

Cider & Perry Production – Science & Practice

*Do you want to develop the detailed understanding, knowledge & skills necessary to produce quality cider and perry for the 21st century consumer?
Then, this is THE class to attend!*

Introduction

Tutored by **Peter Mitchell**, this 'master class' for the **Cider Institute of North America (CINA)**, builds on the "**Foundation**" program and aims to cover, in depth, the following key aspects of cider & perry production:

- Meeting consumer requirements.
- Management of cider & perry production as biotechnology – its microbiology & biochemistry.
- Selection, application & management of production processes & technologies.
- The flavour of cider & perry and sensory evaluation of the products concerned.
- Quality Assurance and Quality Control of cider & perry production.

Who is the Tutor?

Peter Mitchell – a highly qualified and internationally recognised expert in cider and perry making and tasting, leads the class. With 35 years of practical experience, he is a professional trainer, an international cider competition judge and an award-winning producer in his own right.

Who is the class for?

Although mainly aimed at those who have previously attended an introductory cider making programme such as **Cider & Perry Production – A Foundation**, subject to the requirements outlined below, this class is also suitable for other individuals.

Prerequisites for attendance:

- A basic knowledge and understanding about cider and methods of its production.
- An understanding of the principles of microbiology, chemistry & biochemistry.
- Previous training in and/or experience of basic laboratory techniques (e.g. titrations).

Class Content

Production Planning & Control: Planning for production. Facilities & plant layout. Hygienic design. Understanding the consumer & strategies for product development. Work schedules & operating procedures. Quality Control & practical application of chemical & microbiological laboratory techniques. Record keeping. Performance indicators. Quality Assurance & HACCP. Cost analysis & control.

Biotechnology of Cider Production: Microorganisms of cider & perry: *Types & identification, potential problems caused (effects, symptoms, monitoring, control)*. Methods of microbial control: Sanitisation of plant & equipment, effective use of SO₂ & other preservatives; pasteurisation & sterile filtration.

Fermentation & Maturation: Yeast selection & management. Yeast nutrition. Fermentation biochemistry. Fermentation management. Malo-lactic fermentation. Management of racking & maturation. Monitoring fermentation & maturation. Troubleshooting.

Production Processes & Technologies: Milling & pressing – maximising efficiency. Use of enzymes. Downstream processing: *Blending, fining, filtration, carbonation, final processing*. Packaging. Liquid handling, pumps & pumping, tanks/vessels, pipelines/hoses.

Sensory Analysis for Cider & Perry Production: Chemistry & biochemistry of flavour. Descriptive analysis & product profiling (*test conduct, use of flavour wheels & attribute tables, detection of sensory faults*). Hedonic tests & consumer trials.

Alternative Techniques & Adding Value: Maceration & Keeving. In-bottle fermentation. Cider vinegar production.

Practical Work

A key part of the class programme involves undertaking a **New Product Development (NPD)** project associated with cider production. As well as being used to illustrate the NPD process itself, the project is also designed as a vehicle to explore a number of other aspects of the cider production process including: *Fermentation planning, blending, development of product specifications & recipes, laboratory analysis, cost analysis and the application of hedonic & analytical sensory evaluation techniques*.

When and where are the classes run?

Classes are currently run on either the West or East Coasts of North America and are normally scheduled during November or early December each year.

Details of current dates and specific locations, along with the contact details for enquires, are published on the Cider & Perry Academy website:

<http://www.cider-academy.co.uk/usa-classes/>

Class fees includes light lunches & refreshments, a detailed reference manual and electronic copies of spreadsheets & other proforma documentation to be used in cider & perry production.

