

## Craft Cider Making 2<sup>nd</sup> Edition Text Revisions

Inserted / modified / replacement text shown in **yellow**. Text to be deleted entirely is in **red**.

### p.8

That's not to say you can't make good cider on a large scale - you can, but with scale **come** other logistical and business considerations which do not concern us here

### p.12

At the time of writing the two largest and most widely known names are Bulmers, once a Herefordshire family company (now owned by the brewer Heineken), and Gaymers (once Taunton Cider and Showerings) now owned by **the Irish C&C Group**. **Magners (aka Bulmers Ireland) is also a part of C&C. Another major producer of 'own-label' ciders, although largely unknown to the general public, is Aston Manor, a Birmingham brewer.** Westons, Thatchers and Sheppys are all family owned cider makers with national supermarket distribution.

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Modern non-foaming sterilising detergents designed for food equipment use **(eg VWP)** are most effective in this role and should be used according to the instructions given on the packet. **They are based on active oxygen or chlorine and sold by home brew shops.** Do not use regular household detergents **or bleach** since they are often perfumed and the suds are difficult to rinse away fully.

If you particularly want to use wooden barrels, make sure that they are well scoured, bleached and rinsed or steamed beforehand and that they do not smell in any way musty. **They can be cleaned with washing soda solution (75 g dissolved in 5 litres of water). After rinsing well with water, they should also be 'sweetened' and stored wet with a sulphur dioxide solution made from 10 g of sodium metabisulphite and 10 g of citric acid dissolved in 5 litres of water. This solution should be changed every 3 months and washed out before the barrel is used.**

### p 24

At completely the other end of the scale it is possible to make a few litres of juice using a kitchen juice extractor – the type which comprises a metal grater plate and a basket centrifuge to separate the juice from the pulp can work well, but is only designed to

handle a few fruits at a time. Also on a small scale it is possible to freeze fruits in a deep freeze and then allow them to thaw. Only a light squeeze is then needed to extract the juice from the disrupted pulp, thus obviating the need for either a mill or a serious press. Some people report good results by this method.

The greatest unavoidable capital cost for a craft cider maker

### **p.28**

Michael Phillips “The Apple Grower – a Guide for the Organic Orchardist” is an excellent American book.

### **p.39**

Although traditional orchards might have been virus-ridden there seems little point in repeating this aspect of tradition now that healthy stock is available. Received wisdom has it that trees should be pit-planted individually with plenty of organic matter and bonemeal and that good preparation is never wasted. However an alternative school of thought now recommends that ‘luxury pits’ do the tree more longer term harm than good, preventing it from establishing properly into the surrounding ground (see the Thornhayes nursery website). They will need good stakes and rabbit/hare guards, certainly for the first few years of life. Modern thinking is that high staking is undesirable and that on windy sites trees should not be staked at all because the wind pressure causes stronger stems and more extensive roots to develop.

The best orchard floor is grass, although the immediate base of the trees should be kept clear of vegetation. If sowing a new sward, a slow growing mixture of chewings fescue (60%) and browntop bent (40%) has been recommended, or a slow-growing perennial ryegrass (sports turf mix) may be used. Some growers like to add white clover for its nitrogen fixing abilities. Specialist seedsmen now supply orchard floor mixes of slow growing grasses and wild herbs.

### **p.59**

You may sometimes see sugar levels referred to as ‘degrees Brix’, and many refractometers are calibrated in this way. This is in theory the percent of sugar in the juice by mass (weight). However, the refractometers are calibrated against pure sucrose, which apple juice is not, and its refractive index is dictated by things other than just sugars. So the true sugar content is lower than the Brix reading would imply. For practical purposes, dividing the last two figures of the SG by 4 gives approximately the Brix value whereas dividing it by 5 gives closer to the true sugar value.

Sugar levels are set largely by the weather and it is actually the intensity of sunlight rather than the temperature that is the key factor. In a really good summer in the UK we might see sugar

### **p.88**

Winemaker's acid testing kits normally express the results in tartaric acid units – to convert to malic acid units the tartaric figure **should be multiplied by 0.89. If expressed as sulphuric, multiply by 1.4.** It is also possible to observe the change from malic to lactic acid visually by 'thin layer chromatography' as many winemakers do and although this is relatively simple to do for people with some laboratory experience who can get hold of the required materials, there are no kits available so far as I know. Titration has the merit of providing a figure which can be recorded and **correlated** with the actual taste of the cider. Generally a cider which seems to be twice as acid by taste will have twice the acidity by titration too.

Measuring the acid level, in conjunction with tasting, gives some control over where the cider is going and how close it is to theoretical completion. The MLF might

### **p.91**

This problem can be lessened on a domestic scale by storing the conditioned cider in a pressurised keg or barrel similar to those used for home-made beer (as described above). If the yeast has totally died out by the time you bottle (unlikely but possible) **you may have to add a very small amount of dried fermenting yeast to the bulk cider (1 – 2 grams per 100 litres)**

The ultimate way of avoiding the yeast problem is to produce a sparkling cider by the 'méthode traditionnelle' which is used in the production of champagne and other such sparkling wines. In brief, a fully fermented dry base cider is bottled

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Obviously this procedure may result in bursting bottles since they are already sealed, so safety goggles should be worn. In this case a larger headspace (1½ - 2 inches) in the bottles will reduce the risk. **When sweetening cider in bulk before bottling, it is usually more convenient to make up the calculated sugar into a 50% syrup with a portion of the cider and then stir this into the container, rather than trying to dissolve dry sugar into the entire bulk.**

It is possible to use apple juice as a sugar substitute for 'back sweetening' of ciders. Obviously this increases the total volume **and dilutes the alcohol** somewhat since you may need 10 – 20% of juice added to get the required sweetness, but it may make for a more interesting flavour profile. Logistically, fresh apple juice is not normally

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I suggest goggles and strong gloves for this and a rehearsed procedure for dealing with broken glass since burst bottles are a very real possibility. An alternative procedure for preparing sweet carbonated cider is the use of Sucralose as described in the next section.

The business-oriented craft cidemaker who wants to sell a carbonated sweetened product to rival those on the supermarket shelf, but of superior quality due to its provenance and full juice content, would be well-advised to consider contract bottling. At the time of writing, there are two companies offering this facility in the English West Midlands and they are used extensively by medium scale craft cidemakers who sell through farmers markets and local stores. Partial or full service is offered to include sugar sweetening to a required SG, filtration, carbonation, bottling, pasteurisation and labelling. Although all the required equipment can be purchased, it is expensive,

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Sucralose (often sold in diluted form as Splenda) is the best of the bunch and is permitted for cider in the EU up to 50 mg/litre (around 20 – 30 mg/litre is a typical dose). Small compressed tablets of Splenda are each equivalent to one teaspoon of sugar in terms of sweetening power, so are ideal for just one glass of cider at a time. Like all artificial sweeteners, sucralose lacks ‘body’ or ‘mouthfeel’ compared to sugar, as a like-for-like comparison in cider will soon show. But because its taste profile is superior to saccharin and it does not ‘linger’, sucralose can also be used with some success to sweeten dry carbonated or bottle conditioned ciders, thus obviating the need for pasteurisation. For sale in the EU and the UK the presence of any artificial sweetener such as saccharin or sucralose must be indicated on the label.

The use of preservatives and artificial sweeteners, though perfectly safe, seems to me to be one step removed from the craft ethos. I prefer to use sugar and pasteurisation, which seem to me to be more ‘natural’ interventions. Saccharin is widely used as a partial sugar replacer in commercial ciders, as it is in many soft drinks, but I am always surprised how widespread the acceptance seems to be of saccharin in draft ciders sold at UK cider festivals and at many ‘farmhouse’ outlets. I suspect its use is not especially publicised, nor is it labelled as the law requires!

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The bottles should be stored in a cool place (17th century writers refer to them being stored in cool running spring water to avoid them becoming ‘potgun’ cider)

Anyone wanting to know the finer points of modern cider making in the French style should read “Guide pratique de la fabrication du cidre” published in 2006 by l’Institut Français des Productions Cidricoles (<http://www.ifpc.eu/kiosque.html>)

There are evidently many factors to balance for a successful keeved cider and it is not for the faint-hearted. But I can assure

### **p.119**

This can be tested by taking a small sample of the offending cider in a glass and dropping a **brightened** copper penny or a piece of copper wire into the sample. After 10 minutes or so, its aroma should be assessed against an untreated control glass. If the offending aroma has disappeared or is reduced, it is possible to treat the bulk cider by the addition of copper (cupric) sulphate. This is a permitted practice for winemaking in the EU but only very small amounts of copper are used.

The addition required is one part per million which is an extremely small amount to measure. The best way to do this is by ‘serial dilution.’ For instance a 1% solution can be made up by dissolving 5 g of copper sulphate (a flat level plastic teaspoon) in 500 ml of water. 5 ml of this solution (a level plastic teaspoon) can then be dispensed into 50 litres of cider to give the required level. Wait a day to see how well it has worked; **one (or exceptionally two) further teaspoons** may be added if required.

### **p.123**

Pectin hazes were described in an earlier section. **Sometimes they show as a uniform cloudiness and sometimes as easily disturbed clots or strings floating in the bottle.** If you want to be sure of preventing them, you must use a pectolytic enzyme which is added at the beginning of fermentation. If you think you have a pectin haze in the finished cider, add one part of cider to two or three parts of methylated spirit (denatured alcohol) in a small glass and shake well. The pectin will form a gel or a clot, or possibly strings if there isn’t much

### **p. 149**

The Home Brew Shop  
Unit 2, Blackwater Trading Estate  
Blackwater Way ( off Lower Farnham Road)  
Aldershot  
GU12 4DJ  
Tel: 01252 540386  
[www.the-home-brew-shop.co.uk](http://www.the-home-brew-shop.co.uk)

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SFM Technology9 Bancombe Court, Martock, Somerset, TA12 6HBTel: 01935 822285Fax: 01935 826199  
[www.fruitharvesting.com](http://www.fruitharvesting.com)

SFM manufacture and sell apple harvesting machinery and fruit washers.

The Vares 'Shark' Fruit Mill is described here <http://ciderworkshop.com/fruitshark.html> and is available from the UK importer [sales@fruitshark.co.uk](mailto:sales@fruitshark.co.uk) Tel 07837 030 860 and 01736 786500

Budget refractometers are available for purchase online from Bellingham and Stanley on both sides of the Atlantic at [www.refractometershop.com](http://www.refractometershop.com)

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Correll Cider Presses 24791 Warthen Road, Elmira, OR 97437  
Tel: +(001) 541 935-3825  
[www.applejournal.com/correll](http://www.applejournal.com/correll)

Oesco Inc P.O. Box 540, Route 116, Conway, MA 01341 Tel: +(001) 800-634-5557 Fax: +(001) 413-369-4335  
[www.oescoinc.com](http://www.oescoinc.com)

Where to get Cider Apple Trees

United Kingdom

Scotts Nurseries4 Higher Street, Merriott, Somerset, TA16 5PLTel 01460 72306Fax 01460 77433  
[www.scottsnurseries.co.uk](http://www.scottsnurseries.co.uk)

Please delete Scotts entirely, they have gone out of business.

Thornhayes Nursery St Andrews Wood, Dulford, Cullompton, Devon, EX15 2DF  
Tel: 01884 266746  
Fax: 01884 266739  
[www.thornhayes-nursery.co.uk](http://www.thornhayes-nursery.co.uk)

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Keepers Nursery Gallants Court, East Farleigh, Maidstone, Kent, ME15 0LE Tel/Fax:  
01622 726465

[www.fruittree.co.uk](http://www.fruittree.co.uk)

Adam's Apples, Egremont Barn, Payhembury, HONITON, Devon EX14 3JA 01404  
841166

[www.talatonplants.co.uk](http://www.talatonplants.co.uk)

Bernwode Plants

Kingswood Lane, Ludgershall, Bucks, HP18 9RB

Tel 01844 237415

Fax 01844 238920

[www.bernwodeplants.co.uk](http://www.bernwodeplants.co.uk)

Note: Cider fruit in the UK in season is rarely available on the open market but may sometimes be obtainable by personal enquiry from small growers or from orchards which are no longer being harvested. The **Cider Workshop** discussion group (see below) can be a useful starting point for this.

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My own website, [www.cider.org.uk](http://www.cider.org.uk) contains additional technical and background information about cider making for which there's no space in this book and a link to some mill and press construction details.

The Cider Workshop [www.ciderworkshop.com](http://www.ciderworkshop.com) holds a diversity of information on small scale cidermaking and links to the Cider Workshop discussion group  
<http://groups.google.com/group/cider-workshop>

The US-based e-mail Cider Digest can be found via [www.talisman.com/cider](http://www.talisman.com/cider) and is the premier technical discussion group for serious craft cidermakers both in North America

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'Cider and juice apples: growing and processing'. ed RR Williams 1988.

'Growing cider apples: a guide to good orchard practice'. Liz Copas and Roger Umpleby 2002

(Both books have limited availability but should be obtainable by mail order from the Hereford Cider Museum <http://www.cidermuseum.co.uk/>)

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Many other local shows and cider festivals are held all over the country, often in conjunction with beer festivals. **The UK cider website provides many details of these.** In the US the Franklin County Cider Days in western Massachusetts [www.ciderday.org](http://www.ciderday.org) are attended in November by many US and Canadian cidemakers keen to swap ideas and to taste each others' products. **The increasingly important Great Lakes cider competition is held annually in Michigan see [www.greatlakescider.com](http://www.greatlakescider.com)**

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