



## UNIT 4

### IMMUNOASSAY TECHNIQUES

#### Isotopic immunoassay

Based on competition for antibody between radioactive indicator antigen and unlabelled antigen in test sample.

Increase in count of unlabeled antigen in test sample decrease the labeled antigen in bound.

#### NON ISOTOPIC

Non isotopic immuno assay system that uses a non-radioactive isotope signal. Types of signals include fluorescence or enzymatic reaction.

#### ENZYME IMMUNOASSAY

An enzyme immunoassay is any of several immunoassay methods that use an enzyme bound to an antigen or antibody. These may include: Enzyme-linked immunosorbent assay (ELISA) Enzyme multiplied immunoassay technique (EMIT)

#### SURFACE TENSION

The surface tension of a solid is a characteristic of surface properties and interfacial interactions such as adsorption, wetting or adhesion. The knowledge of surface tension is helpful in understanding these mechanisms and more specifically in milk and food packaging industry in relation with wettability of systems.

Surface and interfacial tension play a key role in product development. R&D departments around the world are measuring surface and interfacial tension to improve the quality of their products.

#### ENZYMATIC METHODS



Enzymatic methods are used for the determination of constituents such as sugar, acid or alcohol in food. Such methods are important when analyzing e.g. wine, beer, fruit juices or dairy products.

The test format is based on an enzymatic reaction which results in a color change. Using an appropriate instrument, this color change can be easily measured. A particularly comfortable solution is a fully automatic system such as the compact and portable RIDA®CUBE SCAN. To perform the analysis, only the sample needs to be pipetted into the cartridge; all other steps are performed completely automatically. The result can be read on the display in less than 15 minutes.

Enzymatic tests are performed in a variety of food and feed segments, including alcoholic beverages (beer, wine, spirits), animal feed, baby food, bakery products, confectionery, dairy products, dietary food, fruit juices, honey, meat products, pharmaceuticals, prepared food, oil, seafood, soft drinks, spices, vinegar and water.

## TEXTURE ANALYSIS OF FOODS

In production, food texture analysis is used for the measurement and control of process variations such as temperature, humidity and cooking time. Different types of testing instrumentation available from AMETEK STC range from manual and motorized food firmness testers to a fully software-controlled texture analyzer.

Food texture is assessed by its ability to flow, bend, stretch or break and is often done subconsciously by the consumer. From a sensory perspective, the texture of food is evaluated when it is chewed

## VISCOSITY MEASUREMENT

Viscosity is measured either during processing or at the end of processing to qualify the end product for acceptability and quality standards. Many times, samples are selected off the production floor and brought into the quality control lab for testing to ensure the quality is maintained throughout the entire process.