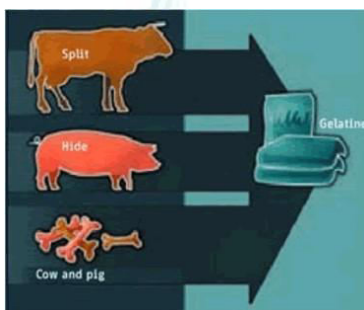


## GELATIN AND ASPIC JELLY

A thorough understanding of the properties is a key to success with culinary preparations containing gelatin.

### GELATIN



#### Raw Material Used for gelatin

- It is a product obtained by partial hydrolysis of collagen derived from skin, white connective tissue and bones of animals.
- Gelatin is a partial protein
- When used in culinary preparations it is always dissolved in a liquid.
- When the gelatinous liquid cools , it forms a semi-soft gel.
- The gelatin has two phases- SOL & GEL
- Gelatin is a liquid SOL when warm and is a semi-solid GEL when cools.

## HOW DOES IT GEL?

When the temperature of the gelatin sol drops, the viscosity of the liquid increases to the point where gel formation occurs. This happens at 85 degrees F.

When the temperature of the gel rises, the thickness decreases.

A gelatinous solution can be converted from gel to liquid sol and back again by heating or cooling.

## TYPES OF GELATIN –

1. TYPE A – is made from collagen rich tissue and bones pre-heated with an acid. The acid increases the amount of collagen converted into gelatin. Commercially pork skin is the raw material used.
2. TYPE B- is made from collagen rich tissue and bones pre-heated with an alkali. Beef bones and calf skin is the raw material used.

Gelatin is characterized by STRENGTH AND CLARITY.

Both are based on the BLOOM NUMBER.

Gel strength is determined mechanically using a bloom gellometer.

Bloom is also used to gauge the clarity of the gelatin. A lower bloom has more clarity and a higher bloom will have lower clarity.

## AVAILABLE FORMS OF GELATIN-

- SHEET GELATIN- also known as leaf gelatin. Sheets of gelatin are usually 3 inches by 7 inches thick. Seven sheets equal one ounce in weight. It can be easily reconstituted. When sheet gelatin is rehydrated in cool water, the entire sheet can be lifted out. It will look like a sheet of jelly. This rehydrated sheet can then be stirred directly into warm water.
- GRANULAR GELATIN- has granules the size of sand. This is the type most used in the professional kitchen. Sprinkle dry granulated gelatin evenly onto the surface of the cold liquid. Allow approximately 10 minutes for the gelatin granules to absorb the liquid. This step is also called blooming. Now stir the rehydrated liquid into the full liquid of the recipe.
- POWDER GELATIN- is pulverized to a fine powder. It is most commonly used in the home cooking.

## CULINARY APPLICATIONS OF GELATIN

- Manufacture of gums- provides stability
- Used in marshmallows- gives structure
- In ice creams- inhibits crystal formation, improves flavor and gives stability
- Desserts as a binder
- Chiffons, Bavarian creams- gives form and shape
- Savory cold mousses- binder , form giver and lightening agent
- Molded salads- binder, gives a shine and helps to carry flavor

## HOW MUCH GELATIN TO USE –

- The concentration of gelatin determines the delicacy of the finished product.
- The greater the amount of gelatin in relation to the amount of water, it will result in a denser and a rubbery product.
- Lower amount of gelatin will give more clear and less strength to the product.

## FACTORS WHICH HAVE WEAKING AFFECT ON THE GEL

1. ACID- a lower ph has a weakening effect on the gelatin.
2. SUGAR – an excess of sugar in a recipe will weaken the gel strength.
3. BROMELIN, FICIN, PAPAIN, ACTINIDIN- certain fruit enzymes such as
  - Bromelin in pineapples
  - Ficin in figs
  - Papain in papaya
  - Actinidin in kiwi

In the raw state will digest the protein gelatin destroying its ability to form a gel. These fruit should be cooked before combining with gelatin.

4. TEMPERATURE- the amount of gelatin in preparations intended for service in summers should be increased slightly.

**PLEASE NOTE** – there is no loss of gel strength by repeated melting and gelling. Extended boiling will however develop off flavors and odors in the gelatin.

VEGETABLE GELATIN OR AGAR-AGAR; this product is not related to gelatin. Gelatin is a protein and agar-agar is a carbohydrate. The vegetable gelatin weakens with prolonged boiling and heating.

### STORING OF GELATIN-

- Dry gelatin can be stored indefinitely in airtight containers
- Gelatin is very hydrophilic that is it absorbs moisture very fast. When this happens the gelatin will partially bloom and spoil.
- Reconstituted gelatin must be stored under refrigeration. The gelled liquid has the refrigerated shelf life of about one week. After that molding can begin.
- Gelatin and products with high gelatin does not freeze well. There is a formation of ice crystals. When thawed there is a release of excessive moisture.
- Frozen gelatin also loses clarity when thawed.

### ASPIC JELLY



An aspic jelly is called ASPIC GELEE in French. It is a flavorful gelatinous stock which has been carefully clarified.

**PLEASE NOTE – it is different from ASPIC- which is slices or dices of poultry, meat, game, fish , seafood or fruit are molded in a clarified aspic jelly.**

**Any well made stock, prepared with large amount of bones will gel when chilled. At this stage it is only called a savory jelly. It becomes an aspic jelly after it has been carefully clarified.**

- Beef and game aspic jellies are amber in color
- Veal, poultry, pork aspic jellies are light amber
- Fish aspic jelly has no color but it's transparent

### **CLASSICAL METHOD OF PREPARATION**

- The stock is made from more collagen rich products such as pork skin and calf's feet
- The stock is carefully clarified.
- This kind of aspic jelly depends solely on the gelatin present in the bones for gelling.

### **QUICK METHOD OF PREPARATION**

- Prepare a good quality brown stock
- Clarify as for consommé
- Chill a small portion of the clarified stock
- Rehydrate the desired amount of gelatin in the cooled portion of the stock
- Stir the bloomed gelatin into the remaining warm stock
- Chill a small sample in the refrigerator to evaluate the gel strength.

Commercial mixes are also available in dry powder form which can be reconstituted as desired. They save time and effort but have a lower quality of flavor .

### **ADDITIONS OF WINES**

Wines may or may not be added to the aspic jellies. In all cases the wine should be added when the jelly is very cool, yet a liquid. This ensures that the full aroma of the wine is preserved.

### **CHARACTERISTICS OF A GOOD ASPIC JELLY**

1. **FLAVOR**- it should be intense enough. It should not be so strong so that it masks the flavor of the main ingredients. Little amount of acids added such as lime juice or vinegar or wines will enhance the flavor of the aspic jelly.
2. **TOOTH**- is the density or elasticity of the jelly. The jelly should be firm enough to hold the desired shape, yet it should melt in the mouth.
3. **CLARITY**- aspic jelly should be crystal clear

4. **COLOR-** the range of the color should be from rich amber to brown as in the case of the game aspic, to white or transparent as for fish aspic jelly. Additional tones of red can be present depending on the choice of the wine used.

Fruit aspic jellies can be colored to represent certain fruit- green to yellowish for lime to red for the cherries. The jelly is colored using various dyes. A color derived naturally from fruit and vegetable purees is preferable.

### **HANDLING AND STORAGE**

- Aspic jelly is a potentially hazardous food, an ideal environment for bacterial growth. It is high in moisture content, high in protein, and comes from an animal source.
- Use only clean, sanitized containers for storage.
- Once jelly is set, handle it as little as possible.
- For smaller quantities pour into a proper containers and cool to 140 degrees F before refrigerating.
- Once the jelly is placed in the refrigerator allow it to set without stirring. When the gel sets itself as a single block, it seals itself.
- Once set the gel sets, cover the container.

### **SAUCE CHOUD-FROID**



MEANS 'HOT- COLD'

- The name refers to the fact that this sauce is applied hot and served cold.



- The high gelatin content of the sauce makes it possible to apply it to an item when it is still warm and flows.
- As the sauce cools down, it adheres to the product.
- It gives a smooth, pristine surface and seals the food from the air.
- Chaud-froid ( CF ) sauce is used for coating a variety of items including galantines, terrines, cold timbales, whole or individual joints of poultry, meat, or game, whole or fillet of fish and eggs.

### **WHY USE CF SAUCES**

1. Protection of the item from the air while sitting on a buffet.
2. The sauces act as a background or canvas on which to decorate. Plus the CF sauce is an adornment in itself.
3. The sauce can complement the flavor of the coated item.

### **CLASSICAL METHOD OF PREPARATION**

This calls for the base of veloute or béchamel. This is reduced with stock suitable for the item with which it will be used. To this reduction, a suitable aspic jelly and cream are added. This method is often used today

### **CONTEMPORARY METHOD OF PREPARATION**

The modern version is prepared without the use of roux. The result is a CF sauce which has a less starchy mouth feel. The method is also faster.

### **OTHER VARIATIONS**

CF sauces can be made in a variety of colors. For brown CF sauce, replace cream with the reduced jus de veau. Green CF is made with the addition of juice squeezed from one pound of pureed fresh spinach. Red CF sauce requires the adding of one teaspoon of good quality paprika dissolved in a little water plus one cup of tomato puree which has been lightly cooked. This sauce needs to be strained

### **APPLYING THE CF SAUCE-**

#### **1. PREPARING THE ITEM FOR COATING-**

- The item to be coated should be fully prepared and shaped.
- They should be well chilled. The chill of the item adheres the sauce to the surface.
- The surface of the food to be coated should be smooth and trimmed of any rough edges.
- For whole pieces of meats and joints, the area to be coated normally has the skin removed.
- Surface grease must be removed before the coating is applied.
- The item to be covered should be blotted dry before coating.

## **2. TEMPERING THE CF SAUCE**

CF sauce should be tempered before applying.

TEMPERING is bringing the temperature of the sauce by either slightly heating or cooling it, to a point which will allow the best and easiest coating. Remember that gel takes place at 85 degrees F. Normally, the closer the sauce is maintained at this temperature without it getting too thick, the more evenly it will coat

It should take only to three coats of CF sauce to give a smooth glossy finish. The sauce at this temperature will be more controllable.

## **3. TRIMMING**

While coating we are creating an artificial skin for the item. Do not rip the items carelessly away from the pan. It will pull away a large sheet of set skin.

The items should be cut away carefully with a palette knife or a scissors. Carefully trim away any drips or rough edges.

## **4. DECORATING THE CF –**

The large or small CF can be decorated tastefully. Special aspic cutters can be used to punch decorative shapes from various vegetables.



These can be arranged in geometric patterns, floral and abstract.

Each component must be dipped into warm aspic jelly and applied to the surface of the CF.

After the decorated CF have been chilled, they are with a single coat of well tempered aspic jelly.

### **QUALITY INDICATORS FOR CF-**

The quality of a CF is judged according to the following-

1. FLAVOR- the sauce should fully complement the dish with which it is served , weather the flavoring agent is wine or stock
2. TOOTH- CF should have a very delicate tooth. As It melts in the mouth , it should have a silky smooth texture similar to that of well made veloute or béchamel
3. COLOR- the colors should originate from real food ingredients. Keep the colors to pastels or earthy tones.
4. APPEARANCE- the appearance coated with CF should be pristine, perfectly smooth, shiny and free from air bubbles.

### **HANDLING AND STORAGE**

CF sauces can be cooled and stored life aspic jelly.

Reheat gelled CF over a hot water bath to prevent scorching.

### **COLLEES**

Are CF sauces using mayonnaise, sour cream, heavy cream or a combination of these as their bases.

They are often used with fish and other light preparations.

Combine 3 parts mayonnaise, sour cream or heavy cream with one part of strong aspic jelly

### **LINING PLATTERS AND PLATES**

When using silver platters for presentation of cold foods, it is best to line them.

Use a thin layer of tempered aspic jelly.

This will inhibit any chemical reaction between the silver and the food.

This process is known as applying aspic mirror to the platter.

For an aspic mirror a decorative overlay can be arranged directly on the platter before the mirror is poured.

A very classical method of using aspic for decorations is the use of aspic croutons . these are triangular in shape and are arranged in a border around the dish to be decorated.

