COURSE CODE: **NTD 401**

COURSE TITLE: **RECIPE DEVELOPMENT AND EVALUATION**

NUMBER OF UNITS: **2 UNITS**

COURSE DURATION:

COURSE DETAILS:

Course Coordinator:

Email:

Office Location:

Other Lecturers:

COURSE CONTENT:

Definition and types of recipes. Need for new recipes. Factors contributing to acceptability of recipe. Assignments in recipe development. Developing sensory test. Sensory evaluation of foods. Assignments in sensory evaluation.

COURSE REQUIREMENTS:

READING LIST:

LECTURE NOTES

WHAT IS A RECIPE?

A recipe is a standardized and tested procedure for preparing food, in which the ingredients to be used, their proportions, order of mixing and the time and temperature for cooking have all been worked out to produce a uniform and tasty products.

Carelessness in measurements and variations in preparation procedures and equipment can create changes in the final product, which are usually undesirable.

There are various recipes for the preparation of foods of plant origin. However, attention will be focused on those recipes where the original product is either improved with respect to nutritional value or sensory quality. Nutritional value is usually improved by restoration, fortification and enrichment using soybeans, cowpeas and other legume flours which increase protein content and complement amino acid profiles of cereals, roots and tubers, frits and vegetables and their products.

A recipe is a set of instructions that show how to prepare or make something, especially a culinary dish. It is a set of instructions for producing a certain dish.

Recipes normally consist of several components:

- The name of the dish.
- How much it will take to prepare the dish.
- The required ingredients along with their quantities or proportions.
- Equipment and environment needed to prepare the dish.
- An ordered list of preparation steps.
- The number of servings that the recipe will produced

HOW TO DEVELOP RECIPE

PROJECT PLANNING

Before beginning the actual recipe development, one should do project planning. Planning will permit the

1.evaluation of priorities and objectives

2. development of action steps more clearly in sequence.

3. inclusion all tasks.

4. organization and reorganization of task, allocating time appropriately.

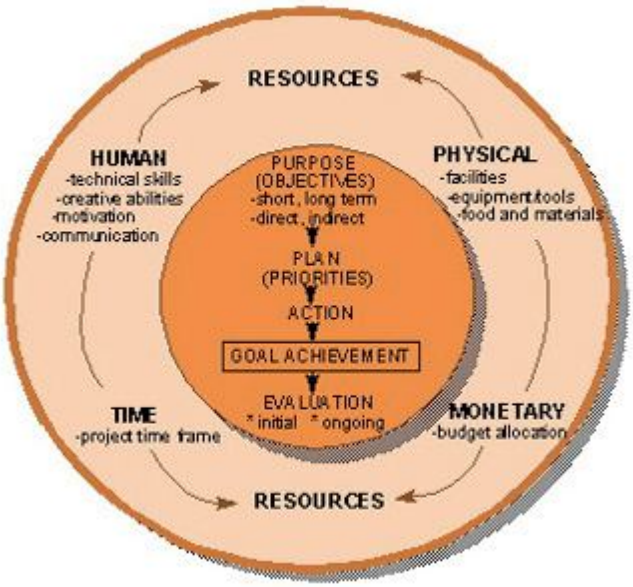
5. judgement of physical environment factors

6. communication with others.

7. provide motivation and a sense of accomplishment.

8. recording for future reference and or evaluation information

The PROJECT PLANNING PATTERN for recipe development was put forth as follows:



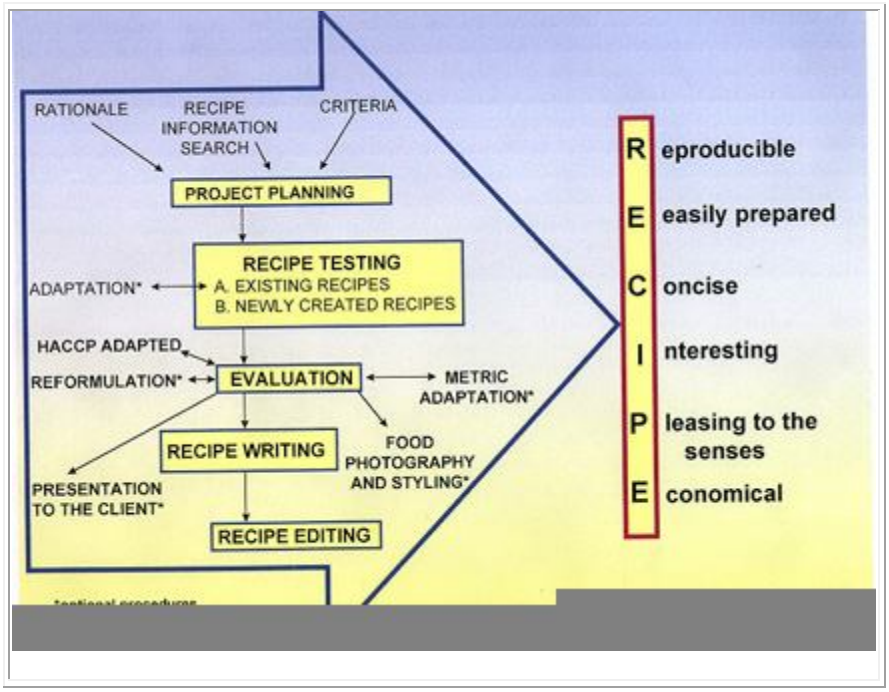
Hullah, e. 1984. Cardinal's Handbook of Recipe Development. Cardinal Biologicals Ltd., 43 Railside R. Don Mills, Ontario, Canada M3A 3L9, p. 8.

Within this, it is important to identify:

- the client's or customers project objectives
- background information on the client and their mission, goals, etc.
- background information on the product
- the consumer/end user/market

Rationale

Recipe Development



WHY DEVELOP RECIPE

Recipes are developed for many reasons. A well-developed recipe must meet a number of needs, some of which overlap. These needs are:

- increase visibility of product
- increase product usage
- minimize safety problems of product

One important reason is to promote existing products. Quite a number of years ago the extension agents in Kansas learned the power of this when they developed a cheap little recipe for the beef council for the very cheap unusable product, tough flank steak. Through the Homemakers Groups with extension they published and promoted a recipe for stuffed flank steak. What was a cheap little used piece of meat suddenly reached the price of filet mignon due to the increased demand

RECIPE TESTING

Recipe testing consists of testing either existing or newly created recipes. There is also adaptation. There are a number of keys to recipe success.

Another approach to recipe testing is to bring in a "focus" group to test the procedures and outcomes. Generally, it has been this instructors experience that, when you develop a recipe, you tend to adjust and adapt somewhat as you make it repeatedly. A number of you may have had the experience of receiving that "special recipe" you ate at Aunt Jane's. When you took it home to prepare it, it never turned out the same. You may have subsequently found out that she did things

a little differently as she made it more and more. A focus group of consumers off the street is one of the best ways to measure its' success. Certainly, if you have experience and a "feel" for food, you can minimize a number of adjustments.

Recipes Evaluated- Cooking and/or Processing.

- Is the cooking method a logical one?
- Does it require special equipment?
- Does it require too much time?
- Does it require difficult techniques and cooking skills?
- Can information be added for special service?

  -advance or partial cooking

  -storage or freezing directions

  -suggestions for use.

  -nutritional information

  -garnish or serving suggestions

Recipe Direction Evaluations.

- are they brief, clear, complete and easy to read?
- are the words used correctly to describe the necessary steps-blend, rather then fold, if possible, mix together rather than beat together
- are recipe yields and number of servings included?
- is it accurate?
- are there any unanswered questions?
- if necessary are any recipe idiosyncrasies explained?(batter will be thin...size of Spring garden peas...mixture will look curdled...
- has the recipe been given a second and third technique test with good results.

RECIPE WRITTING

RECIPE

The recipe itself is a blueprint for food production. It should facilitate the reproduction of a food item with easy and accuracy. Recipe standardization is the process of "tailoring" a recipe to suit a particular purpose in a specific foodservice operation. The following are keys to a successful recipe. It should be

REPRODUCIBLE it that it is written so that it can repeated with consistent results.

EASILY PREPARED with a minimum of steps in logical sequence to produce appropriate end results - from simple to complex recipes. Ingredients are listed in the units in common use that enhance accuracy.

CONCISE is brief but comprehensive enough to furnish needed information.

INTERESTING has appeal in that it furnishes variety to the meal.... [more]

PLEASING TO THE SENSES has stimulating and satisfying flavor and aroma with appropriate texture and mouthfeel.

ECONOMICAL has qualities of economy-not always from budget standpoint but also economy of human and material resources. Minimum and efficient human energy expenditure, use of dishes, utensils and appliances are appropriate.

"STANDARDIZATION OF RECIPE DEVELOPMENT"

Standardization is the optimum goal for a recipe development procedure. THE IMPORTANCE OF COMPLETENESS, ACCURACY AND RELIABILITY IN RECIPE DEVELOPMENT CANNOT BE OVER EMPHASIZED, whether developing recipes for consumers, patients or other end users. Too often, shortcuts are taken-resulting in unreliable disappointing recipes. The importance of techniques of standardization has been acknowledged widely within certain segments of the food industry and should continue to be encouraged.

Acceptance and implementation of standardized techniques and guidelines have widespread continuing benefits for both clients/management and the food professional.

Standardization of recipe development gives further credibility to the value of the traditional home economics discipline. As the importance of proper recipe development is continuously emphasized, the much needed and skilled service of the home economist will be strengthened.

Recipes may be written or rewritten as follows

1. Name of Food Item
2. Ingredients by weight and/or measure (volume) and sometimes by count.
3. Procedures and approximate times for combining ingredients.
4. Cooking or baking temperatures and times.
5. Panning or portioning information.
6. Total quantity and the number of portions of a specific size to use.

These are the requirements for the recipes used in most small service or home/household service. For commercial foodservice large scale operations one might include a computer code for inventory, the total time to produce the product, portion cost information, and a description of the product. One of the activities that I have found useful in developing, modifying and adapting recipes is to decide on phrases, approaches and formats. This has not been always accomplished; however, it is useful to do something like always say

Cream shortening, sugar and eggs

Instead of sometimes

Beat shortening, eggs, sugar

Mix well eggs, sugar and shortening°.

Also, it is useful to put in a recipe as much as possible. For example, although it is understood that recipes calling for "flour" mean all-purpose flour, increasingly this is put in the recipe by this instructor. If it is important that canned, frozen or fresh is used, this is also stated. However, I have attempted to pull out the actual preparation technics from the ingredients -- for example, grated cheese is now listed as "Cheese, variety".

It just makes it better understood by the potential cook if it is always put one way. Having said that, admittedly, this has not yet happened. It takes a considerable amount of secretarial/clerical time to do this and sometimes computers and reproduction limit it all. Another point should be made, homemakers and cooks are not always literate and/or English may not be there first language. Recipe reproduction should take this into account. Note examples of recipes which attempt to address the problem. Note the recipe below, if you can not read, you can still follow it.

Polly W. Buchanan (1993) lists the advantages of using a standardized recipe. For household, these can be modified as follows:

1. Promotes uniform quantity of foods produced.

2. Encourages uniformity in served foods.

3. Increases productivity of cooks.

4. Increases managerial productivity.

5. Saves money by controlling overproduction.

6. Saves money by controlling inventory levels.
7. Simplifies costing of menu items.
8. Simplifies the training of cooks.
9. Fosters job satisfaction for the homemaker.
10. Reduces anxiety of family members in suspected outcome

New product development

In business and engineering, **new product development** (NPD) is the term used to describe the complete process of bringing a new product or service to market. There are two parallel paths involved in the NPD process: one involves the idea generation, product design and detail engineering; the other involves market research and marketing analysis. Companies typically see new product development as the first stage in generating and commercializing new products within the overall strategic process of product life cycle management used to maintain or grow their market share.

The process

1. **Idea Generation** is often called the "fuzzy front end" of the NPD process
    - Ideas for new products can be obtained from basic research using a SWOT analysis (Strengths, Weaknesses, Opportunities & Threats), Market and consumer trends, company's R&D department, competitors, focus groups, employees, salespeople, corporate spies, trade shows, or Ethnographic discovery methods (searching for user patterns and habits) may also be used to get an insight into new product lines or product features.
    - Idea Generation or Brainstorming of new product, service, or store concepts - idea generation techniques can begin when you have done your OPPORTUNITY ANALYSIS to support your ideas in the **Idea Screening Phase** (shown in the next development step).
2. **Idea Screening**
    - The object is to eliminate unsound concepts prior to devoting resources to them.
    - The screeners should ask several questions:
        - Will the customer in the target market benefit from the product?
        - What is the size and growth forecasts of the market segment/target market?
        - What is the current or expected competitive pressure for the product idea?
        - What are the industry sales and market trends the product idea is based on?
        - Is it technically feasible to manufacture the product?
        - Will the product be profitable when manufactured and delivered to the customer at the target price?
3. **Concept Development and Testing**
    - Develop the marketing and engineering details
        - Investigate intellectual property issues and search patent data bases

        - Who is the target market and who is the decision maker in the purchasing process?
        - What product features must the product incorporate?
        - What benefits will the product provide?
        - How will consumers react to the product?
        - How will the product be produced most cost effectively?
        - Prove feasibility through virtual computer aided rendering, and rapid prototyping
        - What will it cost to produce it?
    - Testing the Concept by asking a sample of prospective customers what they think of the idea. Usually via Choice Modelling.
4. **Business Analysis**
    - Estimate likely selling price based upon competition and customer feedback
    - Estimate sales volume based upon size of market and such tools as the Fourt-Woodlock equation
    - Estimate profitability and breakeven point
5. **Beta Testing and Market Testing**
    - Produce a physical prototype or mock-up
    - Test the product (and its packaging) in typical usage situations
    - Conduct focus group customer interviews or introduce at trade show
    - Make adjustments where necessary
    - Produce an initial run of the product and sell it in a test market area to determine customer acceptance
6. **Technical Implementation**
    - New program initiation
    - Finalize Quality management system
    - Resource estimation
    - Requirement publication
    - Publish technical communications such as data sheets
    - Engineering operations planning
    - Department scheduling
    - Supplier collaboration
    - Logistics plan
    - Resource plan publication
    - Program review and monitoring
    - Contingencies - what-if planning
7. **Commercialization** (often considered post-NPD)
    - Launch the product
    - Produce and place advertisements and other promotions
    - Fill the distribution pipeline with product
    - Critical path analysis is most useful at this stage
8. **New Product Pricing**
    - Impact of new product on the entire product portfolio
    - Value Analysis (internal & external)
    - Competition and alternative competitive technologies
    - Differing value segments (price, value, and need)
    - Product Costs (fixed & variable)
    - Forecast of unit volumes, revenue, and profit

These steps may be iterated as needed. Some steps may be eliminated. To reduce the time that the NPD process takes, many companies are completing several steps at the same time (referred to as **concurrent engineering** or **time to market**). Most industry leaders see new product development as a *proactive* process where resources are allocated to identify market changes and seize upon new product opportunities before they occur (in contrast to a *reactive strategy* in which nothing is done until problems occur or the competitor introduces an innovation). Many industry leaders see new product development as an ongoing process (referred to as *continuous development*) in which the entire organization is always looking for opportunities.

For the more innovative products indicated on the diagram above, great amounts of uncertainty and change may exist, which makes it difficult or impossible to plan the complete project before starting it. In this case, a more flexible approach may be advisable.

Because the NPD process typically requires both engineering and marketing expertise, cross-functional teams are a common way of organizing projects. The team is responsible for all aspects of the project, from initial idea generation to final commercialization, and they usually report to senior management (often to a vice president or Program Manager). In those industries where products are technically complex, development research is typically expensive, and product life cycles are relatively short, strategic alliances among several organizations helps to spread the costs, provide access to a wider skill set, and speeds the overall process.

People respond to new products in different ways. The adoption of a new technology can be analyzed using a variety of diffusion theories such as the Diffusion of innovations theory.

A new product pricing process is important to reduce risk and increase confidence in the pricing and marketing decisions to be made. Bernstein and Macias describe an integrated process that breaks down the complex task of new product pricing into manageable elements.

Fuzzy Front End

The Fuzzy Front End is the messy "getting started" period of new product development processes. It is in the front end where the organization formulates a concept of the product to be developed and decides whether or not to invest resources in the further development of an idea. It is the phase between first consideration of an opportunity and when it is judged ready to enter the structured development process (Kim and Wilemon ,2002; Koen et al., 2001). It includes all activities from the search for new opportunities through the formation of a germ of an idea to the development of a precise concept. The Fuzzy Front End ends when an organization approves and begins formal development of the concept.

Although the Fuzzy Front End may not be an expensive part of product development, it can consume 50% of development time , and it is where major commitments are typically made involving time, money, and the product’s nature, thus setting the course for the entire project and final end product. Consequently, this phase should be considered as an essential part of development rather than something that happens “before development,” and its cycle time should be included in the total development cycle time.

Koen et al. 2001, distinguish five different front-end elements (not necessarily in a particular order):

1. Opportunity Identification
2. Opportunity Analysis
3. Idea Genesis
4. Idea Selection
5. Concept and Technology Development

The first element is the opportunity identification. In this element, large or incremental business and technological chances are identified in a more or less structured way. Using the guidelines established here, resources will eventually be allocated to new projects.... which then lead to a structured NPPD (New Product & Process Development) strategy. The second element is the opportunity analysis. It is done to translate the identified opportunities into implications for the business and technology specific context of the company. Here extensive efforts may be made to align ideas to target customer groups and do market studies and/or technical trials and research. The third element is the idea genesis, which is described as evolutionary and iterative process progressing from birth to maturation of the opportunity into a tangible idea. The process of the idea genesis can be made internally or come from outside inputs, e.g. a supplier offering a new material/technology, or from a customer with an unusual request. The fourth element is the idea selection. Its purpose is to choose whether to pursue an idea by analyzing its potential business value. The fifth element is the concept and technology development. During this part of the front-end, the business case is developed based on estimates of the total available market, customer needs, investment requirements, competition analysis and project uncertainty. Some organizations consider this to be the first stage of the NPPD process (i.e., Stage 0).

The Fuzzy Front End is also described in literature as "Front End of Innovation", "Phase 0", "Stage 0" or "Pre-Project-Activities".

A universally acceptable definition for Fuzzy Front End or a dominant framework has not been developed so far.[7] In a glossary of PDMA , it is mentioned that the Fuzzy Front End generally consists of three tasks: strategic planning, concept generation, and, especially, pre-technical evaluation. These activities are often chaotic, unpredictible, and unstructured. In comparison, the subsequent new product development process is typically structured, predictable, and formal. The term *Fuzzy Front End* was first popularized by Smith and Reinertsen (1991) R.G.Cooper (1988) describes the early stages of NPPD as a four step process in which ideas are generated (I),subjected to a preliminary technical and market assessment(II) and merged to coherent product concepts(III) which are finally judged for their fit with existing product strategies and portfolios (IV). In a more recent paper, Cooper and Edgett (2008) affirm that vital predevelopment activities include:

1. Preliminary market assessment.
2. Technical assessment.
3. Source-of-supply-assessment:suppliers and partners or alliances.
4. Market research : market size and segmentation analysis,VoC (voice of customer) research.
5. Product concept testing
6. Value-to-the customer assessment
7. Product definition

8. Business and financial analysis.

These activities yield vital information to make a Go/No-Go to Development decision.

In the in-depth study by Khurana and Rosenthal front-end activities include:

- product strategy formulation and communication,
- opportunity identification and assessment,
- idea generation,
- product definition,
- project planning, and
- executive reviews.

Economical analysis, benchmarking of competitive products,and modeling and prototyping are also important activities during the front-end activities.

The outcomes of FFE are the

- mission statement
- customer needs
- details of the selected concept
- product definition and specifications
- economic analysis of the product
- the development schedule
- project staffing and the budget, and a
- business plan aligned with corporate strategy.

In a paper by Husig, Kohn and Huskela (2005)[13] was proposed a conceptual model of Front-End Process which includes early Phases of Innovation Process. This model is structured in three phases and three gates:

- Phase 1: Environmental screening or opportunity identification stage in which external changes will be analysed and translated into potential business opportunities.
- Phase 2: Preliminary definition of an idea or concept.
- Phase 3: Detailed product, project or concept definition, and Business planning.

The gates are:

- Opportunity screening;
- Idea evaluation;
- Go/No-Go for development.

The final gate leads to a dedicated new product development project . Many professionals and academics consider that the general features of Fuzzy Front End (fuzziness,,ambiguity, and uncertainty) make difficult to see the FFE as a structured process,but rather as a set of interdependent activities (e.g.Kim and Wilemon ,2002).[14] However, Husig et al.,2005 [10] argue that front-end not need to be fuzzy,but can be handled in a structured manner. Peter Koen[15] argue that in the FFE for incremental,platform and radical projects,three separate strategies and processes are typically involved.[15] The traditional Stage Gate (TM) process was

designed for incremental product development,namely for a single product.The FFE for developing a new platform must start out with a strategic vision of where the company wants to develop products and this will lead to a family of products. Projects for breakthrough products start out with a similar strategic vision,but are associated with technologies which require new discoveries.It is worth mentioning what are incremental,platform and breakthrough products. *Incremental products* are considered to be cost reductions, improvements to existing product lines,additions to existing platforms and repositioning of existing products introduced in markets. *Breakthrough products* are new to the company or new to the world and offer a 5-10 times or greater improvement in performance combined with a 30-50% or greater reduction in costs. *Platform products* establish a basic architecture for a next generation product or process and are substantially larger in scope and resources than incremental projects[15].

Sensory analysis (or **sensory evaluation**) is a scientific discipline that applies principles of experimental design and statistical analysis to the use of human senses (sight, smell, taste, touch and hearing) for the purposes of evaluating consumer products. The discipline requires panels of human assessors, on whom the products are tested, and recording the responses made by them. By applying statistical techniques to the results it is possible to make inferences and insights about the products under test. Most large consumer goods companies have departments dedicated to sensory analysis.

Sensory analysis can generally be broken down into three sub-sections:

- Effective testing (dealing with objective facts about products)
- Affective testing (dealing with subjective facts such as preferences)
- Perception (the biochemical and psychological aspects of sensation)

Effective testing

This type of testing is concerned with obtaining *objective facts* about products. This could range from basic discrimination testing (e.g. Do two or more products differ from each other?) to descriptive profiling (e.g. What are the characteristics of two or more products?). The type of panel required for this type of testing would normally be a trained panel.

Affective testing

Otherwise known as *consumer testing*, this type of testing is concerned with obtaining *subjective* data, or how well products are likely to be accepted. Usually large (50 or more) panels of untrained personnel are recruited for this type of testing, although smaller focus groups can be utilised to gain insights into products. The range of testing can vary from simple comparative testing (e.g. Which do you prefer, A or B?) to structured questioning regarding the magnitude of acceptance of individual characteristics (e.g. Please rate the "fruity aroma": dislike|neither|like).

Perception

Perception involves the biochemical and psychological theories relating to human (and animal) sensations. By understanding the mechanisms involved it may be possible to explain why certain characteristics are preferred over others.

Descriptive analysis involves trained panels (6-30 people) who evaluate products by rating the intensity of various characteristics on a scale. Statistical analyses are applied to look for differences among various products for characteristics of interest.

Consumer testing (sometimes called 'hedonic testing') involves having potential consumers of a product evaluate various products and a small number of items on a ballot.

Discrimination testing

Discrimination testing is a technique employed in sensory analysis to determine whether there is a detectable difference among two or more products. The test uses a trained panel to discriminate from one product to another.

Statistical basis

The statistical principle behind any discrimination test should be to reject a null hypothesis (H_0) that states there is no detectable difference between two (or more) products. If there is sufficient evidence to reject H_0 in favour of the alternative hypothesis, H_A:There is a detectable difference, then a difference can be recorded. However, failure to reject Ho should not be assumed to be sufficient evidence to accept it. H_0 is formulated on the premise that all of the assessors guessed when they made their response. The statistical test chosen should give a probability value that the result was arrived at through pure guesswork. If this probability is sufficiently low (usually below 0.05 or 5%) then H_0 can be rejected in favour of H_A.

Tests used to decide whether or not to reject H_0 include binomial, χ^2 (Chi-squared), t-test etc.

Types of test

A number of tests can be classified as discrimination tests. If it's designed to detect a difference then it's a discrimination test. The type of test determines the number of samples presented to each member of the panel and also the question(s) they are asked to respond to.

Schematically, these tests may be described as follows; A & B are used for knowns, X and Y are used for different unknowns, while (AB) means that the order of presentation is unknown:

Paired comparison

> XY or (AB) – two unknown samples, known to be different, test is which satisfies some criterion (X or Y); unlike the others this is not an *equality* test.

Duo-trio

> AXY – one known, two unknown, test is which unknown is the known (X = A or Y = A)

Triangle

> (XXY) – three unknowns, test is which is odd one out (Y = 1, Y = 2, or Y = 3).

ABX

ABX – two knowns, one unknown, test is which of the knowns the unknown is (X = A or X = B).

Duo-trio in constant reference mode

(AB)X – three unknowns, where it is stated that the first two are different, but which is which is not identified, test is which of the first two the third is (X = 1 or X = 2).

Paired comparison

In this type of test the assessors are presented with two products and are asked to state which product fulfils a certain condition. This condition will usually be some attribute such as sweetness, sourness, intensity of flavour, etc.

The probability for each assessor arriving at a correct response by guessing is $p = 0.5$

Advantages

1:One of the quickest and easiest of tests to execute.

2:Can be used to determine whether formulation changes are detectable.

Disadvantages

Need to know in advance the attribute that is likely to change.

Duo-trio

The assessors are presented with three products, one of which is identified as the control. Of the other two, one is identical to the control, the other is the test product. The assessors are asked to state which product more closely resembles the control.

The probability for each assessor arriving at a correct response by guessing is $p = 0.5$

Advantages

Quick to set up and execute. No need to have prior knowledge of nature of difference.

Disadvantages

Not statistically powerful therefore relatively large panel sizes required to obtain sufficient confidence.

Triangle

The assessors are presented with three products, two of which are identical and the other one different. The assessors are asked to state which product they believe is the odd one out.[1]

The probability for each assessor arriving at a correct response by guessing is $p = 1 / 3$

Advantages

Can be quick to execute and offers greater power than paired comparison or duo-trio.

Disadvantages

ABX

The assessors are presented with three products, two of which are identified as reference A and alternative B, the third is unknown X, and identical to either A or B. The assessors are asked to state which of A and B the unknown is; the test may also be described as "matching-to-sample", or "duo-trio in balanced reference mode" (both knowns are presented as reference, rather than only one).

ABX testing is widely used in comparison of audio compression algorithms, but less used in food science.

ABX testing differs from the other listed tests in that subjects are given two known different samples, and thus are able to compare them with an eye towards differences – there is an "inspection phase". While this may be hypothesized to make discrimination easier, no advantage has been observed in discrimination performance in ABX testing compared with other testing methods.[2]

Duo-trio in constant reference mode

Like triangle testing, but third is known to not be the odd one out. Intermediate between ABX (where which of the first is which – which is control, which is proposed new one – is stated), and triangle, where any of the three could be out.

USES OF SENSORY ANALYSIS

1. To improve the sensory quality of a product or to ensure inter-batch consistency.

2. To understand the sensory characteristics of the products and how they influence consumer preferences.

3. To understand how the products performs against competitors' products in relation to consumer perceptions and or sensory characteristics.

4. To determine whether or not consumers can detect differences between product e.g. 'me too' products or changes in the product due to recipe modification.

5. To influence product listings with retailers by presenting independent research demonstrating that the company has a greater understanding of their products profile and consumers.

6. To evaluate a range of existing food products.

7. To analyse a test kitchen sample for improvements

8. To gauge consumer response to a product.

9. To check that a final product meets its original specifications.

How to perform Sensory Evaluation

1. Decide on the type of test you want to perform.

Preference test- ask whether people like or dislike a product, e.g hedonic scale.

Discrimination test- ask people to describe a particular attribute of a product e.g paired comparison test.

2. Find a clear area to hold the sensory test. Try to make sure that it is away from noise and cooking smells which may be distract the people taking part in the test.

3.Place as many samples in serving container as there are people taking part in the test. Code each sample with a random number, letter or symbol.

4. Check that you have enough glasses of water for the people taking part.

5. Make sure the people taking part know what is expected from them.

6. Ask each person to taste one sample at a time and record their responses. Allow time between samples so that tasters can record their opinions.