

# Wine Lore

SUMMER SUPPLEMENT 1957

This supplement is written in the hope that it will be of help to the wine-making novice and the more experienced vintner. Conventional country methods are used and an introduction to modern wine-making methods is included.

## WINES OF MERRY ENGLAND

Wines of one sort or another have been brewed by the country folk of England since way back in antiquity. One of the oldest of these would probably be Mead, a wine prepared from honey.

During the Middle Ages the grape was extensively cultivated in many parts of the country. Historians have left sufficient evidence to show that the wines made from these grapes was of a comparable quality to other known drinks of those times.

In recent years much useful work has been done in selecting suitable vines for cultivation in our climate. We now find successful vineyards as far north as Formby in Lancashire. However, until such time as we have a small vineyard of our own, our wines will be made from fruit, flowers, root, grain and a number of herbs.

### Equipment:

To begin with, a minimum of equipment will be required; some of it at least will be found in the kitchen and will include the following:-

- Large Preserving Pan
- One Gallon, or larger, Stone or Glass Jar
- Earthenware Bowl (Oldfashioned toilet bowl)
- Piece of Blanketing

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Jelly Boy or Nylon Sieve  
Air Lock

Cleaning and Sterilising:

All items of equipment must be kept absolutely clean. The effort spent in carrying out this operation will amply repay the wine-maker. Many of the disorders and off-flavours in wines can be associated with unclean vessels.

New jars, bottles and fermenting vessels should, wherever possible, be washed out with hot water and any good detergent. Rinse well and boil for about twenty minutes. Where the vessels are too large to boil they may be rinsed well with a ten-per-cent solution of Sodium Metabisulphite. All other equipment can be well washed immediately after use, dried and stored in a clean place. When required for further use it is an easy matter to rinse them out and sterilise with Sodium Metabisulphite.

New casks should be clean and sweet-smelling. Before use, fill the cask with a solution of washing soda in boiling water, using  $\frac{1}{4}$  lb. per gallon. Leave this in the cask for 24 hours, then drain. Rinse several times with clean water and finish off by rinsing out with a gallon of water to which has been added  $\frac{1}{2}$  oz. of citric acid. Drain well, fill with clean water right up to the bung and leave until required for use.

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YEASTS AND VINE CULTURES

Fermentation is the activity caused by the thousands of minute yeast buds in converting the sugar content of the must to alcohol. Before this can take place a suitable yeast must be present, and some nutrients. In warmer climates all these requirements are found to be present in the grapes. Sufficient sugar to give an adequate alcohol strength, nutrient salts on which the yeast thrives, and the all-important yeast, which in this case is the natural yeast or "bloom" on the skin of the grape.

When making traditional cottage wines, some or all of these ingredients must be added. Bakers' and brewers' yeast are readily available and in general are quite suitable for wine-making. However, a wine culture is best since it gives more consistent results and wines of the finest aroma and

flavour.

Whatever yeast is used, a wine starter must be made up first. When using bakers' or brewers' yeast, it is sufficient to dissolve about half-an-ounce in a third of a pint of the strained must. Beat it up until all the yeast is dissolved, then stand in a warm place such as on the hearth until fermentation is brisk. Stir this into your must. It will be enough for up to two gallons.

Wine cultures are rather more expensive than other yeast, but if handled correctly will amply repay their outlay.

### Propagating Yeast Cultures:

The culture will most probably be supplied growing on an aggar slope in a test tube plugged at the neck with cotton wool, and will need to be activated and increased before addition to the main bulk of wine which is to be fermented. This increase is best carried out in stages, e.g. from the yeast tube to a quart bottle, which will then be sufficient to inoculate up to ten gallons of wine.

1. To make the yeast nutrient medium, dissolve the following in  $1\frac{1}{2}$  pints of water (warm):
  - 3 ozs. sugar
  - $1\frac{1}{2}$  level teaspoons tartaric acid
  - $1\frac{1}{2}$  level teaspoons ammonium hydrogen phosphate
  - 1 level teaspoon Marmite

Half fill a 4 oz. medicine bottle with yeast nutrient medium and pour the remainder into a screw stopper bottle. Plug the necks of the bottles tightly with cotton wool. Place both bottles as nearly vertical as possible in the upper compartment of an ordinary kitchen steamer, bring to the boil and steam the bottles for an hour. Allow to cool slowly. Alternatively, heat in a domestic pressure cooker at ten pounds pressure for twenty minutes.

2. Pour the cold sterilised nutrient medium from the half-full four-ounce bottle into the test tube containing the yeast culture, replace the cotton wool plug in the neck of the tube and stand aside in a warm place ( $75^{\circ}\text{F}$ ) until the yeast is in active germination. (Usually two days).

If left too long the fermentation will cease, since all the sugar will have been converted into alcohol leaving a still liquid above a white or fawn yeast deposit. While the culture can still be used it is better to make all transfers while the yeast is in active fermentation.

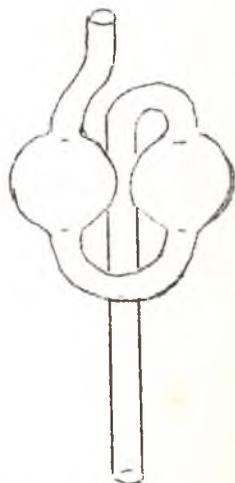
3. Shake the bottle vigorously until the yeast is in suspension, then pour the liquid contents of this bottle into the quart bottle of steam sterilised nutrient medium. Replace the cotton wool plug in the quart bottle immediately. Again leave in a warm place until in active fermentation.
4. The actively fermenting nutrient medium may now be added to the main bulk of the wine and fermentation allowed to proceed.

## FERMENTATION

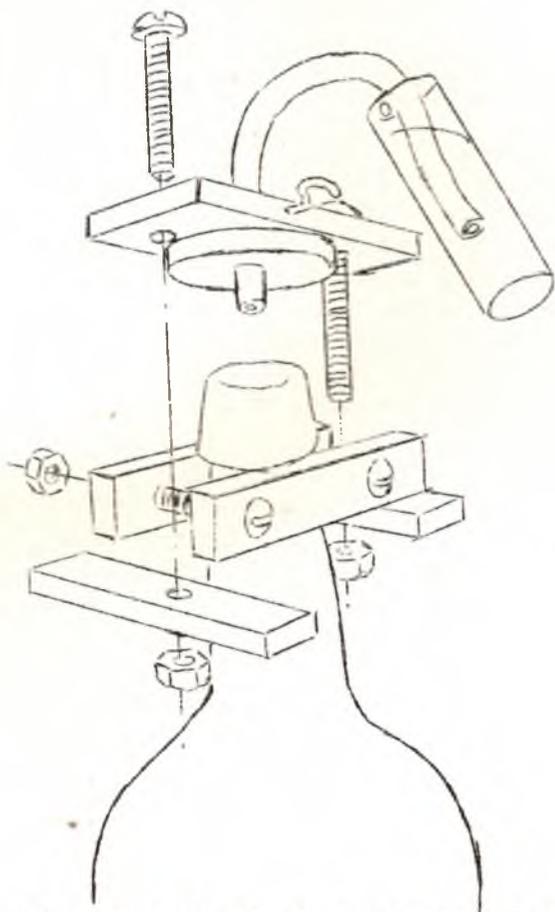
Recipes which state "Ferment for x number of days, then bottle" should be frowned on. So many factors govern the length of fermentation that it is almost impossible to forecast its duration. However, there are a number of definite steps which can be followed to ensure the best results. After adding the yeast, stir well and tap up the vessel quite full. Let it remain uncovered for as long as the frothing is heavy. Then skim off the head and fit an air lock. The wine may now be moved into a cold position. The air lock ensures that the carbon dioxide given off by fermentation can escape, but that air is prevented from getting at the wine. Basically an air lock consists of a water seal between the wine and the atmosphere. When using a sherry culture for the production of sherry type wines, the treatment is somewhat different. Here we encourage contact between air and wine by eliminating the water seal and just lightly plugging the end of the air lock to exclude dust and flies.

When about three months old the wine will need racking, that is removing from its lees. This must be carried out in such a way that the sediment which has settled at the bottom of the vessel remains undisturbed.

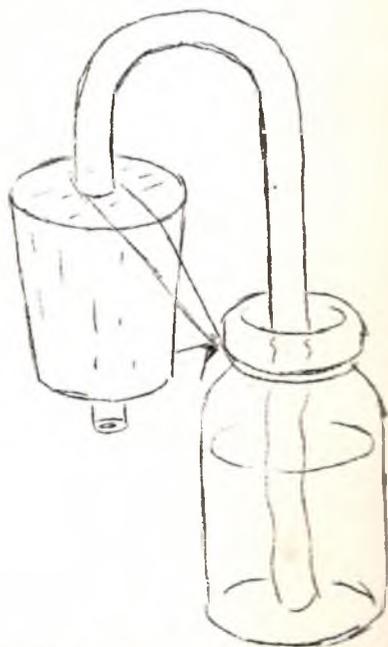
If the wine is in a cask it will be an easy matter to draw the wine off through the tap leaving the lees behind. When the wine is in a stone jar it will be necessary to siphon off the wine. Take a length of plastic tubing (see p.6), bend up the end two inches into a U shape and fix with a cotton thread. Insert this Ushaped end into the jar of wine gently, standing the jar on a table. Have a clean jar on the floor below the one to be emptied. Suck the end of the tube until wine begins to flow, then put the free end into the clean jar without disturbing the lees.



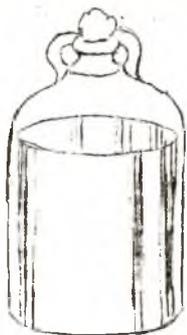
Glass  
Commercial Air Lock



The "Universal" Fermentation Trap



Home-made Air Lock



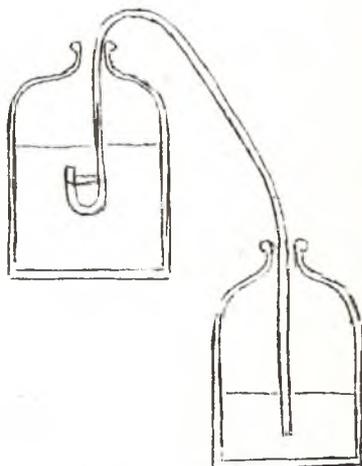
Treatment of  
Sherry type wines

Now with a clean knitting needle to which has been fixed a small ball of cotton wool, remove a small portion of the cleansed yeast at the bottom of the vessel and stir it into the wine. Tap up and refit air lock. Keep the wine in a warm position for a few days, then remove to a cool location. This can be repeated when the wine is nine months old, but without the addition of the yeast. The wine can be stored in bulk or bottled for use when twelve months old.

SPARKLING WINES

When making sparkling wines the object is to bottle the wine before fermentation is complete, thus trapping some carbon dioxide in the bottle. It is necessary here to ensure that the wine is clear before fermentation is complete. Strong bottles must be used when bottling off and the corks firmly wired down. A few experiments will have to be carried out to determine the correct time at which to bottle. If carried out too soon, too much pressure will build up in the bottle and it will burst.

(See drawing  
at top of  
next page)

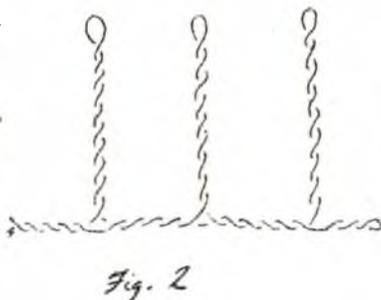
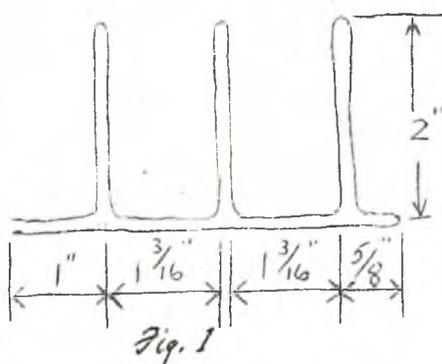


Method used to  
siphon wine from one vessel to another

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## Wiring Corks for Sparkling Wines

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Use a soft supple wire for this, and start with a length of 22 inches. Bend and twist up as shown.

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### RECIPES:

#### Plum Wine

##### Ingredients:

4 lbs. ripe plums  
3 lbs. sugar

6 pints water  
 $\frac{1}{2}$  oz. bakers' yeast  
or port culture

##### Method:

Wash fruit, discarding any which are damaged or unsound. Place in large bowl, pour on boiling water and wash. Leave until lukewarm, then add yeast as directed. If a culture is being used, add two campden tablets to the mashed fruit, cover and add culture on following day. Let the wine ferment on for three days, then strain off into your gallon jar. Place sugar in saucepan with a little water and boil gently until all is clear. Add this to the wine. Carry on as under "Fermentation". If a spiced wine is required, add 6 ozs. cloves and 1 oz. root ginger to the water when boiling.

### Apple Wine

#### Ingredients:

8 pounds mixed apples	6 pints water
3 lbs. white sugar	Rind & juice of 1 lemon
6 cloves	Yeast

#### Method:

Windfall apples are useful for this wine. First cut away any damaged portion. Wash fruit and crush pound in a bowl. Add thinly pared rind and juice of lemon. Pour over all the water and stir in the yeast. Leave in covered bowl for four days, stirring each day, then strain well. Add sugar which has been boiled with a little water until clear and carry on as under "Fermentation".

### Hawthornberry Wine

#### Ingredients:

1 gall. hawthornberries	1 gall. water
3½ lbs. white sugar	½ oz. citric acid
Yeast or Pommard Culture	

#### Method:

Wash the berries and crush in a large bowl. Add a pound of sugar and the citric acid. Pour over this the gallon of water which has been warmed slightly. Add the yeast or culture, stir well and cover with cloth. Leave to ferment on berries for four days. Strain into a gallon jar and proceed as under "Fermentation".

### Dandelion Wine

#### Ingredients:

1 gall. dandelion heads	½ oz. citric acid
1 gall. water	Tablespoon plain malt
Yeast	extract
3 lbs. white sugar	

#### Method:

Gather the flowers on a bright, dry day as near noon as possible, and use at once. Place in a large bowl. Pour over the flowers a gallon of boiling water and

leave for four days stirring frequently. Strain, place 1 pint of this liquor in a saucepan with the 3 lbs. of sugar and boil gently for five minutes. Add this, together with the citric acid and malt extract, to the bulk of wine. Add yeast and stir well. Carry on as under "Fermentation". All-purpose wine yeast will be suitable for this, if a culture is required. In the early spring coltsfoot can be substituted for dandelions, to make a Coltsfoot Wine.

### Elder Flower Wine

Elder flowers can be used fresh or dried for wine making. To store for later wine making, gather the flowers on a dry day and spread them out in the sun or on the floor of a dry airy room. When quite dry, shake all the florets off the stems and store in airtight tins.

Ingredients: 1 pint of elder flowers shaken from the stalks  
1 lemon 3½ lbs. white sugar 1 gallon water  
½ lb. raisins Yeast

Method: Place elder flowers, thin rind & juice of lemon, and chopped raisins together in a bowl. Add one gallon of hot water. Stir in the sugar. When cool, add the yeast as directed, stir well, cover with a thick cloth and leave for one week, stirring each day. Strain, pour into a gallon jar, fit air lock and proceed as under "Fermentation".

### Marigold Wine

Ingredients: 6 pints marigold heads 6 pints water  
3 lbs. white sugar Yeast 2 oranges

Method: Heat water and sugar until it is well dissolved. Pick off all the golden petals and add to water. Discard remainder of flowers. Thinly peel oranges and express juice. Add both to mixture. When cool add Yeast and continue as under Fermentation.

### Blackberry Wine

Ingredients: 1 gall. blackberries 2½ lbs.  
sugar Boiling water to cover

Method: When making this wine it is a great help to have a fermentation vessel with a fitted tap. Pick berries on fine dry day. Put them in the fermentation vessel and pour on just enough water boiling to cover. Bruise well, cover vessel with thick cloth and set aside for



EARTHENWARE JAR



STONEWARE TAP-  
HOLE JAR

a week. Do not stir during this time. Draw off the juice through tap, add sugar and pour into gallon jar. When fermentation is complete, cork down and leave for twelve months before bottling for use.

#### Elder Port

Ingredients: 3 pints ripe berries  $\frac{1}{2}$  oz. hops  
1 gall. water 3 lbs. sugar 1 lb. raisins

Method: Put hops and berries into thin cloth bag, boil in water for  $\frac{1}{2}$  hour. Take out bag, add sugar to liquid. Boil for further ten minutes. Pour into gallon jar. Stand aside to cool then add  $\frac{1}{2}$  oz of yeast creamed up with a little of the wine.

Stir well, fit air lock and set aside to ferment. When fermentation is complete add raisins and cork down. Keep a year before bottling. This wine is best when three years old.

#### Rhubarb Wine

Ingredients:  $5\frac{1}{2}$  lbs. rhubarb 1 gall. water  
 $3\frac{1}{2}$  lbs. sugar Three cloves

Method: Wipe the sticks, cut into small pieces and place in large vessel. Mash well, add cloves and water. Leave for 8 days, stirring each day. Strain off the liquid, add sugar and lemon juice, stir well. Turn into gallon jar or cask and allow to ferment. When fermentation is complete, it can be bottled. This is a wine which can be drunk young.

#### Mead. Dry.

Ingredients:  $3\frac{1}{2}$  lbs. light ripe honey Sherry culture.  
7 pints water  $\frac{1}{2}$  oz. citric acid

Method: Place honey, water and citric acid in a preserving pan and boil gently for ten minutes. Skim, when cool pour into gallon jar. Add sherry culture, fit air lock without water seal but with cotton wool plug in top. Stand in warm room for a few days until fermentation is strong, then move to cooler position where it can remain for 12 months undisturbed. The jar needs to be nine-tenths full at beginning of fermentation. At the end of the 12 months siphon off the wine into a clean vessel and bring into the warm for a few days, then remove to a cooler position. If no further fermentation takes place the Mead can be bottled ready for use.

..... CONSISTENT RESULTS .....



HYDROMETER  
TRIAL JAR



SPECIFIC GRAVITY  
ITY HYDROMETER

After the experience of a few brews we are ready to move on to a little more advanced stage of brewing. The knowledge gained has taught the wine-maker what fermentation is, and what is happening to the brew while fermentation is taking place. You will remember that fermentation is the activity caused by the life cycle of thousands of the minute yeast buds. During this activity sugar is taken up and converted into alcohol and carbon dioxide. A rough guide would be that one part sugar is converted to one part alcohol and one part carbon dioxide. To know what is happening exactly during this time a hydrometer is required. With it, it will be possible to measure the amount of natural sugar present in the must, and calculate how much it is necessary to add to give a wine of a desired alcohol content and record how this sugar is being used up.

A hydrometer is a glass instrument with a bulbous end. On the tube portion is a scale. The most useful scale for wine-making is 1000 to 1300. To take the specific gravity (S.G.) of a liquid is really to measure its weight against water. To do this we take a sample of our must in a suitable vessel, gently drop in the hydrometer and note where the surface of the liquid cuts the scale. If the must is heavier than water, the reading will be more than 1000. If it is less than water, the reading will be less than 1000.

A fruit wine of 10% alcohol (by volume) is being made as an example. The fruit will be soaked for the necessary time to extract the sugar, colouring and flavour required. The liquid is now strained off and all the juice extracted from the fruit. Now take a suitable glass vessel (tall beaker or Kilner Jar)

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and three-quarters fill with the strained liquid. See that the hydrometer is clean, drop it into the liquid and when it has settled down read off the S.G. from the scale. Record this reading. Most good books on wine-making will contain conversion tables which will show what sugar value this S.G. reading has, and what alcohol strength one might expect from it. The following figures will prove useful where tables are not available or where a working value is preferred.

Each point on the scale above 1000 will represent .343 oz. of sugar per gallon. If the first reading was 1040 (this is referred to as an S.G. 40) then the amount of sugar present per gallon will be  $.343 \times 40 = 13.72$  oz.

Having decided what alcohol strength is required in our wine, and knowing the amount of sugar present, the amount of sugar it will be necessary to add can be calculated.

Each point above 1000 represents .132% alcohol by volume. It is now found that S.G. of 75 will give 9.905% alcohol which is roughly what is required. This can be seen from  $.132 \times 75 = 9.905$ .

To calculate the amount of sugar in ozs. to be added to each gallon, subtract the original S.G. from the S.G. necessary to produce the alcohol strength required and multiply by .343.  $(75-40) \times .375 = 13.125$  oz.

In these calculations no allowance is made for residual sugar.

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