked that the reagents were premade and did not require any mixing. The HI 84432 offers many additional valuable features including GLP data, logging, and a USB connection for transferring data to a PC.

