Food Production Methods

Module- 28

Lec- 28

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Objectives

- Describe the goal of production for foodservice operation
- Describe the obstacles to the goals of production that are inherent in a foodservice operation
- State the possible solutions to these obstacles
- Managing food production as an operating system
- Knowing details of the main centralized production systems available to the foodservice operator and advantages and disadvantages of each

Outlines

1. Production from the customer’s point of view
2. The Goal of production
3. An obstacles to the goal of production
4. The possible solution for obstacles
5. Food Production System
6. Food Production Methods

Production from the customer’s point of view

- Customers of food service operation do not generally see the production, or the preparation, of the food they eat.
- Most of the production goes on behind the closed doors of the kitchen
- They eat the final products (Food and Beverage)
- They are the final and most critical judges of the work of all areas of the foodservice operation.

Goal of Production

Should be the goal of the operation: to serve the customer the highest-quality product possible in a reasonable amount of time
The objectives of Production

- Customer Appeal
- Cost Control
- Facilitate production and service
- Material handling
- Labor utilization
- Supervision and management
- Hygiene and safety standards
- Cleaning and maintenance
- Flexibility

Obstacles to the goal of production

- Limited amount of time to eat for customer
- A quick solution is to produce the food ahead of time. This sounds contradicts the goal of providing the highest-quality food possible.
- Most food deteriorate in quality immediately after they are prepared and as they are held for service.
- Therefore, although preparing food ahead of time will speed up service to the customer.

The possible solution for obstacles Steps of production

- Recipe should be separated into various step of production e.g. Carrot can be cleaned, peeled, and sliced, partially cooked, then cooled

Food production systems

- Has to be organized to produce the right quantity of food at the correct standard, for the required number of people on time, using the resources of staff, equipment and material effectively and efficiently.
• The requirements of the production system have to be clearly matched to the type of food that is to be prepared, cooked and served, to the required market at the correct price.
• Many food production operations are based on the process approach, as opposed to PARTIE system (product approach).

Food production systems

• PARTIE system approach concentrates on the specific techniques and processes of food production.
• A whole range of different cuisines are able to fit more neatly into this approach because the key elements focus on the process, the way the food is prepared, processed, stored and served.
• Using this approaches, food production systems may be identified using the input/process/output model

Food Production Methods

• Conventional Method
  – Traditional Parties Method
  – Conventional Production with Convenience Food
• Centralized Production Methods
• Cook-Chill Production
• Cook-Freeze Production
• Sous vide

1.1 CV. Traditional Parties Method

• The majority of food is purchased raw, very little for convenience foods.
• Labor is intermittent, rising to peak just before the service of each meal.
• This is an expensive way of running a kitchen; because of the manpower needed to operate it, its space, equipment and energy requirements
1.2 CV. With Convenience Food

- Mostly are the same as traditional method production, but for this method they introduced a convenience foods with range from partial to a virtually complete reliance.

2. Centralized Production Methods

- Involve the separation of the production and service components.
- Food that is centrally produced is either then distributed to the point of service in batches or is pre-portion; it may be transported in a ready-to-serve state.

3. Cook-Chill Production

- Food production storage and regeneration method utilizing principle of low temperature control to preserve qualities of processed foods.
- Low temperature conditions above freezing point, 0-3°C.
- Reheating immediately before consumption.
- Require low capital investment and minimum staff.

3. Cook-Chill Production

- Cook-chill, the process of food production, packaging, rapid chilling and storage under controlled refrigeration, is most commonly used in high-volume institutional settings. Its advantages can benefit all types of operations, though, especially banquet kitchens, recreational facilities, commissaries and hotels.
4. **Cook-Freeze Production**

- Production, storage and regeneration method utilizing principle of freezing to control and preserve qualities of processed foods.
- Required special processes to assist freezing e.g. sauces reheat when needed
- Require high speed low temperature at least -20°C w/in 90 mins

**Overall benefits of cook-chill and cook-freeze**

**For the operation**

- Good portion control and reduced waste.
- No overproduction.
- Central purchasing - bulk-buying discounts.
- Full utilisation of equipment.
- Full utilisation of staff time.
- Overall saving in staff.

**Overall benefits of cook-chill and cook-freeze**

- Saving on equipment, space and fuel.
- Fewer staff with better conditions- no unsocial hours, no weekend work, no overtime.
- Simplified delivery to units- less frequent.
- Solve problem of moving hot food. (EC regulations forbid the movement of hot food unless the temperature is maintained over 65°C (149°F).
- Maintaining 65°C is regarded as very difficult to achieve and high temperatures inevitably will be harmful to foods.)
Overall benefits of cook-chill and cook-freeze

For the Customer

- Increased variety and selection.
- Improved quality, with standards maintained.
- More nutritious foods.
- Services can be maintained at all times, regardless of staff absences.
- The advantages of cook-freeze over cook-chill are:
  
  - Seasonal purchasing provides considerable savings.
  - Delivery to units will be far less frequent.
  - Long-term planning of production and menus becomes possible.
  - Less dependent on price fluctuations.
  - More suitable for vending machines incorporating microwave.

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The advantages of cook-chill over cook-freeze are:

- Regeneration systems are simpler: infrared and steam convection ovens are mostly used and only approximately 12 minutes is required to reheat all foods perfectly.
- Thawing time is eliminated.
- Smaller-capacity storage is required: 3-4 days’ supply as opposed to up to 120 days.
- Chiller storage is cheaper to install and run than freezer storage.
• Blast chillers are cheaper to install and run than blast freezers.
• Cooking techniques are unaltered (additives and revised recipes are needed for freezing).
• All foods can be chilled so the range of dishes is wider (some foods cannot be frozen).
  Cooked eggs, steaks and sauces such as hollandaise can be chilled (after some recipe modification where necessary).
• No system is too small to adapt to cook-chill.

5. Sous vide

• Method of production, storage and regeneration utilizing principle of sealed vacuum to control and preserve the quality of processed foods.
• Individual portions of prepared food are placed in a special plastic pouches.
• Sous-vide is a form of cook-chill: a combination of vacuum sealing in plastic pouches, cooking by steam and then rapidly cooking and chilling. The objective is to rationalise kitchen procedures without having a detrimental effect on the quality of individual dishes.
• Vacuum pressures are as important as the cooking temperatures with regard to weight loss and heat absorption. The highest temperature used in sous-vide cooking is 100°C (212°F) and 1000 millibars is the minimum amount of vacuum pressure used.
• As there is no oxidation or discoloration it is ideal for conserving fruits, such as apples and pears, for example pears in red wine, fruits in syrup. When preparing meats in sauces the meat is pre-blanch and then added to the completed sauce.
• Sous-vide is a combination of vacuum sealing, tightly controlled en papillote cooking and rapid chilling.

Potential users are brasseries, wine bars, airlines, private hospitals and function foodservice operators seeking to provide top quality with portion convenience.

The advantages of the sous-vide process are:

• Long shelf-life, up to 21 days if refrigerated.
• Ability to produce meals in advance means better deployment of staff and skills.
• Vacuum-packed foods can be mixed in cold store without the risk of cross-contamination.
• Reduces labour costs at point of service.
• Beneficial cooking effects on certain foods, especially moulded items and pates.
  Reduced weight loss on meat joints.

• Full flavour and texture are retained as food cook in its own juices.
• Economises on ingredients (less butter, marinade).
• Makes pre-cooking a possibility for a la carte menus.
• Inexpensive regeneration.
• Allows a small operation to set up bulk production.
• Facilitates portion control and uniformity of standards.
• Has a tenderizing effect on tougher cuts of meat and matures game without dehydration

**Its disadvantages are:**

• Extra cost of vacuum pouches and vacuum-packing machine.
• Unsuitable for some meats (for example, fillet steak) and vegetables which absorb colour.
• All portion in a batch must be identically sized to ensure even results.
• Most dishes require twice the conventional cooking time.

• Unsuitable for large joints as chilling time exceeds 90 minutes.
• Complete meals (for example, meat and two vegetables) not feasible- the meat component needs to be cooked and stored in separate bags.
• Extremely tight management and hygiene controls are imperative.
• Potentially adverse customer reaction (boil-in-the-bag syndrome).