



2012 Northwest Cider & Perry Seminar

The Cider Market & Industry

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History of Cider Production

- In 6500 BC apples first cultivated in the Tien Shan (“Mountains of Heaven”) - modern-day Kazakhstan in Central Asia.
- When the Romans invaded England (55 BC – 43 AD), native Britons in Kent were found to be making cider.
- From the 8th C, adoption of apple milling & pressing technology & establishment of cider & perry production - spreading north from Spain to France and into England.
- From 13th C, cider became valued as a safer drink than water and became used as a means of paying farm workers.
- 17th & 18th C, the “heyday”. Key technological developments e.g. in-bottle fermentation. Taken to the “colonies”.
- Popularity and quality declined at the end of the 19th C.
- Formation of Long Ashton in 1903. Much R&D work was undertaken here until 1985.
- Substantial growth in cider consumption and production occurred between 1970 to the mid 1990s.
- After a short period of Industry “troubles” and a decline in cider value in the late 1990s, new quality products were introduced to make cider & perry fashionable again in the 21st century.

Cider in the USA

- 1st cultivated apple trees planted in Boston by Blackstone in 1623
 - Apples became widely planted – encouraged by individuals like “*Johnny Appleseed*” (early 1800’s)
 - However, in Washington State planting did not properly start until about 1850 – also for fresh fruit, not cider
- Cider became widely established in 18th & 19th centuries (a ‘store’ of apples; payment for work; safe drink; family drink) – notably:
 - 1726 – a village nr. Boston produced 10,000 barrels
 - 1767 – 40 gallons annual per capita consumption In Massachusetts
 - 1810 – 198,000 barrels made in Essex County, NJ (ca. 307,000 gallons distilled cider spirit)
 - President John Adams popularised health benefits
- However, after mid 1800’s (as in UK) – urbanisation, beer production plus Temperance Movement poor quality >>>>
 - 1915(ish) – only 13m gallons produced (55m gallons in 1899)
 - 1919 – Prohibition
 - 1990: 0.75m gal 2004: 4.25 m gals 2011: 9.2m gals

Legislation & Cider Definitions

- In many countries (includes UK, USA, Canada), definitions and ‘controls’ on permitted practices are contained only within Excise legislation.
- In France, Spain and Germany definitions & practices are more restricted by specific vertical legislation however
 - for example, in France: *Boisson fermentee a base de pomme* is used for any beverage which does not conform to a regulatory definition.

USA Definitions – Hard Cider

Still wine ($\text{CO}_2 < 3.92\text{g/l}$) derived primarily from apples or apple concentrate and water (**apple juice**, or the equivalent amount of concentrate reconstituted to the original brix of the juice prior to concentration, **must represent more than 50% of the volume of the finished product**) containing **no other fruit product nor any artificial product** which imparts a fruit flavor other than apple; containing **at least 0.5% and less than 7% alcohol by volume**; having the taste, aroma, and characteristics generally attributed to hard cider; and sold or offered for sale as hard cider.



Canadian Definition

- Product of the alcoholic fermentation of apple juice
- 2.5% ABV - 13.0% ABV
- A number of permitted ingredients / processing aids are listed
- Cannot sell cider if it contains more than 2.0g/l VA
- Includes definition of “Champagne Cider”

Ref: *Food and Drug Regulations (C.R.C., c.870, Section B.02.120. [S]. Cider)*



USA Definitions – Other Categories

Broadly, cider is classified as a wine and thus permitted practices and allowable ingredients are generally the same as for a wine. For full details, see *The Electronic Code of Federal Regulations, Title 27: Alcohol, Tobacco & Firearms, Part 24 – Wine*. The following excise tax categories apply to cider:

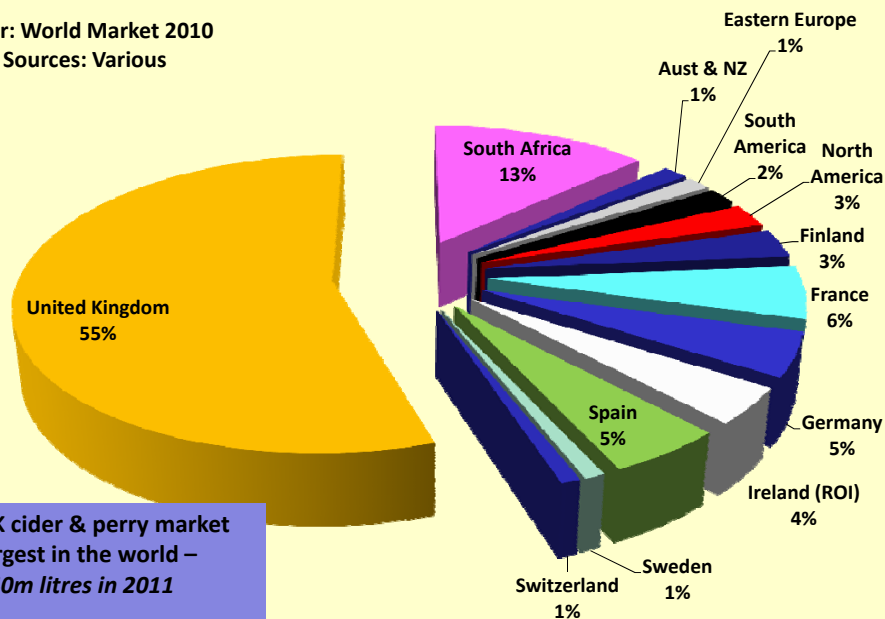
Wine	0.5% to 14% ABV:	\$1.07/gal
Wine	14.1% to 20.9% ABV:	\$1.57/gal
Wine	21.0% to 24% ABV:	\$3.15/gal
Carbonated Wine (CO ₂ > 3.92 g ^l ⁻¹):		\$3.30/gal
Sparkling Wine (CO ₂ > 3.92 g ^l ⁻¹):		\$3.40/gal
Hard Cider (as previous):		\$0.226/gal

In addition, there is a “Fruit Wine” category, a “Farm Cider” category - which is exempt from a tax class subject to certain provisions (FR: 27.24.76) - and reduced levels of tax for **small producers** (150,000 gal/yr) e.g. \$0.056 credit on 1st 100,000 gals of hard cider.



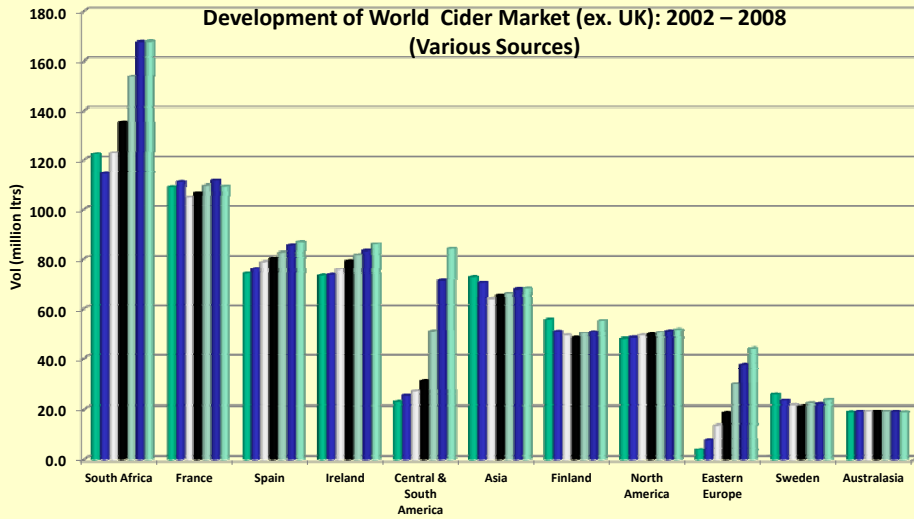
Cider & Perry: World Market

Cider: World Market 2010
Sources: Various

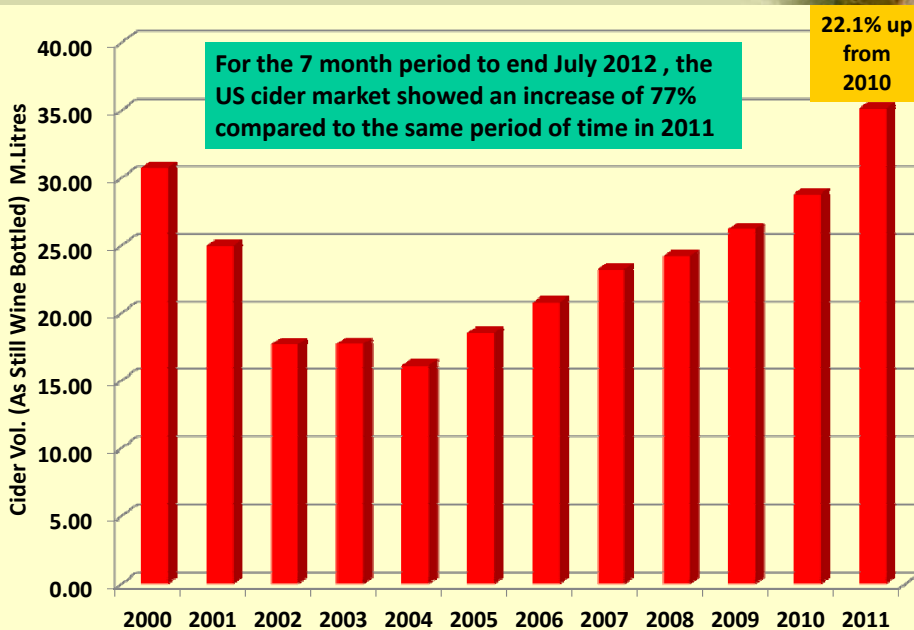


- UK cider & perry market largest in the world – 940m litres in 2011

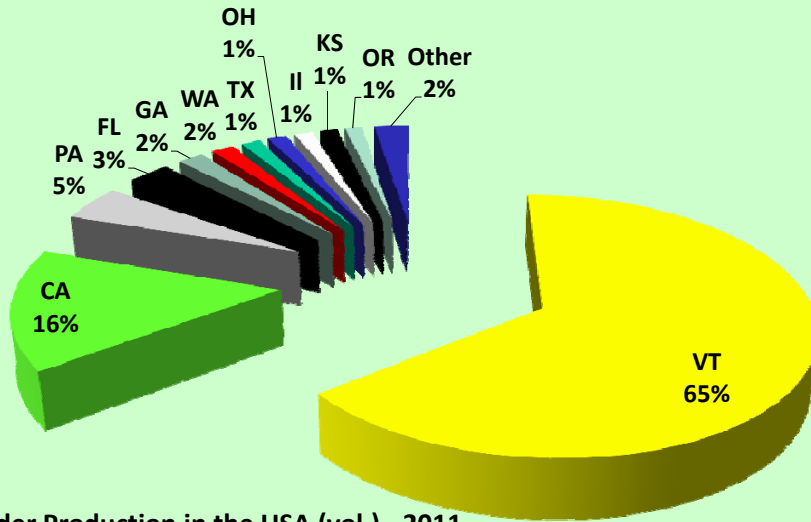
Cider & Perry: Growth in World Market



US Cider Market – Historical Changes



Cider: US Production / Releases

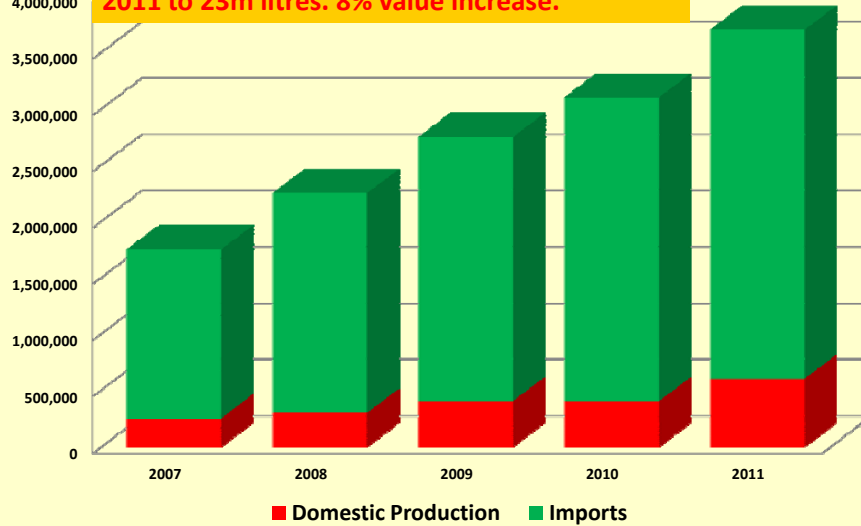


Cider Production in the USA (vol.) - 2011
(Source: TTB Statistical Reports)

Cider Sales (Volume) Ontario

Overall in Canada, sales vol. increased by 4% in 2011 to 23m litres. 8% value increase.

The Canadian Cider Market

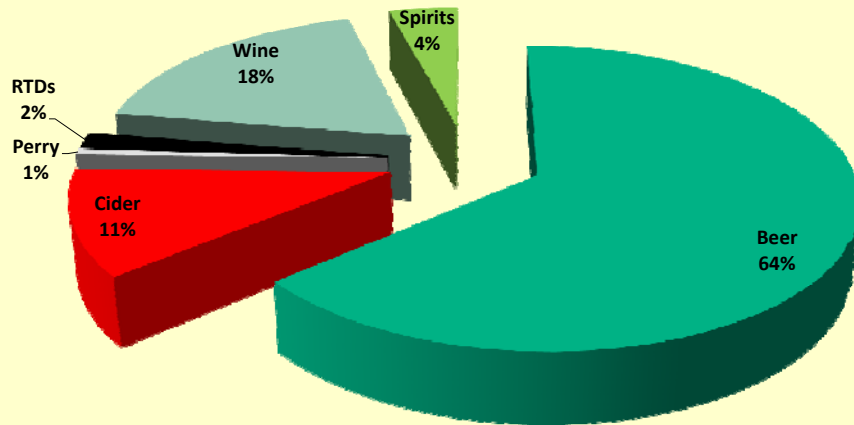


Source: LCBO (via Ilnyckj, 2012)



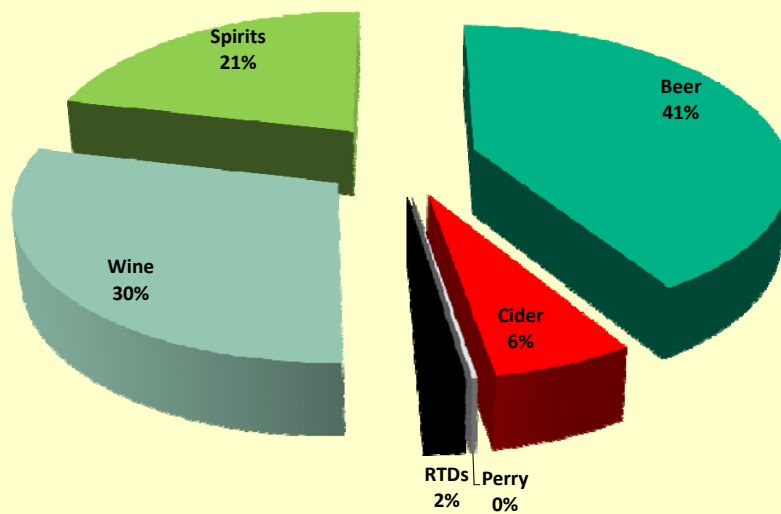
UK Alcoholic Drinks Market (Volume)

UK Alcoholic Drinks Market (Vol): MAT Summer 2011



UK Alcoholic Drinks Market (Value)

UK Alcoholic Drinks Market (Value): MAT Summer 2011



Emerging Cider Markets & Growth Forecasts

See following link:

http://www.candcgroupplc.com/__data/assets/pdf_file/0019/19252/Canada-an-International-Beer-Strategy-Conference-30-May-2012.pdf



Global Cider Market – Recent Headlines

- Declining demand in Finland: **-3%** volume in 2011 (Euromonitor)
- Sales of Somersby cider (Carlsberg) in 2011 **exceeded** expectations
- Cider consumption in Japan decreased by **4%** in 2011 (Euromonitor)
- **“Stellar” growth** of cider in Australia to 52m litres in 2011; value of A\$552m (Euromonitor). Volume growth at **42.8% MAT** (Feb 2012) and **58%** value (Nielsen)
- Long-term decline in cider consumption in Ireland: **-2%** volume in 2010 and 2011 (Euromonitor).
- **Increased** sales in 2011 in Argentina, Venezuela & Brazil (**+8% vol, +16% value**) (Euromonitor)
- **23%** volume growth in 2011 in Singapore and **4% vol** growth in Hong Kong (Euromonitor)
- Westons Cider (UK) purchases World Brands Australia in 2012 to form Westons World Brands
- Ireland’s C&C Group acquires Vermont Hard Cider in October after Heineken took over distribution of Strongbow in August 2012
- Global cider market to reach \$2.6 billion by 2015 (GIA inc.)

Sales Trends

In the 20th & 21st century, the key factors that have affected (will affect?) consumption include:

- Advertising
- Weather
- Taxation
- Widening product range – in draught & packaged formats
- Distribution & supply (of product & raw materials)
- Packaging & product innovations
- Regional preferences
- Gender and age
- Changes in PDI
- Pricing, product quality and value
- Image
- Provenance & eco/health-credentials
- Events & occasions



The Raw Materials – Apples & Pears

Apples

1. Dessert
2. Culinary
3. Cider
4. (Crab)

Pears

1. Dessert
2. Perry





Cider Apples

Characterised by phenolics
(polyphenols; tannins)

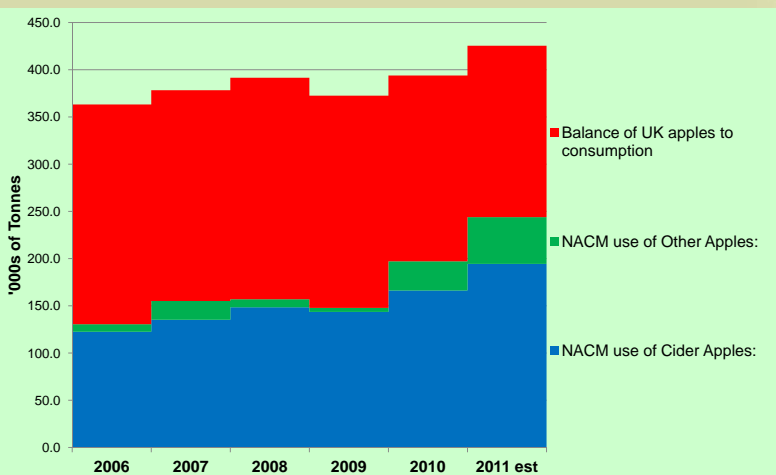


1. Sharps e.g. Tom Putt
2. Sweets e.g. Sweet Coppin
3. Bittersharps e.g. Kingston Black
4. Bittersweets e.g. Dabinett



The UK Cider Industry & Orchardling

Cider maker's usage of apples in 2011 estimated at 57% of all UK apples



The UK Cider Industry & the Rural Economy

Industry reports growth in directly dependent jobs from 1,000 in 2008 to 1,500 in 2011 *plus* an increase from an estimated 5,000 to 7,500 in rural cider-related jobs

Approaching 250,000 tonnes of apples valued at ca. £26m p.a. for the rural community

Cider apple orchards are an important tourist amenity and local benefit: overall, orchards are estimated to return in various ways 8x the cash profit from the apples (*Herefordshire Orchards Community Evaluation Project – 2008-2010*)

£2.75bn retail value (NACM estimate from CGA/IRI) delivering £461m VAT & £318m excise duty = £770m+ directly result as well as other income and business tax revenues



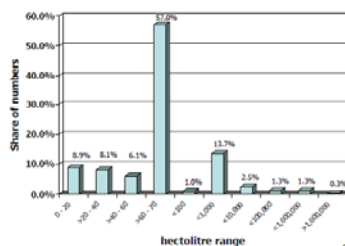
Cider Making Practices in the UK

The UK Cider Industry:

- Majority of 'craft' producers only use fresh-pressed juice and thus make all their cider in the "season".
- All the big producers & many of the medium-scale makers use AJC in some or all of their cider.
- Contract packing is widely used
- The 250,000 tonnes of apples grown in the UK for cider will produce about 2m hl of juice. The balance of about 5m hl finished cider will come from imported AJC plus other ingredients added to fermented juice to make up the final product.

Distribution of UK Cider Makers

Share of numbers in 2008 distributed by size of output



Source: NACM estimates

Major Producers:

Bulmers (Heineken), Aston Manor, Magners GB (C&C Group), Thatchers, Westons, Aspull, Merrydown, Sheppy's Henny's



Producing Apples for Cider in the UK

- 80% of fresh apples used in cider production are cider apples, 20% are cull dessert/culinary
- Cider orchard practices differ from growing dessert fruit:
 - Degree of ripeness
 - Machine harvesting
- Cider apples are not put into cold-store although some producers will use cull dessert/culinary fruit out of cold store
- Recently established long-term research strategy associated with cider orcharding – **Themes:**
 - Genomics
 - Varietal development
 - Pest & disease management
 - Orchard systems

Current research projects:

- Apple scab genetics
- Role of conidia & varietal resistance
- Mycorrhizal relationships with *Malus*
- Use of apple genomic & phenotyping



Growers & Cider Producers in the UK

- Over 95% of cider fruit grown is either under contract to the major cider producers or produced in the maker's own orchards:
 - **Bulmers:** 75% contract, 25% own orchards
 - **Thatchers:** 75% contract, 25% own orchards
 - **Westons:** 80% contract, 20% own orchards
 - **Magners GB:** 97% contract, 3% own orchards
- **Contracts:**
 - Typically for 20 – 25 years, with extensions of 5 – 10 years
 - With original "Incentive Schemes" (Bulmers & Taunton), much of the cost of orchard establishment was carried by the cider maker - repayment over 4 years or from a % of apple crop each year.
 - **Features:**
 - Quality standard, increasingly including a bonus for cleanliness, sugar content and for hand-picked fruit;
 - Delivery point i.e. Cider factory
 - Permitted orchard chemicals & records
 - No inflation clause – minimum price negotiated with grower group

Current price: £113/tonne



Growing Cider Apples in the UK – Start-Up Costs

- Typical planting densities: 300 – 620/acre
- Machine planting costs (tree, stakes, wire, guard, labour): £7/tree
- Machinery costs (100 acres / 1 man managed orchard):
 - 2 x tractors @ £30k ea.
 - 3 x trailers @ £4k ea
 - Sprayer @ £14k
 - Mower @ £5k
 - Fertiliser spreader @ £3k
 - Shaker @ £14k
 - Clearer / sweeper @ £20k
 - Harvester @ £45k
 - Loader @ £20k
- Break even point 5th year (if some existing equipment) **to** 8th year if all equipment purchased



Growing Cider Apples in the UK – Operating Economics

- Typical yields:
 - 2nd year: 1 tonne/acre
 - 3rd year: 3 tonne/acre
 - 4th year: 8 tonne/acre
 - 5th year: 12 tonne/acre
 - 6th – 14th year: < 22 tonne/acre
 - 7 – 18th year: < 24 tonne/acre < 30 tonne/acre (best managed orchards)
- Machine harvesting volumes: 70 – 150 tonne/day
- Typically need 100 acres minimum for cost effectiveness & profitability.
- Based on ave. 20 tonne/acre orchard, ca. £1000/acre profit
- 10, 000 acres of cider apples planted in past 15 years
- **“Best paying farm crop”** (other than soft fruit e.g. Strawberries)