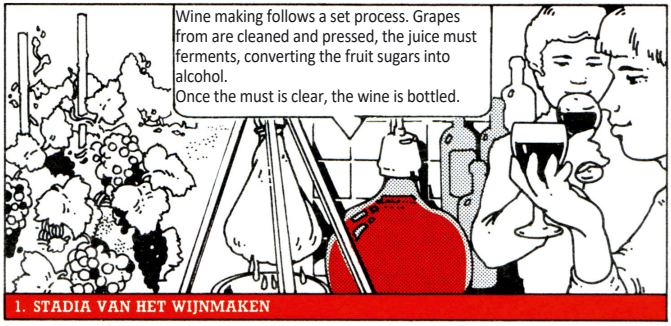
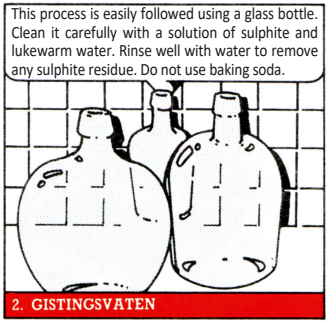
Wine-making Step by Step

- **Make a yeast starter**
- **From grape to must**
- **The fermentation process**
- **Siphoning the must**
- **Let the wine clear**
- **Bottling and storage**
- **Making fruit wine**
- **Recipes for fruit wine**

In order to make wine, the grapes need to be cleaned, crushed, pressed, strained and fermented. The yeast converts the sugar in the fruits into alcohol and carbon dioxide, which escapes through the airlock. When the sugars have fermented and the liquid becomes clear, the wine can be bottled. The bottles then are corked and labelled. The wine is almost ready to drink, however the taste will improve if it is left to age for a while.
By following this process, the wine produced will be white or light rosé. In order to make red wine, the skins of black grapes must be left to ferment for five to ten days.

EQUIPMENT & INGRIDIENTS
To make your own wine, you will need the following equipment: a fermentation bottle with a stopper and a airlock, a siphon, a bucket, a muslin bag, a hydrometer and measuring glass, a corking machine, wine corks, and empty wine bottles.
Ingredients: grapes, wine yeast, pectic enzymes, sulphite, citric acid, yeast nutrient and sugar.





WINE YEAST

Grape skins already produce yeast cells. However, it is preferred to use cultivated yeast, for two reasons: each type of wine yeast gives a different taste and adding wine yeast will speed up the fermentation process, preventing bacteria from developing in the juice.

MAKING A YEAST STARTER

Grain yeast has to be activated. In a clean wine bottle, pour 200 ml of water, add two teaspoons of yeast activator, two tablespoons of sugar and the pack of wine yeast, and stir thoroughly. After shaking it well, the bottle needs to be stored at 20 - 25°C, with a piece of cotton wool in the neck. This mixture forms an ideal breeding ground for the yeast cells, that can now develop really quickly. The yeast starter will be ready to use after about a day.

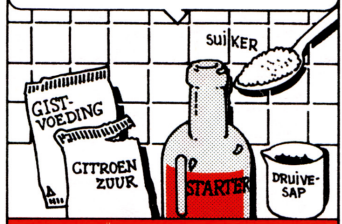
CLEANING THE FRUIT

First the grapes must be cleaned. Wash the bunches with cold water and then plunge them in mixture of water and a little sulphite. Rinse them once again with cold water, remove the stems and separate the grapes to discard any rotten one. Drain well and weigh them.

Ripe grapes have the highest content of fructose, which is the nutrient for alcohol. So, more sugar in the grapes means that the wine will contain more alcohol.

Write everything down in a notebook so you can make wine successfully again.

A yeast starter triggers the fermentation process. Prepare the mixture 24 hours in advance.



1. INGREDIENTEN VOOR DE STARTER

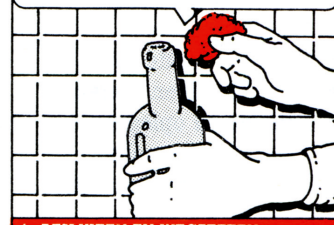
After a pack of wine yeast has been added, the yeast cells quickly develop in the starter.

2. VOEG EEN GISTCULTUUR TOE

Cover the opening with your thumb and shake the mixture vigorously.

3. SCHUD HET MENGSEL GOED

Close the bottle with a piece of cotton wool and store in a warm place (25 °C).

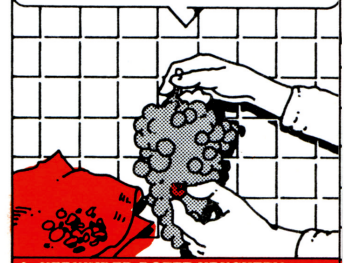


4. AFSLUITEN EN WEGZETTEN

Use mainly overripe grapes. The riper (the more sugar) the better.

5. GEBRUIK DRUIVEN

Discard any rotten or moldy grapes.

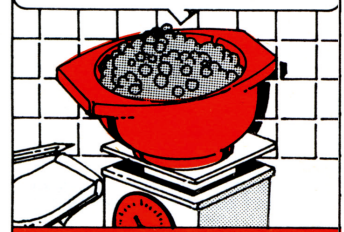


6. VERWIJDER ROTTE VRUCHTEN

Wash the grapes gently by stirring them in a bowl of water with your hands, to lose as little juice as possible, and remove the stems.

7. WASSEN EN LATEN UITLEKKEN

Drain and weigh the grapes, making a note of the weight to know how many grapes you needed for 1 litre of must..



8. WEEG DE DRUIVEN

FROM GRAPE TO MUST

There are different methods to press grapes. One method that is commonly known is 'grape stomping' or 'treading', where people crush the grapes with their bare feet in a wooden tub. However, crushing or squeezing them into a bucket is easier and still very effective.
A better method is to squeeze them into a bucket through a nylon press bag, or ideally using a grape press. The juice that result from this process is called 'must'.

Another easy way to make fruit juice is to use a juice extractor or using a centrifugal juicer.
When extracting juice from other type of fruits, like apple or pears, the disadvantage is that the juice will oxidize quickly.

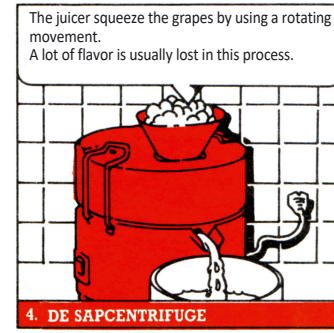
WORK CLEANLY

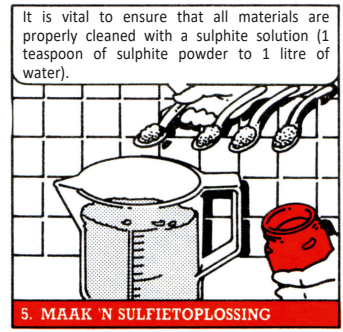
One of the most important things when making wine is to make sure that you are working cleanly.
It is essential that all utensils that comes in contact with the must are rinsed in a sulphite solution, before and after use. This solution is made by dissolving one teaspoon of sulphite powder and a pinch of citric acid in one litre of water.
The fermentation bottle and siphon should also be rinsed thoroughly with the sulphite solution. Once the bottle is clean, you can fill it up to three quarters full with must. Add the starter to the must and shake the bottle.

When making red wine from black grapes, the skins should be left to ferment for five to ten days; for white wine, strain the must immediately to take the peels out. This step is called pulp fermentation.

THE FERMENTATION PROCESS

The fermentation bottle must be sealed with an airlock. This is an S-shaped tube with two "spheres'' that are filled with water. The filled airlock ensures that the carbon dioxide can escape, while preventing





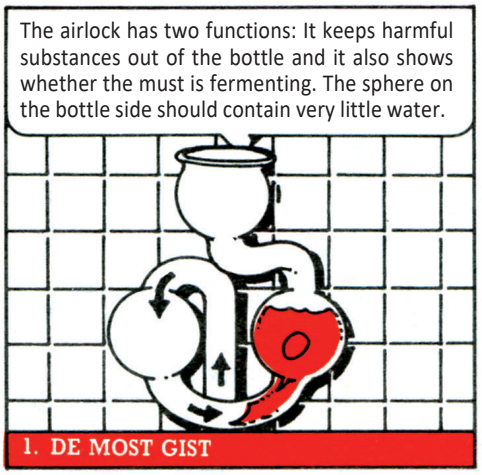
things that could contaminate the wine from getting inside, like mold or vinegar flies (which turn wine into vinegar). The airlock also helps determine the condition of the must. If the water level in both spheres is at the same height, the must is not fermenting. If it is fermenting, the carbon dioxide will exert pressure on the water: the water level on the bottle side will be lower. If the pressure increases, a little gas will escape from the bottle, creating a bubble in the water at regular intervals. If the water level is higher on the bottle side, the must is colder than the outside temperature.
If you stored the bottle at a temperature of around 20 C , fermentation will start and a layer of foam will form on the must. To prevent this foam from overflowing, you should fill the bottle up to three quarters capacity for the first fermentation.

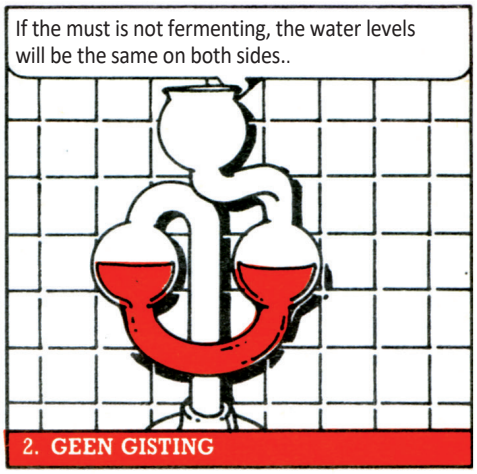
ADDING SUGAR

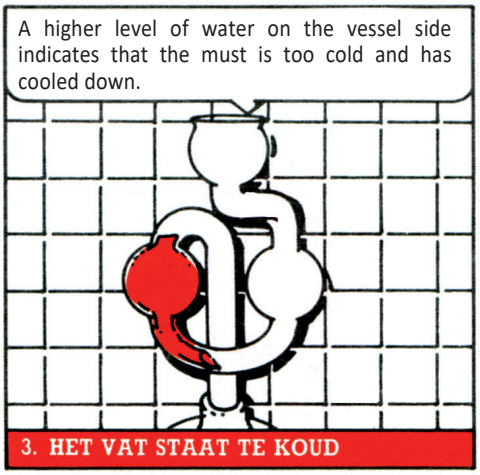
In principle, you do not need to add sugar to grape must, but with table grapes you usually do, because if you want to store wine, it must contain at least 10 % alcohol. Make a plan of how many days the pulp fermentation will take, calculate the total amount of sugar that has to be added to the must and then divide it by the pulp fermentation days.

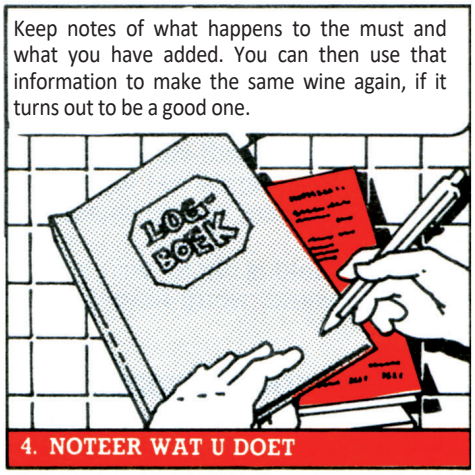
Example:

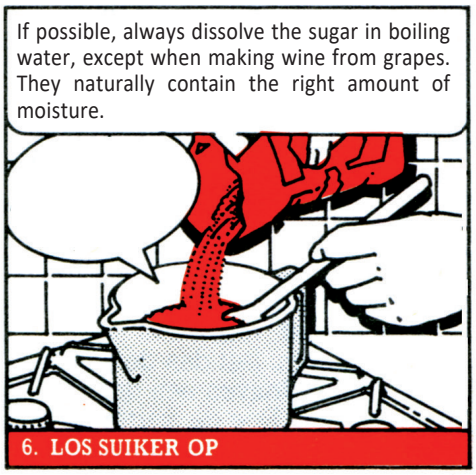
For example, if 600 grams of sugar needs to be added and the pulp fermentation time is 5 days, you have to divide 600 by 5. This will determine that 120 grams of sugar should be stirred into the must per day to keep the pulp fermenting well. After five days, the must can be strained in a nylon filter bag and, using the funnel, poured again into the fermentation bottle to continue fermenting without the skins and debris. Do not forget to put the airlock on the fermentation bottle.











WHEN FERMENTATION STOPS

The fermentation process will stop when all the sugar has been consumed by the yeast. To check it you can either taste it or measure it with an hydrometer. In principle, the must can now be siphoned. However, fermentation might temporarily stop for other reason and it can indicate that something is wrong.
It could be avoided by storing the fermentation bottle at right temperature to avoid killing the yeast or by making sure not to add too much sugar

SIPHONING THE MUST

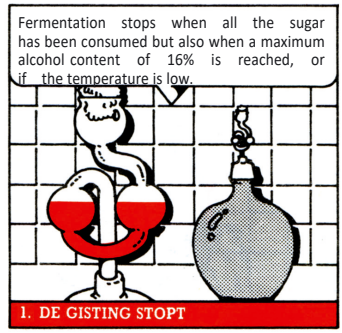
To siphon the wine from the residue (dead yeast), put the fermentation bottle on a counter and an empty bucket (properly cleaned with a sulphite solution) on the floor.

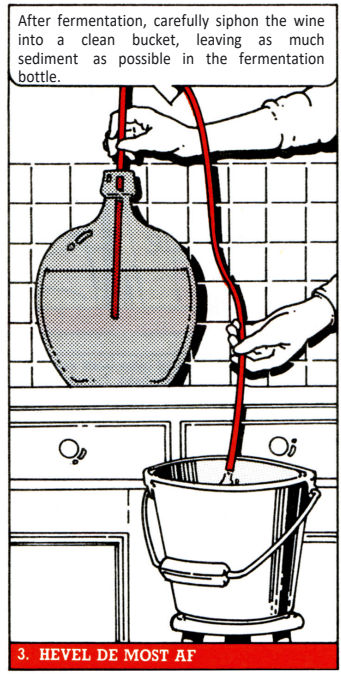
Hang one end of the siphon in the must and the other end in the bucket placed lower than the bottom of the fermentation bottle.

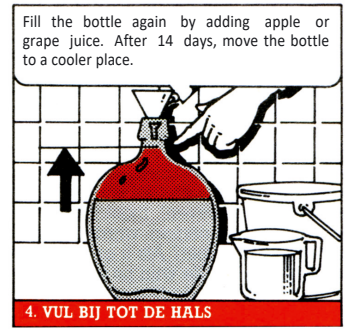
Now carefully suck on bucket end of the tube and the must will come out of the bottle. Siphon as much clear liquid as possible into the bucket, clean the bottle and pour the liquid back into the fermentation bottle.

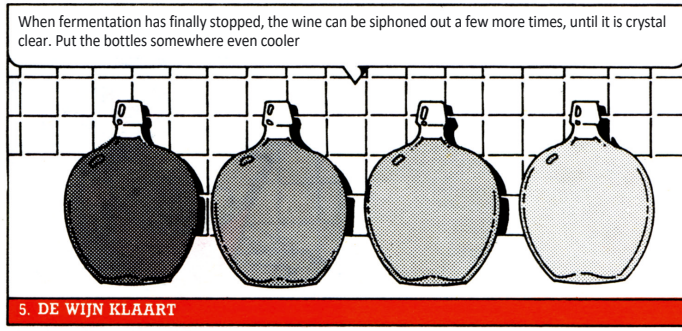
Fill the fermentation bottle up to the neck with grape juice (or grape concentrate) and replace the airlock. Fermentation stops at an alcohol percentage of approx. 16% or lower, depending on the type of yeast used.

Once fermentation has finished, the must is now wine. Left to rest in a cool place, the wine will gradually become clearer and should be siphoned out one or two more times to clear completely.







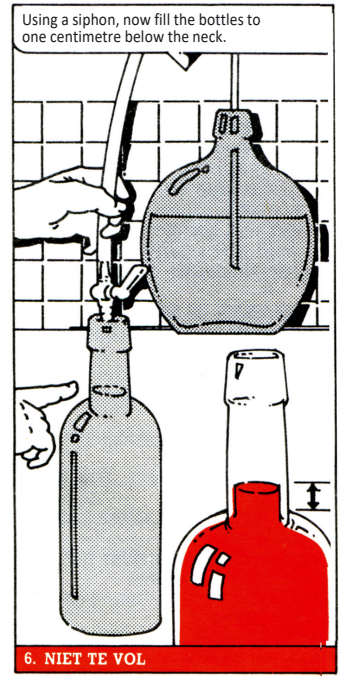


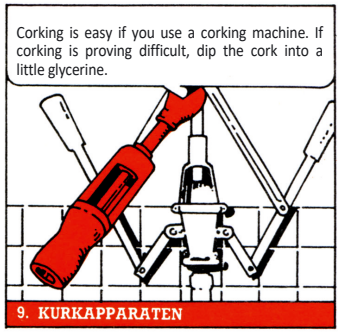
HELPING THE WINE TO GET CLEAR If the wine does not get clear, as can sometimes happen, use a clearing agent.
Bentonite and gelatine are the best known clearing agents, but usually it is not necessary.

USE SULPHITE OR NOT?
Once the wine is clear and ready to be bottled, you need to decide whether or not to use sulphite. You need to add sulphite if you don't want the wine to carry on fermenting after bottling. However, sulphite is a preservative that, if used excessively, can procure hangover and allergic reactions. So healthy wine should not contain sulphite. The choice is yours.

THE FINAL STAGES
When the wine ready to be bottled: make sure you work cleanly.
First clean the wine bottles with a light sulphite solution and then rinse them with clean water.
Using the cleaned siphon, fill the bottles up, making sure to stop at the base of the neck.

BOTTLING AND STORAGE
The cork prevents the wine from coming into contact with oxygen. Make sure to use new wine corks and a corking machine. Soak the wine corks for thrity minutes in a sulphite solution to soften and sterilize, and if the cork is hard to insert, dip the base in a little water with glycerine.
Store the filled wine bottles standing up for 24 hours to allow the cork to dry again. Complete the bottle with a label and capsule. Use a hot source, like a candle flame or steam, to secure the capsule tightly around the neck of the bottle to protect the cork.





STORING AND TASTING

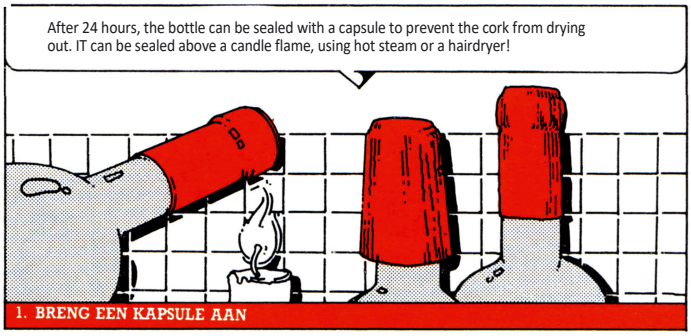
The wine is now ready. You could drink it soon, of course, but storing the wine for a while usually improves the taste.

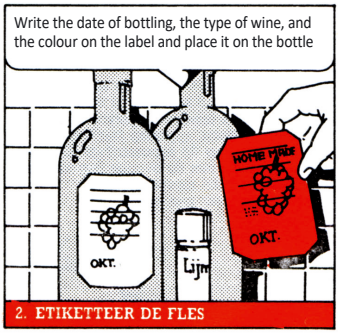
Therefore, it is advised to store the wine in a cool location and try a bottle every once in a while.
Make a note of your observations, so you will know when the wine is at its best.
When tasting, pay attention to the colour, aroma and taste.
If the wine is past its peak, drink the rest of your stock in a short time.
The quality can deteriorate very quickly.

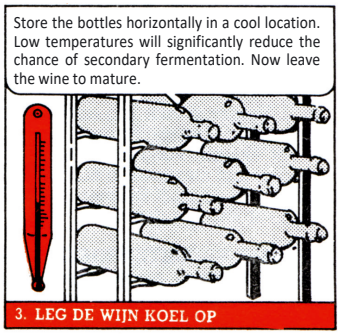
MAKING FRUIT WINE

Wine is always produce with grapes. However almost every other fruit can be turned into fruit wine.

Wine grapes naturally contain all the nutrients needed to make wine. When using other fruits, acids, enzymes and yeast nutrients often have to be added to ensure a consistent fermentation. Fruit wine is made in the same way as regular wine.







GENERAL INSTRUCTIONS

The following guidelines will help determine the quantities of the various ingredients that can be added to the must.

- **Wine yeast**: Choose the appropriate type to suit the fruit.
- **Yeast nutrient:** 1-2 teaspoons per 10 litres of must.
- **Pectic enzymes:** Essential for the breakdown of pectin in fruit.
- **Rohpect-Pro:** For optimal aroma extraction from fruit.
- **Tannin**: A maximum 1-2 teaspoons per 10 litres of must, if needed.
- **CitricAcid:**1-3 teaspoons per 10 litres of must. Pears contain practically no acid, so add three teaspoons. Blackberries, which are fairly acidic, need only one. It is a based on tasting and, above all, measuring.
- **Sugar:** This depends on the alcohol percentage you want to achieve. The fruit does contain fruit sugars (fructose) but usually not enough. The required amount of sugar can easily be measured using a hydrometer.

CHOOSING THE RIGHT FRUIT

Almost all fruits are suitable for making wine. Choose a suitable fruit, taking the harvest season into account.

Crush fruits such as strawberries and blackberries without breaking the seeds, as that will make the wine taste bitter.

Plums and peaches, for example, should be skinned and stoned

Strawberry wine (10 litres)

Ingredients: 7 kg strawberries, 2.5 kg sugar, 3 tsp citric acid, 3 tsp yeast nutrient, 2 tsp pectic-enzymes, 1 tsp Rohpect-pro, 1 sachet Burgundy wine yeast.

Preparation: Crush the fruit and put all the pulp in a clean bucket. Pour 6 litres of boiling water over it and stir 1 kg of sugar into the pulp. Once it has cooled, stir in the remaining ingredients, lastly adding the wine yeast. Cover well and stir with a wooden spoon three times a day, adding 150 g sugar once a day. After ten days, strain and siphon into a fermentation bottle to continue fermenting. Add a little sulphite during the siphoning to prevent the wine from turning brown.

Peach dessert wine (10 litres)

Ingredients: 8 kg peaches, 3 kg sugar, 3 tsp citric acid, 2 tsp yeast nutrient, 2 tsp pectic enzymes, 1 tsp Rohpect-pro, 1 tsp tannin, 1 sachet Sauternes wine yeast.

Preparation: Skin, stone and crush the fruit and place in a clean bucket. Pour 6 litres of boiling water over it and stir 1 kg of sugar into the pulp. Once it has cooled, stir in the remaining ingredients, lastly adding the wine yeast.
Cover well and stir with a wooden spoon three times a day, adding 200 g sugar once a day.
After ten days, strain and siphon out into a fermentation bottle to continue fermenting.

Mead (10 Litres)

Ingredients: 3 kg clear honey, 5 g dried lemon peel, 1 level tsp tannin, 3 tsp citric acid, 1 tsp tartaric acid, 2 tsp yeast nutrient, 1 sachet mead wine yeast.

Preparation: Dissolve the honey in 4 litres of water, add the lemon peel and simmer for 10 mins. Once cooled, pour straight into the fermentation bottle, together with the citric acid, tartaric acid, tannin, yeast nutrient and wine yeast.
After a week, add extra water, filling the fermentation bottle to the shoulder. Mead must mature for at least 6 to 12 months to achieve the required taste.

Blackberry wine (10 litres)

Ingredients: 8 kg blackberries, 2.6 kg sugar, 2 tsp yeast nutrient, 2 tsp pectic enzymes, 1 tsp Rohpect-pro, 1 sachet Port wine yeast.

Preparation: Wash and crush the blackberries. Pour 5 litres of boiling water over them and stir 1 kg of sugar into the pulp. Once it has cooled, stir in the remaining ingredients, lastly adding the wine yeast. Cover well and stir with a wooden spoon three times a day, adding 200 g sugar once a day. After eight days, strain and siphon out into a fermentation bottle to continue fermenting.

quick-to-make Apple wine (10 litres)

Ingredients: 1 litre Apple concentrate, 1200 g sugar, 1 tsp yeast nutrient, 2 tsp citric acid, 1 tsp pectic enzymes.

Preparation: Put the concentrated juice straight into the fermentation bottle together with all the other ingredients.

After complete fermentation siphon once and bottle.

Plum wine (10 litres)

Ingredients: 8 kg plums, 2.5 kg sugar, 2 tsp yeast nutrient, 2 tsp citric acid, 2 tsp pectic enzymes, 1 tsp Rohpect-pro, 1 sachet Professional wine yeast.

Preparation: Wash the plums in 4 litres of warm water with 1 tablespoon of soda to remove the resin layer. Then rinse with plenty of water to ensure there is no soda residue left on the fruit. Stone the fruit and pour 5 litres of boiling water over it and stir 1 kg of sugar into the pulp. Once it has cooled, stir in the remaining ingredients, lastly adding the wine yeast. Cover the bucket well and stir with a wooden spoon 3 times a day, adding 150 g sugar once a day. After ten days, strain and siphon out into a fermentation bottle to continue fermenting.

Orange wine (10 litres)

Ingredients: 7 litres pure orange juice, 3 kg sugar, 2 tsp yeast nutrient, 2 tsp pectic enzymes.

Preparation: Dissolve 1 kg sugar in the juice. Pour the solution into the fermentation bottle together with the yeast nutrient.
Add 500 g sugar dissolved in a little water, every three days.

Parsley wine (10 litres)

Ingredients: 320 g parsley, 3 kg sugar, 2 tsp yeast nutrient, 3 tsp citric acid, 1 tsp tartaric acid, ½ tsp tannin and 1 sachet Aroma wine yeast.

Preparation: Boil the leaf parsley and the citric acid in 4 litres of water and remove the parsley with a sieve after 30 minutes. Dissolve the sugar in the hot liquid and allow everything to cool down to 20 0C before adding the yeast nutrient, tartaric acid, tannin and wine yeast. Pour into a clean fermentation bottle and add water until three-quarters full. Seal the bottle with the cap and airlock and, after a week, top up to 10 litres with cold water. Rack the wine twice before bottling. Serve chilled!