

TRAINING PROGRAMS

RESTAURANT PERSONNEL

PART XII

Beverage & Wine Knowledge

How Spirits Are Made

WHISKY

Whisky is a spirit obtained from distillation of a fermented mash (prepared ingredients before fermentation) of grain (barley, maize and rice mainly) and aged in wood.

There are approximately 200 brands of whiskies available in world and these can be provided into seven types: Scotch, Irish, Canadian, Bourbon, Tennessee Whisky, American Blended Australian.

Note: The correct spelling is
 Scotch, Australian, Canadian and Rye = Whisky
 Irish, Bourbon, Tennessee and Blended = Whisky

SCOTCH WHISKY

Scotch whisky is a distinctive product of Scotland where it is believed that the first whisky was born in the highlands in the sixteenth century.

Two types of whiskies are necessary to produce Scotch-Scotch malt whisky which gives the blend body and character, and Scotch grain whisky which is used for lightness. In the production of Scotch two distillation processes are used:

- (a) the pot-still process
- (b) the patent(or coffee) still process.

Scotch malt whisky is made from malted barley only and is manufactured by the pot-still process:

1. Cleaning - the barley is cleaned to remove any foreign matter.

2. Malting - the selected barley is steeped in water for two or three days. It is then spread on a concrete floor to germinate for eight to twelve days while the starch in the barley kernels is converted in sugar.
3. Drying & grinding - growth is stopped at a certain time and the barley is subjected to heat over fires of smokeless coal and peat: the peat imparting its flavour and aroma during this process. The dried malt is then ground.
4. Mashing - the ground barley is crushed with hot water and the conversion of soluble starch into maltose is completed. The liquid produces (wort) is drawn off and the remaining husks removed for cattle food.
5. Fermentation - the wort is cooled and then passed into vessels called washbacks where it is fermented by yeast which attacks the sugar and converts it into crude alcohol, known as "wash".
6. Distillation - malt whisky is distilled twice in pot-stills, the "wash" is heated, and as alcohol has a lower boiling point than water, it becomes vapour which is then cooled and condensed back into liquid.
7. Maturation - this new whisky is poured into oak wood casks where it is matured into a pleasant mellow spirit for as long as fifteen years.

Scotch grain whisky is made from unmalted barley with a mixture of maize, and distilled by the patent-still process which differs from the pot-still process in four ways:

- (a) The mash consists of a proportion of malt and unmalted cereals.
- (b) The grain and water are agitated by stirrers during steam pressure cooking to burst the starch cells in the grain and to convert starch into maltose.
- (c) The liquid (worts) is collected at specific gravity lower than that produced in the pot-still process.

- (d) Distillation by this still is a continuous process and the spirit is collected at a much higher strength and does not require as long to mature as malt whisky distilled in the pot-still. After the malt whiskies and grain whiskies are matured, they are blended or "married" to achieve consistent quality and bouquet. They may be as many as forty different malt and grain whiskies blended according to a secret formula handed down from generation to generation, to produce to Scotch Whisky we know today.

IRISH WHISKY

Irish whisky is made from a mash of cereal grains, mistily barley with perhaps 20% oats and wheat, in a manner similar to the malts of Scotland and it is distilled in pot-stills. (A pot-still is an old-fashioned, fat bellied, tapered neck still requiring two distinct operations to produce a useful spirit. It is used exclusively for straight whiskies.) Triple distillation and long maturation contribute to the uniqueness of Irish Whisky for even the Youngest is aged in sherry casks for at least seven years. Irish Whiskies were mostly straight Whiskies but number of blended malt and grain are available and are found to be a lighter-bodied product.

CANADIAN WHISKY

The principal grains used in Canadian Whisky are corn, rye and barley malt. The proportion of grain used, and the distilling and re distilling processes are the trade secrets of the master distiller. Canadian Whisky is a product of blended whiskies which may be blended before ageing or during the ageing period. Maturation takes place in charred white oak barrels for two or more years but most Canadian Whiskies are at least of age.

BOURBON

Most bourbons are straight whiskies, which means that they are obtained from a spirit distilled from grain (not less than 51% corn) and aged in new charred oak barrels for at least two years. Sour mash whisky is made through a variation of the fermentation method. The distiller uses part of a previous day's mash instead of fresh mash and fresh yeast as in the fermentation of Bourbon, thus each batch is "related to the previous batch".

Quality makings of Cognac are:

* One Star	(3 years)
** Two Stars	(4 years)
*** Three Stars	(5 years)
V.O. Very Old	(10 - 12 years)
V.O.P. Very Old Pale	(15 years)
V.S.O. Very Superior Old	(18 - 20 years)
V.S.O.P. Very Superior Old Pale	(20 - 30 years)
Cordon Bleu	(60 years)
Napolean	(50 years)
X.O.	(60 years)
Extra	(80 years)

Another worthy French Brandy is Armagnac which comes from the region of that name in the south-west of France. Armagnac is fuller bodies and drier than Cognac.

GIN

Gin was first produced in Holland in the 17th century as a medicinal beverage due to the presence of the Juniper Berry. One of the main flavourings necessary for the production of gin. There are two processes for making gin - distilled and compound gins. Nearly all brands are distilled. Compound gin is a simple process than mixes neutral spirits with the Juniper Berries.

Distilled gin is obtained by original distillation of mash or by the redistillation of distilled spirits, over or with Juniper Berries and other plants. The grain formula consists of 75% corn, 15% barley malt and 10% other grains, and the resulting spirit has to be mixed with distilled water as it is too strong to drink. As the water differs from country to country producing gin, so does the gin. Each distiller has his own secret formula which in some cases has not altered since the first distiller made gin.

Most brands use the word "dry" and "London dry" on their labels. This means that the gin lacks sweetness and any pronounced aromatic flavour or bouquet, "London dry" originally applied to gin produced near London but is now descriptive of many gins of today. Gin does not have to be aged.

There are several kinds of gin: Although "London dry" is the most commonly used there are other not all alike in flavour. Tom gin is a slightly more perfumed and sweeter gin; Golden gin is a dry gin and because it is aged, gold or straw-coloured by the distiller by law cannot make any age claim; Plymouth gin is the driest of all and is produced by one distiller only the sweetest of Sloe gin, a mixture of dry gin and sloe berries; Dutch gin which is sold under the name of "Geneva" or "Holland" and distilled in Holland differs from English gins in that it is heavy in body and very aromatic.

RUM

Rum is made basically of sugar cane by-products and is produced in most sugar-growing countries. It is the amount of burnt sugar cane syrup, or caramel, that gives colour and flavours: there are three main types - white, gold and black label; Puerto Rican rums are blends of aged rums distilled at a high proof for lightness and dryness and aged from one to three years. White and gold labels are produced there, the gold being sweeter and darker than the white. The Jamaicans produce gold and black label, the black being richer, darker and more heavy-bodied than the gold. These are aged in oak casks.

VODKA

It is an alcoholic distillate from a fermented mash of grain. In the making of Vodka as we know it is in Australia, nothing is added to the neutral spirits, all character is removed leaving it odourless, colourless and smooth. In Europe, however, Vodka is flavoured and is drunk chilled and neat. It does not need to be aged.

TEQUILA

Tequila is made from the sap of the wild Mescal plant (simple to cactus) and it is produced near the city of Tequila where the Mescal plants are abundant. The mescal is then fermented and distilled and becomes Tequila. There are two varieties - white and gold label. The white label is not aged where as the gold is aged in used whisky barrels just long enough to impart the gold colour ready for bottling.

Tequila is reputed to have a very strong alcoholic content but it is much the same as gin or Vodka. It probably earned its nule-kik reputation because of the way the prons drank it. A piece of lemon and some salt were put on the clenched fist of the left hand. Tequila was drunk from the right hand followed by a lick of lemon and salt.

SHERRY

Sherries are wines varying colour from white to dark brown. The four types are dry, extra dry, medium dry and sweet.

VERMOUTH

Vermouth is probably the most popular of the aperitifs. There are four types of vermouth:

- Dry - sometimes known as French which is clear & dry.
- Sweet - sometimes known as Italian which is red & sweet.
- Bianco - which is gold in colour and is the sweetest.
- Amaro - which is brown in colour and is very bitter.

DUBONNET

Dubonnet is a blend of carefully selected ole liqueur wines to which Peruvian bark or quinine is added. It has a rich, slightly sweet flavour with the qualities of a mild liqueur.

RAW MATERIALS USED IN BEER

Barley is preferred to other cereals as it can be more easily malted for brewing and the solubles extracted from barley malt are more complete than those of other grains. When the grain has been stepped and dried, it is termed malt, and is ready for grinding or storing. Hops being to the nettle family. The female plants bear core-shaped formations which are used and which impart a bitter flavour an pleasant aroma, increasing the refreshing quality, and stimulating digestion.

Actually any cereal containing starch or sugar may be used in the brewing of beer e.g. maize, rice, corn or wheat but these grains are lacking essential enzymes (chemicals which facilitate the extraction of sugars) and when used require special treatment. If used alone the final product would not be beer as we know it in Australia.

Sugar is an important addition as it helps to produce a beer of pale colour, less filling and a better taste and, of course, increased stability.

Brewer's Yeast is a micro-organism belonging to the *saccharomyces* species and is capable of a fantastic rate of reproduction. Its work is to propagate, which it does asexually and split up the sugar component into equal quantities of alcohol and carbon dioxide (CO₂). At this stage it may be well to mention that it is the CO₂ content of beer which determines the amount of foam formation. A consistence CO₂ level means that the barmen will not have any trouble handling beer at normal temperatures.

The Brewing Process

The barley is steeped until it germinates and then kiln-dried to 180 to stop germination, it is then termed malt and is ready for grinding. The next step is:

Mashing

The crushed malt is mixed with water at a given temperature for the proper length of time. The resultant solution "wort" is then used to make beer and the residue (spent grain) is sold as stock fodder.

Fermentation

Fermentation is the next process where the yeast splits the sugar into alcohol and carbon dioxide. This is the most decisive phase in the brewing process for the attainment of brew of fine taste and aroma.

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Composition of Beer

The composition of a typical Australian beer is 91% water, 3.5% carbohydrate in the form of maltose and dextrins, 0.5% protein substance mineral salts, 0.42% carbon dioxide and 4% alcohol by weight. It also contains traces of essential vitamins, namely thiamine, niacin, riboflavin, pantothenic acid and pyridoxine.

What is Lager beer?

Lager beer is distinguished by the fact that the wort is fermented by yeast of a bottom fermentation type (i.e. yeast which settles to the bottom of the fermenting tanks) and then is stored in refrigerated cellars for maturing and clarification. Lager got its name from the process the German brewers used to mature their beer in oak vats viz. "lagern" which means to store.

What is Ale?

Traditionally, an ale is fermented by yeast of the top fermentation type and has a more pronounced hop flavour. Nowadays this term is often applied to some bottom fermentation beers with a pronounced hop flavour.

What is Porter?

A top fermentation beer, porter is heavier and darker than ale, more malty in flavour, with less flavour of hops or sweeter in taste.

What is Stout?

Top fermented stout is similar to porter. It has a strong flavour and a sweet taste, but is heavier and has a stronger hop character than porter.

What is Pilsener?

Pilsener is a lager beer originally from the town of Pilsen in Germany.

Old Beer and New Beer

Old beer is a top fermentation English ale type and is the original type of beer first brewed in Australia. It is the process that is old and has nothing to do with the maturation. New beer is a bottom fermentation lager type and is the more recent type of brewing process.

POPULAR SHORT DRINKS, LONG DRINK,
AND COCKTAILS

<u>DRINKS</u>	<u>GLASS</u>	<u>INGREDIENTS</u>
Alexander (Gin)	Cocktail	Gin, Creme de cacao, cream
Alexander (Brandy)	Cocktail	Brandy, creme de cacao, cream
Americano	Hi - Ball	Campari, Italian vermouth, soda
Angel's kiss	Liqueur	Creme de cacao, cream, a cherry
Black Russian	Rock	Vodka, Kahlua
Bloody Mary	Rock	Vodka, Tomato juice
Brandy Egg Nogg	Cocktail	Brandy, egg, cream, nutmeg
B & B	Liqueur	Brandy, benedictine, D.O.M.
Gimlet	Champagne	Gin, lime juice
Gibson	Cocktail	Gin, French vermouth, pearl onion
Grasshopper	Cocktail	Green creme de menthe, creme de cacao, cream
Gin Fizz	Hi - Ball	Gin, lemon juice, egg white, syrup, fill up with soda
Harvy Wallbanger	Rock	Vodka, orange juice, galliano
Martini (Gin)	Cocktail	Gin, French vermouth, olive
(Vodka)	Cocktail	Vodka, French vermouth, olive
Manhattan	Cocktail	C.C. whisky, Italian vermouth

<u>DRINKS</u>	<u>GLASS</u>	<u>INGREDIENTS</u>
Margarita	Frosted Cocktail	Tequila, curacao, lemon juice (Moisture the rim of glass with lemon ring and roll the dampened rim in table salt to form a white ring of salt before pouring in the mixture.)
Old Fashioned	Rock	Put a twist of lemon peel and a sugar cube into glass 2,3 drops of bitters on the sugar, pour bourbon whisky over-ice.
Pink Gin	Champagne	Put a drop of bitter into glass swing the glass to allow the bitters cling to the sides, then put a cube of ice into the glass, pour gin over ice, fill up with water.
Pink Lady	Cocktail	Gin, lemon juice, grenadine syrup
Pimm's No. 1	Hi - Ball	Pimm's No. 1, 7-up, few pieces of cucumber peel
Rob Roy	Cocktail	Whisky, French vermouth
Salty Dog	Rock	Gin, grapefruit juice, salt
Side Car	Cocktail	Brandy, cointreau, lemon juice
Screw Driver	Rock	Vodka, orange juice
Snow Ball	Cocktail	Gin, white creme de menthe
Singapore Gin Sling	Hi - Ball	Gin, cherry brandy, lemon juice, syrup, fill up with soda
Spritzer	Wine	1/2 glass of white wine, fill up with soda

DRINKSGLASSINGREDIENTS

Whisky Sour

Whisky

Whisky, lemon juice,
syrup

White Lady

Cocktail

Gin, cointreau, lemon
juiceNon Alcoholic DrinksDRINKSGLASSINGREDIENTS

Virgin Mary

Rock

Tomato juice, salt,
pepper, tabasco, lea &
perrin sauce

Fruit Punch

Hi - Ball

Orange, pineapple lemon
juice and grenadine
syrup, fill up with
soda.

Ginger Beer Shandy

Beer

Ginger beer, 7-up

Shandy

Beer

Beer, 7-up

Red Eye

Beer

Beer, tomato juice

END OF PART XII