Food Preparation

Purdue University Cooperative Extension Service
Evaluating Food Service Establishments...Key Check Points

Food Preparation

The manager of a food service establishment and/or the manager and his superior need to take the time to make an overall analysis to determine the results that the organization is actually obtaining. This should be done several times a year. The evaluation should determine how well the food service operation is doing and where improvements should be made. Then some priorities, objectives, methods, and deadlines for improvements can be established.

This is one of a series of pamphlets describing how a person can fairly comprehensively, yet in less than a day, provide an overall evaluation of a food service operation. The key items, or food service conditions, to evaluate under each major category are described. Taken together, the key indicators of general conditions measure the degrees of efficiency (minimal costs) and effectiveness (optimal organizational satisfaction). A major category that has a deficient key indicator should be investigated further, and corrective adjustment should be considered and/or made where appropriate. A discussion of facts by management with the operating personnel is perhaps most needed to develop mutual understanding of the problems. Attainable performance objectives should be jointly established and reviewed at a later date.

If all key indicators are satisfactory in a major category, other aspects of that category are probably being handled with similar care. If all of the key indicators are high, but the profit is not adequate, then it will be necessary to examine the operation for inefficient purchasing and receiving practices, improper menu pricing, inaccurate records or financial statements, inventory method and method of computing the value, production waste, plate waste, security and pilferage, and so forth.

These operational analysis guidelines may be used by the manager of a single food service establishment for self-analysis, or by the unit manager’s supervisor.

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5 Food Preparation (this publication)
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5. Food Preparation

Producing food in quantity is a highly specialized task. It requires accurate recipes, developing food specifications for raw ingredients of the right quality for the purpose, food quality (preparation) standards, good planning and training, and a skilled staff. The supervisor is the most important factor. The supervisor needs to know, think, talk, teach, and evaluate quality during preparation and before service, and improve the quality. It takes demonstrated knowledge and constant reinforcement—to see, to evaluate, and to correct. Preparing quality food must become a habit of the organization from top to bottom. Creating this emphasis begins with the job description statements and must be carried through from the job interview, job orientation, and training, to frequent job evaluations.

The food production principles and skills needed to produce foods in quantity unfortunately are not easily or quickly learned. It is really a lifetime job of learning. The references at the end of this publication will be helpful for those who want to learn more.

In a quality food production program, the general indicators are standardized recipes, clearly defined food quality standards, small batch cookery methods, controlling food preparation, the pre-meal evaluation, and other factors.

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Standard Recipes
High-quality food, consistently served, requires competent personnel and the use of selected recipes. Check to see if there is a file of standardized recipes and whether they are actually used. A well-worn recipe file is usually a sign that supervisors and employees are taking steps to maintain quality food preparation. Recipes should include:

- Name of the food item.
- Total quantity and number of servings of a specific size.
- Processing steps and times for combining ingredients.
- Total time for producing the recipe.
- Advanced withdrawal procedures.
- Advance preparation procedures.
- Total time for processing.
- Quality standard.
- Garnishing, serving, hold procedures, storing, etc.
- Cost information.

Food Quality Standards
Expectations must be clearly defined by management and understood by preparation personnel in regard to:

- **Color** (typical for the product)—True vs artificial, pale vs dark, glossy vs dull, solid vs translucent.

- **Uniformity and general character**—uniformity in size, shape, and type of pieces; quantity of whole and broken pieces; general appearance and characteristics typical of product, including maturity.

- **Flavor and odor**—sweet, sour, salty, bitter, spicy, burnt, flat, strong, sharp, smooth, etc. Other helpful terms are flat or strong, typical or musty, sharp or smooth, true or artificial, acid, oily, metallic, rancid, and scorched.

- **Texture** (desired tenderness in solids) and consistency (degree of viscosity in liquids and sauces). Some of the meaningful terms are coarse or fine, grainy or smooth, hard or soft, tough or tender, brittle or rubbery, thick or thin, dry or watery, stringy, sticky, mushy, chewy, crusty, crackered, and cracked.

Specific product indicators of quality food preparation are egg cookery, roast beef cookery, beef stew, grilled foods, fried foods, sandwich preparation, mashed potatoes, gravy, vegetables, salads, and coffee. These preparation standards are provided to serve as an example. The standards for your food service facilities may be very different to satisfy your customers.

Egg Cookery
An all-around good job of food preparation is being done if the unit consistently produces high quality fried eggs. The egg must be fresh. The personnel need to know principles and standards of protein cookery and need to learn patience. Eggs, largely protein, must be cooked slowly at low heat to prevent undue coagulation and toughening. A properly fried egg should have a soft but firm white which has not been browned or crisped. The yolk should be set but soft, not firm or partly hard-cooked. If application of cooking principles results in a final product of excellence, other items are also likely to be superior.

Here are examples of food quality standards for scrambled eggs:

- **Color**: A glossy light yellow color achieved by well-mixed egg yolk and white prior to cooking.

- **Consistency**: Moist and smooth, light and tender, irregular curd size, largest the size of a quarter. Served product will nearly hold the shape of utensil.

- **Flavor**: Natural fresh flavor of egg, no seasoning added. Blended for local preference and fat flavor (i.e., butter or bacon fat). Natural odor. Seasoned slightly with salt and pepper.

- **Served**: Immediately or held undercooked at 140 F. so they will not be served overcooked to the customer.

- **Garnishes**: Parsley, pimento, or peppers.

Roast Beef Cookery
Meat preparation requires a good knowledge of basic principles and methods of food preparation. Meat is also the most expensive category of food used in a kitchen. Check to see if meat thermometers are used to ascertain the degree of doneness. Kitchen personnel who use meat thermometers generally will not leave much to chance. If roast beef of high quality is served, it is reasonable to assume that similar care is taken with all meats and prepared items.

Here is an example of a quality standard for sliced roast beef:

- **Color**: Rich brown outside to pink in center.

- **Uniformity and General Characteristics**: Sliced ½ in. thick, across grain in oval or oblong shape, about 3 x 5 in. Fresh and moist looking, and firm.
Flavor: Fresh, well-seasoned rich beef flavor.
Odor: Pleasant, well-seasoned rich beef flavor.
Texture: Fork-tender, moist, easily cut with table knife, no gristle, crisp outer edge—not tough, stringy or crumbly.
Served: 140 F., two slices, weighing 2½ oz., fat edge toward rim of the plate, rich brown natural juices.

Beef Stew
Beef cubes should be of uniform size. This interrelates with purchase specifications, inspection and concern for food quality standards. Uniform cubes is one indicator of interest and concern for thoroughness which probably extends throughout the entire preparation. The degree of doneness of the meat and various vegetables is also an indicator of high food quality. When each ingredient is cooked to the right degree of doneness (time varies for each ingredient), the ultimate in application of cooking techniques has been achieved.

The flavor is another important indicator. Although stew is a combination of ingredients, stew should have a distinct flavor of its own. No ingredient or seasoning should dominate the individual flavor of the stew.

Grilled Items
The griddle or grill can provide the cooked-to-order items that consumers may translate to “somebody cares.” Many items are cooked on the grill such as hamburgers, frankfurters, some types of sandwiches, thin steaks, bacon, sausage products, French toast, pancakes, and egg products. Proper temperature and timing must be worked out for each item. There are three operations: loading, turning, and unloading with a great quantity capability. Hamburgers are perhaps the most popular grilled items. The usual procedure is to set the thermostat at 350 F., place the patties, and cook until juices show on the surface, turn several at a time with a long spatula and finish cooking. Some operations use a special seasoning. While the patties are cooking, the buns are toasted on the grill. Each organization will have a different patty diameter, thickness, preparation procedure, and quality standard.

Here is an example of a quality standard for hamburgers:
Size: ¼ lb. raw, ½ in. thick, 3 in. diameter.
Color: True charcoal dark brown with grill marks, pink, juicy center.

Uniformity and General Characteristics:
Tender, grainy, juicy, round, firm, plump, sizzling hot (140 F.).
Flavor and Odor: Fresh tempting cooked beef odor, distinct delicate moist true beef flavor.
Texture and Consistency: ½ in. thick, the outside is firm without being crunchy or hard. The inside should be tender, juicy, coarse, grainy, and crumbly yet cohesive. Separates easily when cut.
Garnish: Pickle, chips, onion slice, tomato, lettuce, carrot sticks, celery slices.

Fried Foods
Fried foods are very popular. To be thoroughly enjoyable, fried foods must please all of the senses, including the eyes, and must be digestible. Deep fat frying requires good organization of the work center, training, and scheduling. Crisp, tender, and delicious products indicate that three elements have been integrated: fat management, equipment care, and training of fry cooks. All pieces of food should be evenly golden browned, crisp but not hard, with no evidence of burning or soaking, delicious, and retaining the characteristic form. The food must be well drained by the use of a double set of steam table pans. The inner one should be perforated and lined with absorbent paper, or a wire mesh insert used.

One of the most popular items, French fried potatoes, should be uniform and golden, the inside mealy, and the outside crispy. The flavor combines the surface flavor with the mealy real potato flavor inside. French fried potatoes are available in a variety of sizes and cuts, from half-inch to shoestring, straight cuts or crinkle. They should be fried at 350-375 F. and served immediately. Lower temperatures or excess fryer loads produce limp, soggy French fries, as they tend to absorb more frying fat to the point of being “greasy” which can cause indigestion.

Sandwich Preparation
The size and shape of sandwiches should be suitable for the occasion. Bread should be old enough to be firm, not crumbly or too porous, buttered on both slices, each slice about ¼ in. thick. Filling should be well mixed, cut or broken into small size; pleasing flavor without being too strong. Spread well out to the edge of sandwiches. The filling flavor should combine with the bread flavor to appeal to the appetite.
Mashed Potatoes
Color of mashed potatoes should be a glossy snow white. Consistency should be creamy, smooth, and somewhat fluffy and hold its shape. Flavor should be a true fresh potato flavor or a slight earthy flavor. Mashed potatoes should not be starchy or have an artificial flavor. They should be slightly seasoned with salt and white pepper, mild to the palate, lightly buttered, and served at 140 F. Overcooking and overbeating of instant potatoes will cause them to be sticky and gummy. Whiteness increases with the incorporation of air. Mashed potatoes can be garnished with a butter chip, gravy, or paprika.

Gravy
Gravy is a sauce which depends for its richness and flavor upon stock or drippings left in the pan after meat or poultry has been cooked. Most recipes for making gravy depend on the gelatinization (when mixture of starch and water is heated, water penetrates the granule with increased ease and considerable swelling results) properties of starch. Appearance of gravy should be glossy, translucent, with a natural color true to the type of meat or poultry base, of good consistency, and flow easily. It has a smooth, even appearance, is emulsified (an emulsion is formed when tiny droplets of one liquid are held suspended in another liquid), and fat has not separated from the liquid. The texture should be smooth, not lumpy or grainy. Consistency of gravy should have a uniform evenness, free flowing but clinging to the product, its viscosity that of a medium white sauce. Gravy should have a meaty, subtle and silky, rich flavor, well seasoned; it does not have a "flour" taste. Gravy should be served at 140 F., with a 1-oz. ladle.

Vegetables
The importance of vegetables to a meal cannot be overemphasized. Do the minerals, vitamins, and cellulose contribute to a balanced meal? Do the colors give a lift to the attractiveness of the plate? Do the varied textures add interest? Do the many shapes create a more attractive plate? Are the diverse flavors effectively used to complement the other foods in the meal? Recommended methods of preparing and cooking vegetables should be based on retention of nutritive value, maintenance of high palatability, and retention of good color and firm but tender texture. Overcooking should be avoided and particular caution taken with canned vegetables. Quality of vegetables is highly perishable. Good texture, fresh flavor, and bright color are essential to their goodness. They should not be: cold (120 F. or under), flavorless, overcooked, and underseasoned. The use of seasonings, sauces and garnishes makes vegetables more appealing.

Here is an example of a food preparation standard for buttered broccoli:

**Color**: Natural summer, glossy, forest green.

**Texture and Consistency**: Firm, crisp, fork tender, whole stems with attached flowerets, outside crunch, inside soft.

**Flavor**: Mild broccoli flavor with hint of butter and salt.

**Served**: 140 F., three spears.

**Garnish**: Rich, smooth, cheese sauce.

Salads
The bright color, crisp texture, cold (40 F.) temperature, and stimulating flavor of a salad should contrast well with the main part of the meal.

The arrangement should be attractive, simple, pretty, appealing to the taste and to the eye. Foods used should have a pleasing combination of flavors. The salad servings should be clean, with no drops of dressing spattered on the edge of the plate or bowl, nor an excess of dressing. Pieces should be large enough so that each food may be distinguished. Salads should be tossed with a fork rather than stirred with spoons. The amount should be suitable to the plate size and the correct amount for one person, with the rim of the plate showing around the edge of the salad. Refreshing—this is the finest measure of the excellence of a salad.

Coffee
Is the consumer getting his money's worth? A good cup of coffee or beverage can do much to improve the quality of the meal. Knowing how to make and serve a full-flavored cup of coffee requires some technical knowledge and job training. Here are some things to look for in a rich, full-bodied, cup of coffee. Lower the spoon into the cup and watch to see if it finally disappears; color should be a rich, dark, blackish brown. Coffee should have a great deal of aroma. To see if the coffee has some body, pour some cream in a cup of coffee and watch if it feathers out. In a full-bodied cup of coffee, the cream will start to feather out and go on down, not just disappear. There should be no sediment in the bottom of the cup, and it should be served at about 175 F.
Small-Batch Cookery
Another important consideration is how close food production is to customer consumption. Food production should be done in timely and continuous small batches to reduce the holding time of food before consumption. In most situations food should not be held for longer than 15 minutes.

Controlling Food Preparation
A food quality program consists of standard raw product food specifications, standard recipes, and continual controlling during preparation.

The process of controlling involves (1) establishment of a quality food standard; (2) procedures (the recipes) for attaining the standard; (3) a process for checking up on preparation steps from the beginning to the completion of the product; and (4) implementing corrective action during the preparation so that the product will meet the expected quality standards. True food quality control must be continual, done during preparation, and corrective in effect.

Management must control each batch by determining, for each product prepared, the major strategic production check points, and by seeing that corrections are made before deviations become serious.

The Pre-Meal Evaluation
Just before the serving period, several servings of each item prepared are placed on a table. Management and preparation personnel taste, discuss, and analyze each product. The visual and verbal comparisons provide a frame of reference and an opportunity for discussion, allowing questions to be raised and answers to be clarified. Preparation personnel learn to be discriminating in taste and become familiar with the standards of quality. The pre-meal evaluation after a period of time communicates mental pictures of the quality standards to the employees during each step of production. They know the food being prepared is up to standard, or that corrective adjustments are needed. The pre-meal evaluation technique (1) transfers quality standards to employees, (2) motivates employees to assemble food with pride and efficiency, (3) provides a good feedback by checking the understanding of the quality during the pre-meal evaluation, and (4) serves as a mini-training session in quality standards for supervisors and cooks and indicates what needs to be done to attain them, and (5) provides an opportunity to show appreciation to employees.

Other Factors
Attitudes and production controls contribute to quality food production. Such factors include:

- Accurate consumer forecasts to eliminate over- and underproduction.
- Understood economical use of ingredients (discriminating use of leftovers, inferior materials, etc.)
- Complete understanding of reason for procedures.
- Sufficient supervision for quality and quantity production control, and elimination of food waste.
- Scheduling production to produce and serve food at the highest quality. Controlled cooking means to bring the cooking time and serving time as close together as possible, and to cook in small batches throughout the meal period.
- Understanding and use of tools of quality control such as recipes, accurate thermometers and thermostats, clocks, timers, portion scales, graded measures, and rulers.

Summary

The focus for quality food is knowledge and attention. Does management achieve quality by teaching employees a keen appreciation for good food, training them in methods by which this is attained, constantly challenging their interest and ability to reach out for higher standards, and judging results with them by tasting their products?

If standardized recipes, clearly defined food standards, and timely small-batch cooking are used, many additional good food production techniques are also likely to be used.

Excellence
Excellence never happens automatically nor does it come with the size of the organization. It is earned by people who care. Well-organized and trained employees make it a reality because they are responsive, aware, involved, and contribute the personal commitment that relates service to need.

Excellence has no common definition. Fine food. Warm and personal service. Good nutrition. A pleasant environment. These are essential to a fine Food Service, but they are not enough.
Management integrates and interrelates employees, food, equipment, and preparation techniques. Excellence requires more than involvement with technique; it requires involvement with people.

The efficiencies of purchasing, administrative support, and highly trained management and operational people make excellence a practical possibility. Your employees make it a reality. To be successful, your employees must care.

A successful food service organization has to have a unique food service program—one specifically designed to meet the specific needs, preferences, and attitudes of consumers and top management. Yet, tomorrow's program will be different from today's. Conditions change. Customers change. Employees change. Your service must change—responding to consumers' needs with empathy and innovation that solves problems before they occur. You must take advantage of opportunities.

References

Books

Recipe Files

Standardized Quantity Recipe File for Quality and Cost Control, The Iowa State University Press, State Avenue, Ames, Iowa 50010 (412, 5" x 8" recipe cards, for serving 100 customers, approx. cost $20.00).

Other Publications, Catalogs, Correspondence Courses
National Restaurant Association
One IBM Plaza, Suite 2600
Chicago, Illinois 60611

Educational Institute of the American Hotel and Motel Association
Stephen S. Nisbet Building
1407 South Harrison Road
East Lansing, Michigan 48823

National Institute for the Food Service Industry
120 South Riverside Plaza
Chicago, Illinois 60606

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221 Columbus Avenue
Boston, Massachusetts 02216