

ACIDS

PROPERTIES:

- Aid fermentation, preventing medicinal off flavours/bouquets
- Improve bouquet and flavour
- Strengthen activity of sulphite in inhibiting bacteria
- Enable longer maturation

TYPES USED/PRESENT:

Citric Acid – blackcurrants, elderberries, raspberries, pears, strawberries, citrus fruits.
Good for fermentation, acts as antiseptic and prolongs maturation.

Malic Acid – apples, apricots, peaches, plums, rhubarb, sloes
Promotes rapid fermentation, develops bouquet and flavours.

Tartaric acid – ripe grapes.

Excess can be precipitated out by chilling; resistant to bacterial attack, stimulates glycerol formation, good for maturation.

Succinic and lactic acids are produced as fermentation by-products. Succinic acid provide tartness and promotes vinous character. Aids maturation.

Ascorbic acid (Vitamin C) is present in fruit, vegetables and honey. Can be used instead of sulphite as anti oxidant but does not inhibit bacterial spoilage. Can be used where secondary ferment wanted e.g Sparkling wines.

Acidity Measurement/Calculation

Acidity is expressed as ppt of sulphuric or tartaric acid. Handbook uses tartaric.

Can be measured by titration with sodium hydroxide and phenolphthalein, but not very accurate and not much use for red wines, or during fermentation.

Normal acid ranges are 4.5 – 9 ppt tartaric.

Calculation:

1lb fruit = 1 ppt

1 tsp tartaric acid = 1 ppt

1-2 ppt produced in fermentation – more fermentation, more acid

1 litre grape/apple juice = 1.4 ppt

500 ml grape conc = 1-1.5 ppt

Adjusting acidity

- Dilution
- Using precipitated chalk (calcium carbonate) Don't use too much.
- Masking with sugar
- Precipitate tartaric acid through chilling
- Blending
- Sodium/potassium bicarbonate (at most 3 tsp)
- Maturation
- Secondary fermentation - malolactic

Aperitif Wine Characteristics

- ❑ For drinking before a meal and stimulating the appetite. Normally dry.
- ❑ Sufficient acid to taste fresh and leave the palate clean
- ❑ Often high in alcohol (14- 17%)

Styles:

- ❑ Oxidised – Sherry
- ❑ Herbal or Spiced – Vermouth
- ❑ Quinine or bittered – seldom found
- ❑ Citrus – No commercial equivalent
- ❑ Sparkling

Recipes

Grapefruit Wine

8 medium size grapefruit
1 pt white grape concentrate
8 oz sultanas

Nutrient, yeast, pectic enzyme
1/2 tsp tannin or 1/2 cup tea
1lb 4 oz sugar

Prepare a starter of the grape concentrate with about 4 pts water, yeast and nutrient. 5 days later, extract juice from grapefruit and use zest from 3 of them. Add other ingredients in bucket, holding back about half of sugar, and add the concentrate starter. Leave to ferment for about a week, then strain into demijohn, add remaining sugar and ferment to dryness.

Orange Aperitif

2ltrs good quality orange juice
Zest and juice 4 oranges
1 pt white grape concentrate
8 oz sultanas

12 oz bananas
Nutrient, yeast, pectic enzyme
8 oz sugar

Prepare a starter as above. After 5 days, boil bananas and sultanas for 20 min, add liquor to starter along with 1 ltr orange juice. After another 4 days, add remaining orange juice and orange zest and 4 oz sugar. 5 days later, strain off the zest and add remaining 4 oz sugar, and ferment to dryness.

RECIPES

Vermouth Style

Ingredients: 2 ltr white grape juice; 1 ltr apple juice; 4 oz bananas; nutrient, pectic enzyme, 1lb 12 oz sugar, yeast, Vermouth essence or

Start the yeast culture with the grape juice and the apple juice. After 4 days, mash the bananas and pulp ferment overnight. Strain into a gallon jar, add the dissolved sugar and ferment to dryness. When the wine is clear, make up a strong vermouth solution using 1 pint of the wine and use this to blend with the remainder, adding gradually and checking the taste. Further acid may be required to give a fresh clean wine.

Fino Sherry

Ingredients: 1 lb parsnips; 1lb carrots; 1 lb sultanas; 2 pts apple juice; nutrient, pectic enzyme, nutrient, yeast; 2 lb sugar; 1 tsp tartaric acid

Scrub and chop vegetables, and boil for 10-15 minutes in 4 pts water. Chop the sultanas, place in a bucket and pour the liquid from the vegetables over them. Add the sugar as syrup and when cool, add apple juice and other ingredients. Ferment for 5 days, strain off solids, place must in demijohn and top up with apple juice to the shoulder. When fermentation is complete remove to a cool place and allow the yeast to settle. Replace the airlock with a wad of unmedicated cotton wool. Rack as with other recipes until the wine is bright and clear. Do not top up demijohn after racking. Once sherry character has developed, replace the cotton wool with an airtight bung.