

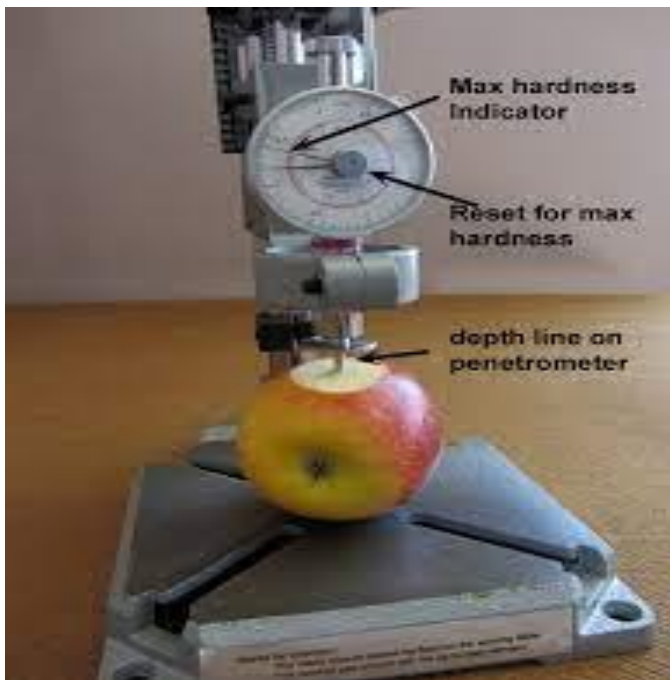


QUALITY CONTROL SPECIFICATIONS

The quality of foods or ingredients can be measured in different ways but one popular method is to describe 'quality attributes'. A specification can then be written and agreed with the supplier or seller, which lists the quality attributes that are required in a food.

A number of points arise from such a specification:

- A representative sample of the food must be tested to make sure the whole batch meets the specification (for small batches it might be possible to examine every item). The size of sample needed for testing can be calculated, but this is fairly complex and usually unnecessary for a small-scale business.
- The percentage of substandard items which cause a batch to fail the test can be increased or decreased depending on how reliable the supplier is or how important the particular attribute is to the seller/manufacturer.



CONTROL POINTS

In every food process there are particular stages which affect the quality of the final product (eg the amount of heating given to pasteurised juices affects the colour, flavour and storage life or in

sausage the amount and type of grinding affects the texture of the meat). These stages are identified as control points and quality control checks are made at these points to control the process. Manufacturers therefore need to identify the control points in their process (using outside technical assistance if necessary) and set up a specification for the operators to use. For example, in jam making the amount of pectin, fruit and sugar should be carefully controlled and weighing of ingredients is a control point (weights of each ingredient specified and each carefully weighed out). Likewise, the acidity of the jam, the sugar content after boiling and the temperature of filling are each control points. The mix should be checked for correct acidity, the sugar content checked during boiling using a thermometer or refractometer and the temperature checked before filling using a thermometer. Checks at the control points can therefore be used to control the process and ensure that each batch of product has a similar quality.

The critical, major and minor attributes usually describe the key chemical, physical, and microbiological properties of a food. The manufacturing process and many known or unknown factors will affect the finished product. Therefore, a control program is the tool for the food processor to use to assure that quality targets are met. Finally, to develop a quality control program, you must define expected food quality provide a system of quality measurement, allow a means for action not reaction, help to minimize costly errors, and reduce the risk of food safety and wholesomeness defects. What is needed for a quality control program? The first step is a strong commitment from management. Quality control must have the same priority as the profit and loss statement for the business. Quality doesn't cost, it pays. Beyond commitment, management must instill quality aware-ness throughout the organizational structure. A successful quality program needs people. It is important that the food operation personnel function as a team and openly communicate to identify problems, issues or opportunities. Once key elements of a quality control program are in place (management commitment, quality awareness, a team effort and open communication), develop and use additional tools.

The basic tools of quality control are:

- Ingredient Specifications
- Approved Supplier List
- Product Formulas
- Product Standards (Specifications)
- Manufacturing Procedures
- Critical Control Point Identification/Sampling Program
- In-Process Analysis, Records and Reporting Packaging Specifications
- Label Specifications
- Cleaning and Sanitizing Program
- Good Manufacturing Practices (GMP) Requirements
- Recall Program
- Warehousing, Shipping and Receiving Program
- Laboratory Analysis

INGREDIENT SPECIFICATIONS

The quality of the finished food product after manufacture depends on the quality of the raw materials and ingredients. The best starting point for developing ingredient specifications is the supplier. Ask for a copy of the supplier's ingredient specifications. Review the information and modify the specifications to your needs. Discuss and settle specifications with the supplier. At times, specifications need to be negotiated with suppliers. Custom specifications from suppliers are possible. The ingredient specifications should be documented in a form consistent with the processor's needs. Ingredient specifications document should include:

- Name of Ingredient
- Internal Code Number
- Effective Date
- Basic Description of Ingredient
- Specifications Categorized as:
 - Critical
 - Major
 - Minor
- Action and Reject Levels
- Ingredient Statement

The prepared ingredient specifications become a tool for control. The information under each heading should be simple but informative. The basic description is short and to the point. Critical specifications include two items associated with public safety. Critical specifications can also include factors influencing wholesomeness or legality. Action levels are used as a reference point to identify a potential problem. If the ingredient consistently reaches action levels, notify your supplier. The reject level is the point of refusing delivery of the ingredient. The ingredient statement for the raw material is a reference point to assure that the supplier has not changed the material. The final key point for ingredient specifications is for the supplier to know and agree to the content of the document.

PACKAGING AND LABELING

A statement from the supplier that the packaging is made of FDA and/or USDA approved materials. The package composition should be listed on the statement.

- Dimensions of carton, jar, bottle or box.
- Strength of the container and suitability for stacking, freezing or microwaving.
- Strength of seals or fit of the lid. For heat sealed packages, the temperature requirements for sealing are critical.
- Ability to restrict or allow air flow, moisture or light. Permeability, thickness, flexibility and temperature resistance are specific criteria in this category.

- Graphics (illustration, picture or visual designs).
- Label format and legal requirements.

Packaging must be selected or designed based upon the particular food item. Fresh fruits and vegetables require packaging that provides protection while allowing air flow for proper cooling and respiration. Dairy products require packaging to inhibit light penetration and excessive oxygen because of the potential for flavor defects due to oxidation, rancidity or the absorption of foreign flavor. A final example, the tea bag must provide permeability to moisture. Package graphics, by words or pictures, define the contents and serve as point of purchase information. The law requires product name, ingredient statement and manufacturing or distribution location to be on the package.

S. ALAGAMMAI

ASSISTANT PROFESSOR