Food service management

Food Laboratory Conduct and Responsibilities Personal conduct: 1. Do not read magazines and the newspaper during the lab period. 2. Do not use the work units, supply table or other food contact surfaces as seats. 3. Each student is responsible for keeping work surfaces clean and sanitized. 4. Students must remain with their assigned lab group for the entire lab period so that they can participate in all steps of recipe preparation, evaluation and clean-up. 5. This lab period is not to be used as a study hall. It is not time to work on assignments for other classes or to read books, magazines, etc. Personal Hygiene: . Wash hands with soap and hot water before working with food. 2. Wash hands thoroughly after handling all potentially hazardous foods. 3. Use paper towels and not on dish towels to dry hands. 4. Wash your hands after using a tissue before handling foods again. 5. Avoid touching the hair or face while working with food. 6. Hair must not be combed in the lab at any time. The combing process should be done before the student enters the room. 7. Hair must be secured during the lab period. 8. Do not use hands to mix food. That's why utensils were invented. 9. If you have an open cut or wound, use gloves. 0. Be sure your clothes are clean and you are wearing an apron. Food Handling: 1. Spoons or other utensils used for mixing food ingredients are not to be licked. 2. Use a special spoon or fork for sampling any food product for amount of seasoning. 3. Never sample foods to determine doneness. Doneness should be judged using a probe thermometer. 4. Any spoon or fork placed in the mouth must be washed before using for further food sampling. 5. No product containing raw eggs in any form is to be sampled (cake batter, cookie dough, etc.) due to possibility of salmonella contamination. 6.

If you are wearing long sleeves, roll them up before you begin food preparation. Kitchen Sanitation Follow this procedure for washing dishes. 1. Place dish drain on counter so that the water will run into the sink. 2. Fill the sink with hot soapy water. 3. Using a washcloth, wash dishes in the following order. a. Glasses b. Plates c. Bowls d. Flatware/silverware e. Pots and pans f. Cooking utensils 4. Rinse all clean dishes with hot water and place in the dish drain. 5. Dry dishes using a dry, clean dish towel. Sanitation & Safety Guidelines Why is sanitation and disinfection important? 1.

Germs and infections can be spread from client to client and client to therapist in treatment rooms and spas if practitioners do not properly sanitize and disinfect their implements and equipment. 2. State rules require sanitizing and disinfecting of all implements and equipment used in spas services. 3. The following guidelines meet and exceed the requirements for Michigan. Our new disinfecting product, Citrus II, meets and exceeds the requirements for all 50 states. Please review your state sanitation and safety guidelines to insure you are meeting their requirements. I. Definitions Sanitizing: Provides a low level of protection.

Wash with an anti-microbial soap and hot water or sprayed with an anti-microbial agent. Bellanina Use: Colloidal Silver & Anti-microbial Cleanser Procedure 1. Use a Bellanina sanitizing agent (follow product directions) to mist surfaces and product bottles/jars then wipe dry with paper towel. Disinfecting: Eliminates most virucidal and bacterial, fungal spores. Hospital grade, EPA-registered disinfectant with demonstrated bactericidal, fungicidal and virucidal activity is required. Follow the manufacturer's instructions. Bellanina Use: Wavicide, Barbicide, or Citrus II (implements & equipment,

etc. , Clorox (laundry). Citrus II Implement solution: 11 ml concentrated Citrus 11 per 48 oz water (fill implement tray to bottom of plastic hinge) See bottle for easy measuring. Citrus ll Spray- use as is. Barbicide solution: Mix 2 ounces of Barbicide in 32 ounces of water. Pour the solution into the soaking tray until it reaches the plastic hinge that the soaking tray rests upon. Thoroughly clean brushes, combs, and other hard-surfaced non-porous tools and implements prior to complete immersion in the Barbicide-water solution for 10 minutes. Rinse to remove Barbicide after immersion and dry before use.

Wavicide: Pour Wavicide into soaking container until it reaches the top of the plastic knob in the bottom of the soaking container. Fill water into the soaking container until it reaches the plastic hinge that the soaking tray rests upon. Place the instruments/brushes into the soaking tray to disinfect. The brushes may NOT stay in Wavicide longer than 10 minutes. Sanitation & Safety Guidelines Procedure: 1. Wash bowls, product spatulas, facial brushes, and other implements that will be used in your treatment with soap and water and rinse thoroughly. Dry with a paper towel or sanitary cloth towel. . Immerse all washed items noted above in the disinfecting solution for a minimum of 10 minutes. 3. Remove items from solution with tongs or strainer basket that can be lifted out is acceptable (do not use bare hands). Rinse items and dry. 4. Place items in a closed container for storage if not being used immediately. 5. Change the chemical solution per the manufacturer's directions. (monthly or if solution becomes sediment or cloudy) Laundered: Eliminates most microorganisms, viruses, bacterial,

fungal, spores, etc. by washing the items in an oil removing detergent, hot water, and disinfectant.

Bellanina Use: Laundry detergent and Clorox Bleach. Procedure: Follow manufacturer directions *Linens must be laundered after each client. II. General Room Upkeep and Safety Treatment rooms need to be clean, safe, and sanitary at all times. • Covered and lined trash baskets – dispose of temporary waste materials, including but not limited to: single use items, paper, tissues, etc. Trash must be emptied at the close of each day. • Floors – sweep daily to remove the loose debris, dust, etc. from the environment. • Electrical appliances – turn off or unplug at the end of the shift/day i. e. ed warmers, towel cabbies, etc. • Electrical cords – keep out of the main pathway of the clients and staff. • Fire extinguishers – know location of fire extinguisher in your spa and make sure they are tested yearly. • Steam showers – spray the floors, walls, doors, railings, faucet, etc. with Citrus II, wipe with wet cloth, rinse with water, and wipe dry with towel. • Smooth, hard surfaces such as countertops, sinks, fixtures, equipment, treatment tables, etc. – spray with Citrus II to disinfect. • Candles – tea lights: must be lit in glass containers, regular candles: must be kept on a non-flammable coaster.

Make sure the candles are extinguished before leaving the room. III. Implements/Equipment Cleaning Procedure Single Use Items Porous items made or constructed of cloth, wood or other absorbent materials having rough surfaces usually intended for single use. • Dispose of after each use – items included but not limited to tissues, gauze pads, cotton balls, cotton swabs, cotton sponges, disposable gloves, disposable wipes, wooden

applicators, lancets, fabric strips, orange sticks, and porous nail files and buffing blocks contaminated by broken skin. Multi-Use (Non-cloth) Items

Items constructed of hard materials with smooth surfaces such as metal, glass, or plastic typically for use on more than one client. • Manicure and pedicure items included but not limited to porous nail files and buffing blocks (not contaminated by broken skin),– must be disinfected after each use. • Skin care, waxing and other miscellaneous items included but not limited to tweezers, extractors, scissors, spatulas, combs and facial brushes – must be disinfected after each use. • Neck wraps/eye pillows – cover with clean dry cloth or tissue between each client and launder or discard after each use.

IV. Linens Linens – Treatment table, pillows and headrest must be covered with fresh, clean sheets, face cradles, or towels at the beginning of each treatment and between each client. • Clean linens must be stored in a covered container prior to use. • Pillows and extra blankets must be stored in a covered container prior to use. • Soiled linens must be removed from the treatment room immediately following each service and kept in a covered hamper. Multi-Use Cloth Items Items constructed of fabric materials typically for use on more than one client. Launder and disinfect after each use – included but not limited to sheets, blankets*, facial gowns, exfoliating gloves, and facial sponges** • * Blankets are placed on the massage table or facial bed with the sheet folded down at the head of the table so that when client's arms are outside of the sheet, their arms on laying on top of the folded down sheet. Following this procedure, blankets can be washed once a week. ** Facial sponges are particularly susceptible to bacteria and germs. You need to be careful before their next use.

Because they are so dense, microbes can survive in the sponge's tight pores even after thorough disinfection and boiling. Since the sponges are reused, they must be laundered using bleach or other powerful bactericide to disinfect the wash water. Sponges must be placed in a net bag prior to laundering. After removing them from the dryer, place them in an enclosed storage container. Some states do not allow facial sponges to be reused. V. Product ApplicationSanitation & Safety Guidelines Product bottles and jars used in conjunction with your physical contact work must be disinfected daily. Massage oil and cream, skin care products, body treatment products, misc. products – disinfect after each use. • Creams/semi-solid – use a disposable/disinfected spatula per use. Do not reuse any product that has been taken out of the container and touched with your hands. • Oil/lotion – pump from bottle per use. VI. Equipment: Pedicure tubs (Cleaning between clients) For basic pedicure tubs without whirlpool jets and tubing 1. Drain the basin and remove any visible debris. 2. Scrub the bowl with a clean brush and Mixxocydan or soap.

Rinse and drain. 3. Disinfect basin surfaces with Citrus II and follow manufacturer's instructions. Surfaces must remain wet with the disinfectant for 10 minutes or the contact time stated on the label. 4. Drain the basin, rinse with clean water and let air dry. 5. Use Citrus concentrate – 15ml or 1 tsp to 1 gallon water. 6. Store portable tubs in covered container after they have been disinfected. * For pedicure tubs with inner tubing/whirlpool jets follow your state guidelines. Paraffin tubs (Cleaning) 1. Unplug the unit. Remove the lid and grille.

Allow the paraffin to solidify overnight. 2. After the paraffin is solid, plug the unit in for a few minutes, or just until the cake of paraffin loosens from the sides and bottom of the unit. Then unplug the unit. DO NOT leave an empty unit plugged in. To do so will cause the unit toget excessively hot, causing possible damage to the unit. 3. Press down firmly on one end of the paraffin, tipping the opposite end up. Then lift out the cake and place it on paper towels. 4. Blot up any remaining paraffin in the tank with paper towels.

If any solidified paraffin remains inside or on the outside of the unit, soften carefully with a hair dryer and remove with a paper towel. 5. Wipe the inside and outside of the unit with Citrus II. Thoroughly wipe the unit dry. 6. Add the new paraffin wax. Precautions and Hygiene: • Thoroughly wash and dry the skin before applying paraffin. • Spray the skin with Colloidal Silver or Citrus II sanitizer. Follow all paraffin application instructions. • Discard used paraffin. Do not remelt used paraffin. • Except for personal units, use separate units for hands, feet and face.

Sanitation & Safety Guidelines • Always place the cover on the paraffin tub when it is not in use. • Clean your paraffin bath once a month, when paraffin is cloudy, or when sediment accumulates on the bottom of the unit. Rice Cooker/Crock Pot/Towel Cabi • Sanitize daily by spraying with EPA approved disinfectant at the end of each day. Leave the door slightly open overnight to allow container to dry out. VII. Personal Hygiene Therapists must maintain the following personal hygiene standards. Hands and Feet • Wash his or her hands immediately before and after serving each patron. Ask permission to sanitize client hands and feet before paraffin service using Citrus II sanitizer • Ask permission to sanitize client feet before massaging them. • Gloves

should be worn in the presence of cuts or open wounds. • Wash hands after touching the feet • Never touch the face without sanitizing hands first Grooming • Fingernails must be kept as short as possible. (Long nails can injure a client and can collect germs that are hard to kill even with thorough washing). • Hair should be clean and neat. • Minimal makeup is required (lipstick). Use of skincare products and additional makeup is encouraged. Deodorant, mouthwash and especially flossing every day are considered essential elements of good grooming when working in close contact with clients. Uniform or Attire • Keep clothing clean and sanitary when services are being rendered. • Name tag must be worn and visible if applicable. • Wear only approved uniform attire. Jewelry • Never wear jewelry on your hands or wrists when working on someone's face. • Jewelry collects bacteria and can be transferred to the mucous membranes of the facial area. VIII General Safety / Health / Contra IndicatorsSanitation & Safety Guidelines

A therapist should not perform services on a client if he or she has reason to believe the client has a contagious condition such as: head lice, nits, ringworm, warts, or skin damage such as: inflamed, infected, broken, raised or swollen skin or nail. Kitchen Tools Every professional kitchen requires a wide variety of tools – some basic, some very specific. Can openers, colanders, cheese graters, disher scoops, pail openers, film and foil cutters, garlic press, egg slicer, potato masher or ricer, skewers, and mandolins are just a few. The section also lists tools for some ethnic cuisines such as Chinese and Italian.

Vacuum packing machines and wrapping machines are also described here for specialty take-away food preparation | When making bread, it is critical to

use precise measurements. Unlike general cooking in which precise measurements are| | often not as critical, inaccurate measurements in bread making (and most baked items) affect the chemical processes | | that occur during the preparation and baking. Slight variations in the ingredient quantities can adversely affect the | | results. Described below are some useful measuring techniques. | Measuring Dry Ingredients For Bread Making When using measuring cups to measure larger quantities of |[pic] | | dry ingredients such as flour, granulated sugar, and | | | powdered sugar, the ingredients should be spooned into the | | | measuring cup until heaping over the top of the cup. It may| | | be beneficial to stir the dry ingredients to aerate the | | | ingredient and remove any lumps that have developed.

Do not| | | shake, tap, or pack the ingredient into the cup. Using the | | | back edge of a knife or another straight edged object, | | | level the ingredient by running the straight edge along the| | | rim of the cup to remove the excess.

The same technique can| | | be used for ingredients that are bulkier and less finely | | | ground, such as meal, cracked grains, or finely chopped | | | nuts. | | | Brown sugar can be measured with this method, but it must be packed firmly into the measuring cup to eliminate air | | pockets before it is leveled with a straight edge.

After the brown sugar is removed from the measuring cup, it should | | retain the shape of the cup if it was packed properly. | | When using spoons to measure dry ingredients such as baking|[pic] | | powder, baking soda, or salt, pour or scoop the ingredients| | | into the spoon.

Use the back edge of a knife or another | | | straight edged object to level the ingredient by running | | | the straight edge along the rim of the spoon to remove the | | | excess. | | Weight Versus Volume | A kitchen scale can be used to measure flour by weight for the most accurate quantity.

Occasionally, the quantity of | | flour that is actually contained in a measuring device may be inaccurate due to several factors, such as the manner in | | which the flour is added to the measuring device, the degree in which the flour is compacted, and the humidity level. | | Using a scale to weigh the ingredient eliminates the inaccuracy and provides a more precise measurement. Because flour | | is generally the major ingredient in most breads, it is important to be as accurate as possible with measuring flour to| | achieve the best results. It is also worth noting that different types of flour do not weigh the same. | [pic] | | | | | | | | | | | | | | | | | | | | | | | | Weight of Flour – Per 1 Cup | | | |(approximate weights) | | | | All Purpose Flour | 4 3/8 oz or 125 g | | | | Whole Wheat Flour | 4 1/4 oz or 120 g | | | | Bread Flour | 4 1/2 oz or 127 g | | | | Rye Flour | 3 5/8 oz or 102 g | Measuring Solid Fats For Bread Making | Butter and margarine in stick form have |[pic] | | measurements already marked on the wrappers, making| | | it very convenient to measure the required amount. | | Simply cut off the quantity required according to | | | the indications on the wrapper, which is usually | | | marked in tablespoons. One stick of butter or | | | margarine equals 8 tablespoons or ? cup. One-half | | | stick equals 4 tablespoons or ? cup and 1 | | | tablespoon (1/8 of a stick) equals 3 teaspoons. | | Shortening (and other solid fats) should be spooned| [pic] | | into a measuring device and packed firmly to | | | eliminate any air pockets. After it is firmly | | | packed it can be leveled with a straight edge,

such| | | as the back edge of a knife. | | Measuring Liquid Ingredients For Bread Making It is best to use transparent plastic or glass measuring |[pic] | | cups with pour spouts to measure large quantities of liquid,| | | such as water or milk, and for sticky ingredients, such as | | | syrup, honey, or molasses. Measuring spoons are used to | | | measure small quantities of these ingredients. | | | Pour the liquid ingredient into the measuring cup until it | | | is at the desired measure.

Make sure the measuring cup is | | | sitting on a flat, level surface and view the measurement at| | | eye level. Do not hold the cup up at eye level because the | | | cup may not be level when viewing, resulting in an | | | inaccurate reading. | | | When using measuring spoons, hold the spoon flat and pour |[pic] | | the ingredient into the spoon until it reaches the top rim | | | of the spoon. | | When measuring sticky ingredients, such as honey, molasses, and syrup, lightly coat the inside of the measuring cup | | with vegetable oil or cooking spray, which will allow the sticky ingredients to slide out easily. If the bread recipe | | calls for oil, you can measure the oil before measuring the sticky ingredients and then use the same cup, without | | washing it, to measure the sticky ingredient. | | Removal of sticky ingredients can also be assisted by using metal measuring cups or spoons and filling them with | | boiling water for a few minutes and then pouring the ingredients in them. The heated metal will allow the sticky | | ingredients to pour out easily. | | Note: Never measure ingredients over the mixing bowl containing the other ingredients.

You may accidentally over-fill | | or tip the measuring device resulting in the excess ingredients falling into the mixture, which could ruin the dough or| |

batter (depending on the ingredient and the quantity spilled). It is best to measure ingredients over a sink, another | | bowl, or a sheet of wax paper to catch excess spillage. Excess ingredients caught on wax paper can be returned to the | | appropriate container. | Cooking Measurement Equivalents The information below shows measuring equivalents for teaspoons, tablespoons, cups, pints, fluid ounces, and more. This page also includes the conversions for metric and U. S. systems of measurement. See the Infoplease. com conversion calculator 1 tablespoon (tbsp) = | 3 teaspoons (tsp) | | 1/16 cup = | 1 tablespoon | | 1/8 cup = | 2 tablespoons | | 1/6 cup = | 2 tablespoons + 2 teaspoons | | 1/4 cup = | 4 tablespoons | | 1/3 cup = | 5 tablespoons + 1 teaspoon | | 3/8 cup = | 6 tablespoons | | 1/2 cup = | 8 tablespoons | | 2/3 cup = | 10 tablespoons + 2 teaspoons | | 3/4 cup = | 12 tablespoons | | | | | 1 cup = | 48 teaspoons | | 1 cup = | 16 tablespoons | | 8 fluid ounces (fl oz) = | 1 cup | | 1 pint (pt) = | 2 cups | | 1 quart (qt) = | 2 pints | | 4 cups = | 1 quart | | 1 gallon (gal) = | 4 quarts | | 16 ounces (oz) = | 1 pound (lb) | | 1 milliliter (ml) = | 1 cubic centimeter (cc) | | 1 inch (in) = | 2. 54 centimeters (cm) | Source: United States Dept. of Agriculture (USDA). U. S. –Metric Cooking Conversions U. S. to Metric Capacity | Weight | | 1/5 teaspoon | 1 milliliter | 1 oz | 28 grams | | 1 teaspoon | 5 ml | 1 pound | 454 grams | | 1 tablespoon | 15 ml | | | | 1 fluid oz | 30 ml | | | | 1/5 cup | 47 ml | | | | 1 cup | 237 ml | | | | 2 cups (1 pint) | 473 ml | | | | 4 cups (1 quart) |. 95 liter | | | | 4 quarts (1 gal.) | 3. 8 liters | | | Metric to U. S. | Capacity | Weight | | 1 milliliter | 1/5 teaspoon | 1 gram |. 035 ounce | | 5 ml | 1 teaspoon | 100 grams | 3. ounces | | 15 ml | 1 tablespoon | 500 grams | 1. 10 pounds | | 100 ml | 3. 4 fluid oz | 1 kilogram | 2. 205 pounds | | | | | = 35 ounces | | 240 ml | 1 cup | | | | 1 liter | 34 fluid oz | | | | = 4. 2 cups | | | | |

= 2. 1 pints | | | | |= 1. 06 quarts | | | | |= 0. 6 gallon | | | MEASURING SUCCESS WITH STANDARDIZED RECIPES RECIPE STANDARDIZATION PROCESS Definition The United States Department of Agriculture (USDA) defines a standardized recipe as one that " has been tried, adapted, and retried several times for use by a given foodservice operation and has been found to produce the same good results and yield every time when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients" in the manual, A Tool Kit for Healthy School Meals: Recipes and Training Materials (p. 37). The terms " quantity recipes" and " standardized recipes" often are confused with each other.

Many recipes are written to produce large quantities of food. Any recipe that produces 25 servings or more is termed a quantity recipe. Quantity recipes are not standardized, however, until they have been adapted to an individual school foodservice operation. MEASURING SUCCESS WITH STANDARDIZED RECIPES 4 Benefits of Standardized Recipes Using standardized recipes provides many benefits to school foodservice operations. These benefits include: ? Consistent food quality—The use of standardized recipes ensures that menu items will be consistent in quality each time they are prepared and served. ? Predictable yield—The planned number of servings will be produced by using standardized recipes.

This can help to reduce the amount of leftover food if there has been overproduction, and also will help to prevent shortages of servings on the line. A predictable yield is especially important when food is transported from a production kitchen to other serving sites. ? Customer satisfaction— Well-developed recipes that appeal to students are an important factor in

maintaining and increasing student participation levels. Schools may take a lesson from national restaurant chains that have developed popular menu items consistent in every detail of ingredient, quantity, preparation, and presentation. Standardized recipes provide this consistency and can result in increased customer satisfaction. Consistent nutrient content—Standardized recipes will ensure that nutritional values per serving are valid and consistent. ? Food cost control—Standardized recipes provide consistent and accurate information for food cost control because the same ingredients and quantities of ingredients per serving are used each time the recipe is produced. ? Efficient purchasing procedures—Purchasing is more efficient because the quantity of food needed for production is easily calculated from the information on each standardized recipe. ? Inventory control—The use of standardized recipes provides predictable information on the quantity of food inventory that will be used each time the recipe is produced. Labor cost control—Written standardized procedures in the recipe make efficient use of labor time and allow for planned scheduling of foodservice personnel for the work day. Training costs are reduced because new employees are provided specific instructions for preparation in each recipe. ? Increased employee confidence—Employees feel more satisfied and confident in their jobs because standardized recipes eliminate guesswork, decrease the chances of producing poor food products, and prevent shortages of servings during meal service. ? Reduced record keeping—A collection of standardized recipes for menu items will reduce the amount of information required on a daily food production record. Standardized recipes will include the ingredients and amounts of food used for a menu item.

The food production record will only need to reference the recipe, number of planned servings, and leftover amounts. MEASURING SUCCESS WITH STANDARDIZED RECIPES 5 ? Successful completion of State/Federal reviews —Standardized recipes are a source of documentation for the School Meals Initiative (SMI) reviews. SMI reviews determine how well schools are meeting the statutory nutrition standards. Schools using a Food-Based Menu Planning System provide a week of menus, recipes, and production records for nutrient analysis by the State Agency. A review cannot be completed if the recipes are missing information or provide inaccurate information on ingredients, yield, or serving size.

The Nutrient Standard Menu Planning and Assisted Nutrient Standard Menu Planning Systems also require standardized recipes to ensure that the nutrient analysis is accurate. Menus, recipes, production records, and the nutrient analysis are kept on file for review. Importance of Standardized Recipes Three main areas of school foodservice operation are negatively impacted when standardized recipes are not used: Cost Nutrients per Serving Customer Satisfaction Cost Recipes are developed with specific ingredient amounts. When additional amounts of ingredients are added to a recipe or recipes are portioned incorrectly, there may be a change in the cost to produce that recipe. For example, the school foodservice has a recipe for Fiesta Beef Casserole that calls for 35 lb of ground beef to make 200 servings.

The Fiesta Beef Casserole recipe is specified to serve 25 portions per pan by cutting a half steam table pan (12″ x 10″ x 21 ? 2 ") 5 x 5. If a cook uses 40 lb of ground beef (four 10-lb packages), the cost per portion increases

significantly because 5 additional pounds of meat were used. Fiesta Beef Casserole Fiesta Beef Casserole Difference in Cost Cost per Serving with Cost per Serving with per Serving of 35 lb ground beef 40 lb ground beef Fiesta Beef Casserole $0. 46 $0. 51 +$0. 05 While $0. 05 per serving may not seem like much, imagine if similar changes were made to one recipe each day during the school year with the same cost impact. $0. 05 per serving x 200 servings x 160 school days = $1, 600

MEASURING SUCCESS WITH STANDARDIZED RECIPES 6 Suddenly, what seemed like a small addition of a few pounds of meat can become a major cost for the program. Costs are based on the assumption that a recipe will yield a certain number of servings. The Fiesta Beef Casserole recipe is specified to yield 25 servings per pan by cutting a half steam table pan (12″ x 10″ x 21 ? 2 ") 5 x 5. What if the pan was cut 4 x 5 and yielded 20 servings instead of 25 servings? Servings per pan Cost per serving 20 servings $0. 58 25 servings $0. 46 Difference +$0. 12 $0. 12 per serving x 200 servings x 160 school days = $3, 840 If similar mistakes are made multiple times a day, the costs really add up!

Plate waste also may increase when servings are too large; and because a larger portion was served to each student, the likelihood of running out of food increases greatly. Nutrients per Serving Besides increases in cost, the nutrients per serving for a recipe can be altered significantly when a recipe is not followed. Take a look at the comparison of nutrient content of a serving of the Fiesta Beef Casserole when cut into 20 versus 25 servings. Nutrient facts 25 servings per pan 20 servings per pan Serving size 6. 5 oz 8. 1 oz Calories 255 318 Protein 12. 7 g 15. 9 g Carbohydrate 22. 5 g 28. 2 g Total

fat 12. 5 g 15. 6 g Saturated fat 5. 0 g 6. 2 g Cholesterol 44. mg 55. 0 mg Vitamin A 145. 0 IU 181. 0 IU Vitamin C 12. 2 mg 15. 2 mg Iron 2. 3 mg 2. 9 g Calcium 27. 3 mg 34. 2 mg Sodium 404. 0 mg 506. 0 mg Dietary fiber 1. 0 g 2. 0 g MEASURING SUCCESS WITH STANDARDIZED RECIPES 7 Customer Satisfaction Another very important reason to use standardized recipes is keeping customers happy and satisfied. Standardized recipes provide the same recipe outcome no matter who is preparing them. Production and other staff members can become familiar with the recipes quicker because recipes have the same format. Guesswork is eliminated because staff members have confidence that the recipe will turn out how it is intended.

Customers will be more satisfied and participation may increase because customers know what to expect each time a product is served. Standardized Recipe Components Standardized recipes for school foodservice operations should always have certain components: 1. Recipe title—Name that adequately describes the recipe. 2. Recipe category—Recipe classification based on USDA or operation-defined categories, i. e. , main dishes, grains/breads. 3. Ingredients—Products used in a recipe. 4. Weight/Volume of each ingredient—The quantity of each ingredient listed in weight and/or volume. 5. Preparation instructions (directions)—Directions for preparing the recipe. 6.

Cooking temperature and time—The cooking temperature and time, if appropriate. 7. Serving size—The amount of a single portion in volume and/or weight. 8. Recipe yield—The amount (weight or volume and number of servings) of product at the completion of production that is available for service. 9. Equipment and utensils to be used—The cooking and serving

equipment to be used in preparing and serving the recipe. Other Possible Components 10. Contribution to the Food-Based Menu Planning System—Identifies the component (meat/meat alternates, vegetables/fruit, and/or grains/breads) the recipe contributes to and is applicable when using Traditional and Enhanced Food-Based Menu Planning Systems. 11.

State/Federal reviews—State and Federal guidelines may require specific information to be recorded on standardized recipes as documentation for School Meal Initiative reviews. 12. Nutrient analysis—Nutrients per serving. 13. Marketing guide—Suggested purchase quantities for ingredients that have a preparation loss or gain before they are ready to use in a recipe. 14. Food safety guidelines—Procedures designed to ensure the safe production and service of food. Hazard Analysis Critical Control Point (HACCP) information, if appropriate. 15. Recipe variations—Alternative way of preparing the recipe. 16. Alternative ingredient—Ingredient that could be substituted for a listed recipe ingredient. 17. Optional ingredients—Ingredients that could be added to a recipe to enhance the flavor or acceptability.

The addition of these ingredients may affect the nutrient analysis and the contribution of the recipe for food-based menu systems. Though each school foodservice operation may have its own recipe format, it is important that school foodservice recipes have components 1 – 9. The USDA recipe format can be found in A Tool Kit for Healthy School Meals: Recipes and Training Materials. USDA recipes also include a column where managers can record adjusted quantities of the recipe specific to their school foodservice operations. Phases of Recipe Standardization School foodservice managers

are responsible for serving nutritionally adequate foods while being cost-effective and meeting meal pattern requirements for reimbursement.

Using standardized recipes is an essential strategy to help managers accomplish this goal. The recipe standardization process can be summarized in three phases: recipe verification, product evaluation, and quantity adjustment. Recipe verification consists of reviewing the recipe in detail, preparing it, verifying its yield, and recording changes. Product evaluation focuses on determining the acceptability of the product produced from the recipe. Changing the recipe yield and ingredient amounts occurs in the quantity adjustment phase. A recipe may go through these phases several times before becoming standardized at the necessary quantity for an operation.

School foodservice managers and employees should work together on the recipe standardization process. Input from students and other customers is critical during the evaluation phase. Decisions made during each phase determine the flow of a recipe through this recipe standardization process. Once a recipe has been standardized for an operation, the standardization process should not have to be repeated unless changes occur in availability of ingredients or equipment. Quantity recipes published by USDA (A Tool Kit for Healthy School Meals: Recipes and Training Materials, Quantity Recipes for School Food Service, or School Lunch Challenge I, II, and 97 Recipes) have been tested in schools already and will require less work to standardize.

Decisions with these USDA recipes will involve determining which food(s) to use when options or variations are suggested and which piece(s) of equipment will be used to prepare the product. Recipes that are brought in from home or are taken from magazines likely will require much more time to standardize. Working with home-size recipes usually involves such activities as determining whether the serving size on the recipe is appropriate for the customers for whom it will be served and calculating food-based menu contribution or nutrient content. MEASURING SUCCESS WITH STANDARDIZED RECIPES 9 Recipe Verification Phase The first phase of the recipe standardization process is the recipe verification phase.

This phase includes four major processes: review the recipe, prepare the recipe, verify the recipe yield, and record changes to the recipe. Review the Recipe Begin by working on only one recipe at a time. Review the recipe to be standardized. Look to see if the recipe contains the following information: 1. Recipe title 2. Recipe category 3. Ingredients 4. Weight/volume for each ingredient 5. Preparation instructions (directions) 6. Cooking temperature and time, if appropriate 7. Serving size 8. Recipe yield 9. Equipment and utensils to be used Reviewing the recipe for this information must be done before preparing the recipe. If information is missing, make note of any information that must be determined during the recipe preparation process.

The amount of time needed for this review process will differ, depending on the source of the recipe. Reviewing a recipe involves several steps. A checklist and decision guide are included in Appendix A (pp. 40 to 43) to assist with this review process. A practice exercise using the checklist also is included in Appendix A (pp. 44 to 47). The steps in the review process

include: Review recipe title. Each recipe should have a title. The title should be descriptive of the product and easily understood by everyone who is working in the operation and your customers. It should be appealing to your customers as well. Review the recipe category. Recipes often are categorized by type.

USDA's most recent school lunch recipe file, A Tool Kit for Healthy School Meals: Recipes and Training Materials, uses nine categories for grouping recipes. Those categories are grains/breads, desserts, main dishes, salads/salad dressings, sandwiches, breakfast, sauces and gravies, soups, and vegetables. When standardizing a recipe that is not part of the USDA recipe file, a recipe category should be assigned to facilitate organization of recipes. Using recipe categories makes it easier to locate recipes in a file box or on the computer. Review ingredients. The ingredient name should be clear so that the name of the product, product type/form (fresh, frozen, canned), and any preparation technique(s) (peeled, grated, minced, diced) are listed.

Be sure to indicate size for preparation techniques, such as slicing and dicing (e. g. , sliced 1 ? 2 in. , diced 1 ? 4 in.). If a specific brand of ingredient is used, note the name of the brand. List the ingredients in order of their use in preparing the recipe. MEASURING SUCCESS WITH STANDARDIZED RECIPES 10 USDA recipes often have optional ingredients or variations included in the recipe. Decisions should be made in advance whether optional ingredients will be included or whether or not a variation of the recipe will be used instead of the main recipe. Care must be taken when substituting ingredients in a recipe since different forms of an ingredient (i. e. fruit packed in juice vs.

fruit packed in syrup) may have very different nutrient contents. Reviewing the ingredients will assist in purchasing the proper amount and type of ingredients necessary to make the recipe. When reviewing the ingredients, take note of items that may need pre-preparation one or more days in advance of service. For example, meats that are delivered frozen would need to be placed in the refrigerator to thaw several days in advance of preparation and service. Review weight/volume for each ingredient. A decision should be made whether weights, volumes, or both will be used to describe the amount of each ingredient needed for the recipe.

When reviewing the recipe, if the ingredient quantity is not in the preferred weight or volume, conversions will need to be made before the recipe can be prepared. A table of weight and volume conversion is included in Appendix B (pp. 50). Avoid using packaging to describe the amount of a product, such as " 1 package. " Products can be packaged a number of ways and package size can vary depending on supplier. The amount of product in each package may vary depending on the product quality. Quantities should be listed in the easiest unit of measure (i. e. , 1 lb 4 oz instead of 20 oz, 1 ? 2 cup instead of 8 Tbsp). Standard abbreviations for units of measure should be used. A list of abbreviations for weights and volumes commonly used in foodservice is included in Appendix B (p. 50).

Ingredients included in a recipe may be listed as the as purchased (AP) or edible portion (EP) quantity. When fresh fruits and vegetables are processed, there is a loss in yield. This loss occurs because fresh items often have to be peeled and/or trimmed before they are ready for use in a recipe. The EP amount of fresh fruits and vegetables usually is less than the AP quantity.

The USDA Food Buying Guide for Child Nutrition Programs provides yield information to assist with determining EP quantity of fresh fruits and vegetables. For raw meats, the cooked EP amount of meat always is less than the raw AP quantity because moisture and fat are lost in the cooking process.

Thus, the yield on meats that are cooked in an operation always is less than 100%. The yield of precooked or processed meats usually is at or near 100%, as no loss in cooking occurs. The USDA Food Buying Guide for Child Nutrition Programs provides yield information to assist with determining EP quantity of meat items in a recipe. Component credit will be calculated based on information in the USDA Food Buying Guide for Child Nutrition Programs. For rice and pasta, the cooked quantity (both in volume and weight) is more than the dry quantity because water is absorbed in the cooking process. Thus, the yield on rice and pasta is greater than 100%.

The USDA Food Buying Guide for Child Nutrition Programs provides yield information to assist with determining EP quantity. 4 U. S. Department of Agriculture Food and Nutrition Service for Child Nutrition Programs Food Buying Guide MEASURING SUCCESS WITH STANDARDIZED RECIPES 11 When listing ingredient quantities in a recipe, remember that an ounce measurement may be either volume or weight. Ounce in volume is referred to a fluid ounce (fl oz); ounce in weight is termed ounce (oz). One cup = 8 fl oz of volume, but 8 fl oz of different foods varies in weight. (For example, 1 cup [8 fl oz] of apple cider = 8. 7 oz in weight, 1 cup [8 fl oz] of chocolate pudding = 10. 1 oz in weight.)

Review preparation instructions (directions). Detailed instructions should be included with each recipe to indicate how ingredients are to be combined. The directions should list, in order, the steps to be followed in preparing the recipe. Food safety guidelines, such as proper thawing, internal cooking, holding, serving, and storage temperatures, should be included in the directions to help ensure that the final product will be safe to eat. All preparation and cooking terms should be reviewed to make sure staff members understand exactly what each means. If the correct procedures are not used, the final product will not be correct. Refer to the Glossary (pp. 1–33) for explanations of common terms used in recipes. Review cooking temperature and time. Cooking temperature and time should be identified on the recipe. Adjustments may be needed in the cooking temperature and time, depending on the equipment used to prepare the food. The final internal temperature also should be identified. Specifying a final internal temperature for the product will ensure that products are cooked to the safe and proper degree of doneness. The most recent Food and Drug Administration (FDA) Food Code provides guidelines for cooking temperatures and times and final internal temperatures. Review serving size. The size of an individual serving should be listed on the recipe.

Ideally, the weight of one serving will be identified in addition to a general description of serving size such as 1 ? 2 cup or 1 ? 8 pie. When possible, list the weight and volume of the serving. Assess whether serving size is appropriate for the age being served. Review recipe yield. Recipe yield refers to the amount of product that will be obtained when preparing a recipe. Recipe yield should be identified in total weight and/or volume, as well as a

more general description such as 25 servings or 4 (12" x 20" x 4") pans. Review equipment and utensils to be used. School foodservice kitchens come equipped with a variety of pieces of equipment.

Often, different pieces of equipment can be used to achieve the same outcome. For example, a convection or conventional oven can be used for baking a casserole; a steamer, steam-jacketed kettle, or oven could be used for cooking rice or pasta. When reviewing a recipe, the exact piece(s) of equipment to be used for preparation and cooking the product should be identified. MEASURING SUCCESS WITH STANDARDIZED RECIPES 12 The capacity of cooking equipment needs to be considered. For example, 1, 000 rolls may need to be made, but if the mixer capacity will not hold that quantity of ingredients, then the recipe will need to be adjusted in batches that can be made in that mixer.

Cooking time and temperature should be determined for the specific piece of equipment that will be used to prepare the recipe. Pans to be used for cooking the product should be identified. The length, width, and depth of steam table pans should be included. The utensil(s) to be used for portioning and/or serving the product also should be listed on a recipe. Prepare the Recipe Once the recipe has been reviewed, it can be prepared. The USDA A Tool Kit for Healthy School Meals: Recipes and Training Materials recommends making the first version of the recipe to yield 25 servings. Throughout the process of making the recipe, keep careful notes about any variations. Record this information directly on the recipe for future reference.

Cooking time to reach the internal temperature and product quality may vary slightly depending on the type and age of equipment. Verify Yields " Verify yields" includes verifying ingredient, recipe, and serving yields. When verifying a recipe, the AP quantity needed to yield the necessary EP quantity of an ingredient must be determined. Yields can vary depending on factors such as product quality, preparation techniques, and cooking times and temperatures. The USDA Food Buying Guide for Child Nutrition Programs contains ingredient yield information. Products from different manufacturers may differ in quality, and these quality differences may affect yield of the product.

If great variation in ingredient yield occurs, school foodservice directors will need to work with their vendors to make sure product specifications are being met. Verification of the recipe yield occurs once all of the ingredients have been combined and the recipe preparation completed. The yield can be determined several ways depending on the recipe. Recipe yield should be specified in both total quantity (weight and/or volume) and number of servings. Recipe yield can be determined by weighing the final product or measuring its volume. MEASURING SUCCESS WITH STANDARDIZED RECIPES 13 The weight of a serving is determined by taking the weight of the total final product and dividing by the number of servings the recipe makes.

Guidelines for portioning the product into individual servings should be given on the recipe. A serving utensil should be identified for each product. Weights of these actual servings should be compared to the calculated serving weight to ensure portioning is being done correctly. If the desired serving size is not achieved when verifying the yield, changes in the recipe,

portioning, or ingredient amounts may be needed. Record Changes Notes of any changes or concerns should be recorded on the recipe during the verification phase. The format of the permanent recipe varies among operations. USDA recipes, such as those found in A Tool Kit for Healthy School Meals: Recipes and Training Materials, provide an excellent format for recipes.

The more detailed the information is on the recipe, the more assurance of having a consistent quality product. Once the recipe verification phase has been completed, the recipe is ready for the next phase of the standardization process, the product evaluation phase. Product Evaluation Phase Product evaluation follows the recipe verification phase and is an important part of the recipe standardization process. It will help determine acceptability of the recipe and will provide objective information that can be used to further improve the recipe. Recipe evaluation should include the manager, foodservice staff members, and customers (can include students, teachers, administrators, and parents).

Two types of evaluation occur in the evaluation phase: informal and formal. Informal Evaluation Informal evaluation involves only the school foodservice managers and employees. During informal evaluation, the product is prepared for the first time in the operation and an assessment is made of whether efforts to standardize the recipe should continue. A checklist is included in Appendix C (p. 52) to assist in the informal evaluation. Three decisions are possible as a result of the informal evaluation of a recipe. First, if the product was found to be totally unacceptable based on several of the

informal evaluation criteria, the decision may be made to discontinue any further work on standardizing the recipe.

If most of the informal evaluation criteria were rated as acceptable, the recipe may go back to the verification phase to allow for changes to be made to the recipe and a new version of the recipe prepared. Finally, if all evaluation criteria were rated as acceptable in the informal evaluation, then the recipe may be prepared for formal evaluation. MEASURING SUCCESS WITH STANDARDIZED RECIPES 14 Formal Evaluation Formal evaluation occurs when the foodservice staff believes a recipe has potential for service in their operation. Procedures for conducting a formal evaluation of the recipe include: Select a group(s) of people to taste the sample recipe. School foodservice staff members, students, and other customers should evaluate recipes during the formal evaluation of the recipe.

Keep the group size manageable when evaluating a recipe. Usually 10 or fewer people should sample a food item at a given time. Choose an evaluation form. The evaluation form used should be appropriate for the age of the group members who are sampling the food items. It should address the questions the school foodservice manager and employees want answered, be easy for the evaluators to read and complete, and should provide the information needed to adequately evaluate the product. Two sample evaluation forms are included in Appendix C (pp. 53-54) of this manual. One was developed for use with older students and staff members, and the other for younger children.

Evaluation forms designed for specific food products can be obtained from the National Food Service Management Institute's (NFSMI) Culinary Techniques for Healthy School Meals training modules. When developing an evaluation form, consider: (1) what questions need to be answered, (2) who will fill out the form, and (3) how the results will be tallied. Here are some situations that may be encountered. Situation 1: A new recipe for Vegetable Lasagna is being developed. Typically, foodservice staff members will first evaluate the lasagna. If staff members believe the product is acceptable, then students and other customers will be asked to evaluate it. The manager will need to decide what attributes should be evaluated.

For this example, assume that the manager would like to have input from staff members on three major attributes: (1) Is the appearance acceptable? (2) Will the taste be well liked? and (3) Is the product moist enough? In this example, the manager is most interested in evaluations of appearance and moistness because, in the past, students have complained about the noodles being hard and looking overcooked on the top of the lasagna currently served. The foodservice staff evaluation form included in Appendix C (p. 53) could be used to evaluate these attributes. The manager might set criteria for acceptance of a recipe, such as expecting a score of 4 or 5 in the areas of acceptability and moistness (texture) for the recipe to be considered.

Situation 2: A low-fat recipe for Chocolate Cake is being considered for an elementary school. The product has been prepared and was evaluated positively by school foodservice staff members. The younger student evaluation form, included in Appendix C (p. 54), could be used to get comments from the elementary students on the product. Prepare the sample

recipe. Once a group has been selected to sample the product(s) and an evaluation form has been selected, the recipe can be prepared for evaluation. Typically, recipes for sampling are made in small quantities such as for servings of 25. MEASURING SUCCESS WITH STANDARDIZED RECIPES 15 Set up the sampling area.

The area to be used for sampling should be prepared with drinking water, eating and serving utensils, napkins, evaluation forms, and pens or pencils. If more than one food item is being evaluated, evaluators should be provided with unsalted soda crackers to nibble between foods. The cracker will help prevent flavor carryover from the first food. Seat evaluators apart to prevent them from talking with each other during the evaluation and influencing the ratings. Frequently, students cannot be released from class to sample and evaluate recipes. The school foodservice manager may want to set up a separate testing area in the dining room and have students evaluate products during their meal period. Have participants taste and evaluate the food.

Tasting procedures should be explained to those who will be evaluating the product, and the evaluation form should be reviewed with them prior to tasting. Remind evaluators of the importance of not making verbal comments about the food during the tasting. If asking for an evaluation of qualities such as moistness and/or temperature, explain what these terms mean. Summarize the results. The evaluation form used will help determine the way results are summarized. The evaluation form in Appendix C (p. 54) for elementary students requests " yes," " no," and " don't know" answers. Thus, the summary when using this evaluation form will be the number of "

yes" responses as compared to the number of " no" responses. The other evaluation form included in Appendix C (p. 3) allows for evaluators to circle a number related to their rating of the product. Both a total score (sum of each numeric rating) and mean score (average of the numeric ratings) can be determined for each evaluator. Space is provided on the evaluation form to record these scores. Evaluator's ratings can be combined in several ways. A form for summarizing these ratings is included in Appendix C (p. 55). An average rating for each attribute (appearance, taste, etc.) can be calculated. An overall average total score (average of total scores from all evaluators) and an overall average score (average of mean scores from all evaluators) also can be calculated.

These average scores can be compared to an operation's preset minimum scores for a product and to the scores of other recipes. Appendix C (pp. 56-58) contains samples of completed evaluation forms for the Vegetable Lasagna example. Evaluation ratings of individual attributes as well as the total score and mean score are included. The total score for Evaluator #1 (Appendix C, p. 56) was 21. The total score was calculated by adding the ratings for each attribute together (4 + 5 + 5 + 3 + 4 = 21). The mean score for Evaluator #1 was 4. 2. This score was calculated by dividing the total score by the number of attributes evaluated (21 ? 5 = 4. 2). A score for each attribute (i. e. appearance, taste) would be calculated by adding the attribute ratings given by each evaluator and dividing that sum by the number of evaluators (in the example, texture received ratings of 3, 4, 3; its mean score would be [3 + 4 + 3] ? 3 = 3. 1). A completed Evaluation Summary Form is included in Appendix C (p. 59), showing the three

individual evaluator ratings and the summarization scores based on these ratings. When evaluating a product, the total score, mean score, and individual attribute ratings should be reviewed. An evaluator's total score may be relatively high yet one attribute may be rated very low or lower than the other rated areas. When looking at the average scores by three evaluators of the Vegetable Lasagna (4. 2, 4. 8, 3. 8), the overall evaluation scores are acceptable. However, when 4 6MEASURING SUCCESS WITH STANDARDIZED RECIPES 16 reviewing the attribute ratings, the area of " texture (moistness)" has been consistently rated lower than all other areas (mean score = 3. 1). Since moistness was of particular concern with this product, the manager might want to continue to work with the recipe to try to improve its texture (moistness). Determine future plans for the recipe based on evaluation results. Based on the formal evaluation results, the recipe will be accepted as is, rejected, or changed. If the formal evaluation comments are positive and the recipe is accepted as is, no further changes in ingredients will be needed.

At this point a decision is made on whether the recipe is in the correct quantity or not. If a different yield is needed, the recipe moves to the quantity adjustment phase of the recipe standardization process. If no additional quantity adjustment is needed, the recipe is considered standardized. If the evaluation comments are very poor, the recipe likely will be rejected and no further work will be done to standardize it for an operation. If the evaluation comments were neither very good nor very poor, additional work on the recipe may be needed. This likely would mean that

the recipe would go back through the verification phase with changes being made to ingredients, preparation instructions, or cooking procedures.

For example, the three sample evaluations of Vegetable Lasagna in Appendix C (pp. 56-58) indicate a possible concern for the moistness of the product. Moistness was identified as an area of concern before the evaluation was conducted. Since the evaluations of texture for the product were not very positive, the next step would be to review the recipe and preparation procedures. Maybe the lasagna was slightly overcooked and a shorter cooking time may improve the overall " moistness" of the lasagna. Once a way to improve the product has been identified, the change can be imple