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Brennereitechnologie

Liqueur preparation with fruit and plant concentrates and flavors

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Technical informations and instructions for use

General instructions:

Fruit and plant concentrates are ready-to-use mixtures of fruit juice concentrates, extracts of spices and herbs and flavors and alcohol. They are easy to dose, de-pectinized and filtered so that the mixed liqueurs are usually ready to fill without fining. Due to their alcohol content of at least 15% vol, they are also durable at room temperature.

Flavors are distillates of individual fruits, herbs and spices. They are usually extract-free and colorless. They allow the targeted highlighting of individual flavors in the finished spirit.

Liqueur preparation with fruit and plant concentrates and flavors:

The preparation of the liqueur consists of mixing the ingredients mentioned in our recipe suggestions (Infoblatt „Grundstoffe und Aromen“) in the order given. The amounts mentioned each relate to the production of 100 liters of liqueur.

Sweetening and thickening ingredients:

Invertzuckersirup (72.7% mas) is a colorless, solution of partially inverted beet sugar to sweeten the liqueur it is durable at room temperature and easy to dose. One liter of it contains exactly 1 kg of sugar.

If you want to make the liqueur somewhat viscous, without sweetening it more, it is advisable to replace about a third of the recommended amount of invert sugar syrup by twice the amount of **Glucosesirup**, meaning. instead of 3 parts of invert sugar solution, take 2 parts of invert sugar syrup and 2 parts of glucose syrup. At the same time, the amount of water to be added is reduced by about one part.

Glucose syrup (79% mas) is a colorless, concentrated solution of dextrans (starch degradation products) from corn starch, which has a higher viscosity than invert sugar syrup, but only about one third of its sweetening power.

"Trockenglucose" is spray-dried glucose syrup. This easily soluble powder can increase the viscosity of the finished liqueur without increasing its volume.

For exact determination of the correct ratio of invert sugar and glucose syrup or dry glucose preliminary tests with taste assessment are important.

Ingredient cream liqueur raw material:

In order to avoid the flocculation of milk protein or caramel during the preparation of cream liqueur, the order of addition of the ingredients described in the recipe must be strictly observed! Moreover, any acid ingredients have to be neutralized to pH 7,0 - 7,4 before adding them to the cream liqueur concentrate.

Ingredient water:

In order to avoid the occurrence of turbidities, sedimentation and deposition, the use of drinking water with a water hardness of no more than 4 ° dH is recommended. Tap water, fresh and softened by using our **CADUREX** ion exchanger, will be of better quality than commercially available distilled (= demineralised) water.

Ingredient alcohol:

Most liqueurs require the use of pure, odorless and tasteless drinking alcohol (i.e., fine spirit, 96% vol). After all, own distillates usually retain an aroma even after activated carbon treatment, which can not be obscured in the finished liqueur and has a disruptive effect. For example, a fruit liqueur produced with grain alcohol almost always tastes slightly bread-like.

On the other hand, there are also liqueurs whose recipe requires the use of a clean, aromatic distillate, e.g. Almond liqueur with cherry distillate.

Calculation of the required amount of alcoholic distillate:

To determine the amount of alcoholic distillate **d** (liters) of known alcoholic strength **s** (% vol) required for a liqueur volume of 100 liters with the desired alcoholic strength **a** (% vol), the following calculation is used:

1. **100 liters of liqueur with a% vol contain a liters of pure alcohol.**
2. **a liters** minus the amount of pure alcohol in liters, added in the form of other alcoholic ingredients, shall give the amount of pure alcohol **r**(liters) to be added in the form of self-produced distillate.
3. The required amount of distillate **d** (liters) is calculated as follows:

$$d \text{ (liter)} = r \text{ (liter)} \times 100 / s \text{ (\%vol)}$$

If instead of drinking alcohol with 96% vol another distillate with lower alcohol concentration is used, more water is inevitably incorporated. The amount of water specified in the recipe must therefore be reduced accordingly.

Determination of the actual alcohol content in the final product:

The alcohol contents given in our recipe suggestions are to be understood as guideline values. Also, the seemingly exact adherence of the recipe is subject to inaccuracies: They result from the measuring of the volumes, from 20°C deviating temperatures of the ingredients, from inaccuracies in the determination of the alcohol content of the alcoholic ingredients and from the losses due to evaporation and tasting. For these reasons, and the tight tolerance of the labeled alcoholic strength of $\pm 0.3\%$ by volume given by the legislator, it is essential to determine the alcoholic strength of the finished spirit by means of a sufficiently accurate method, e.g. the test distillation ("Probedestillation").