

## Cider Production – Advanced

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

### Introduction

This advanced class builds on ***Cider Making – Principles & Practice*** and ***Cider Making – A Foundation*** and aims to provide:

- An in-depth understanding of cider microbiology & chemistry and key aspects of technology;
- A detailed insight into the techniques and application of sensory evaluation;
- A thorough appreciation of a range of techniques involved in product development, marketing and the operation of a successful cider production business.

### Who is the class for?

Although primarily aimed at those who have previously attended introductory cider making programmes such as those identified above, this class is also suitable for experienced producers and individuals from established and growing cider businesses.

### How is the class organised?

The class is made up of four seminars as follows: (1) Microbiology & Hygiene Control. (2) Science, Technology, Lab QC. (3) Commercial Production & NPD. (4) Sensory Analysis. **Practical work** involves new product development (NPD) blending trials, laboratory analysis and expert-led sensory evaluation sessions. *Although all four seminars are interlinked, they are available separately if required.*

### The Tutor?

**Peter Mitchell** – a highly qualified and internationally recognised expert in cider and perry making and tasting, leads the class. With over 25 years of practical experience, he is a professional trainer, a UK and USA cider competition judge and an award-winning producer in his own right.

### Syllabus

#### **Pt.1 - Cider Microbiology & Hygiene Control:**

Cider yeasts and bacteria. Microbial contamination & spoilage. Cider faults – detection, correction and prevention. Fermentation yeast selection, behaviour, management & nutrition. Application & management of malo-lactic fermentation. Pasteurisation and sterile filtration. Chemical preservation and the use of SO<sub>2</sub>. Plant & equipment sanitisation and hygienic design. Hygiene control. Pest control. Cleaning & disinfection. HACCP/HAQCP.

#### **Pt. 2 - Science, Processes & Technologies of Cider Production:**

Juice extraction and processing – Milling and pressing. Enzymes. Concentration and use of concentrate. Fermentation biochemistry, technology and management. Maturation science, technology & control. Pumps & pumping. Fining. The chemistry of cider: Phenolics.

**Pt. 2 - Laboratory Quality Control:** Chemical methods of analysis; microbiological analysis. Laboratory organisation, safety, management and Quality Assurance. Design of Quality Control schedules. Sampling. Data analysis and interpretation.

*The practical sessions are designed to assist the Cidermaker make choices with respect to implementation of laboratory analysis: In-house or out-sourcing.*

#### **Pt. 2 – Practical Product Development:**

Background to NPD in cider production. Product recipes & specifications. Practical blending and product make-up trials.

#### **Pt. 3 -Principles & Practices of Commercial Production:**

Marketing and business planning. Meeting consumer requirements & NPD. Quality Assurance. Planning for production – facilities & plant layout. Hygienic design. Equipment selection. Work schedules & operating procedures. Record keeping.

**Pt. 4 - Sensory Analysis:** Conduct and organisation. Cider flavour: Components & chemistry. Development of product profiles. Use of flavour wheels and attribute tables. Organoleptic faults in cider: Identification, causes & prevention. Sensory analysis: Hedonic & analytical methods.

### Class Dates & Costs

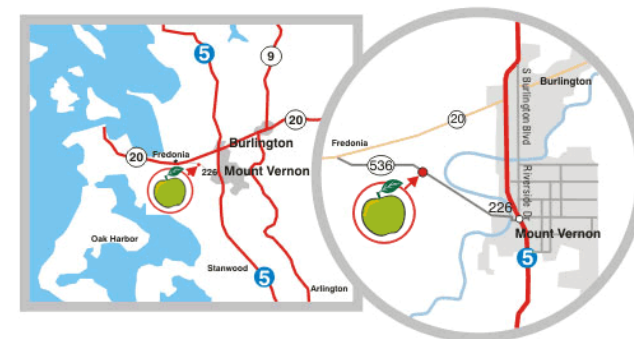
- Date: **7<sup>th</sup> – 12<sup>th</sup> December 2009**
- Cost: **\$950**

### Where is the class run?

#### **Washington State University's Northwest Research and Extension Center (NWREC)**

16650 State Route 536  
Mount Vernon  
WA 98273-4768

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[www.cider-academy.co.uk](http://www.cider-academy.co.uk)