NACM Seminar
10 February 2011
Technical Committee
Bob Cork

WORKING FOR UK CIDER MAKERS

Technical Committee Format

- Technical Committee Chairman is elected member of the NACM exec committee
- Committee is made up of ‘technical’ delegates from each member company
- Product Safety & Quality Working Group is a sub committee of technical specialists

Work of the Committee

Technical

- General Legislation
  - Consultation, Response, & Communication
- HMRC
  - Requests for changes to Notice 162
  - Evaluation of applications to include or exclude additives
- NACM Code of Practice
  - Regular Review, Modernisation, & Monitoring
- Position Statements
- Internal Consultancy
- Advice to other NACM committees

Work of the Committee

PRODUCT SAFETY & QUALITY WORKING GROUP

- The PSQ group reviews the applicability of new methodology and instrumentation that can be used for the analysis of cider
- The impact of any due diligence issues and changes to management systems are assessed for impact on the cider industry and escalated when appropriate to the Technical Committee
- The group also manages NACM Research projects and co-ordinates the NACM Code of Practice on behalf of the Technical Committee

Work in Progress

- **Methods**
  - Flavour Training and Flavour Profiling
  - Alcohol by Paar Alkalyser
  - Tristimulus Colour Measurement
  - Carbonation by CarboQC
- **NACM Position Statements - Under review**
  - Cryposporidium
  - Pathogens
  - Bisphenols
  - Patulin
- **Research**
  - Investigating feasibility of digitising Long Ashton research papers.
- **Juice Content Calculation**
  - Technical justification

Definition of Cider Change - 1st Sept 2010

Minimum Juice Content

35% by volume

in the pre-fermentation mix

and in the finished cider

Raises a number of technical questions

- What is juice ?
- How can it be measured
- How can it be calculated
- How can it be validated
- Can be very complex - how to explain?

Definition of Juice

- Legal drafting requires the use of a minimum level
- Average with a plus/minus tolerance was not acceptable
- 3 years of industry pressing data used to provide a average & minimum Specific Gravity

Final Definition of Juice

- The juice of apple or pear having a minimum Specific Gravity of 1.033 @ 20°c
- Can come from high gravity juice that is diluted
- Projection of a volume of juice obtained from a higher gravity juice is permitted

How to Measure

- Physically measure juice by volume – not practical for many cider makers
- Calculate the Juice Content from the recipe using projection – pre-fermentation mix
- Calculate the Juice content in the final blends
- Present analytical testing methods are not accurate enough to give a definitive juice content. They can only give an indication

How to calculate

- Remember – It is only to prove that you have ‘cleared the bar’ relating to the minimum
- Dilution Table
  - For ease of use by cider makers and HMRC officers
  - Based on the British Soft Drinks Association methods and uses a recognised SG > Brix conversion table
  - Cidermakers can use their own methods but may be asked to explain how it relates back to the NACM method

DILUTION OF HIGH GRAVITY APPLE / PEAR JUICE TO THE MINIMUM PERMITTED GRAVITY: 1033 at 20°c

1. Alcoholic Liquor Duties (Definition of Cider) Order 2010 amending the Alcoholic Liquor Duties Act 1979, 2.d(v) of the Order: "The volume of [juice and cider] is to be computed as at 20°C"

2. Calculated in accordance with the British Soft Drinks Association Document QUID: Fruit Juice & Fruit Content in Soft Drinks

When diluting High Gravity Apple / Pear Juice at this gravity at 20°C,	High Gravity Apple / Pear Juice		When diluting High Gravity Apple / Pear Juice at this gravity at 20°C,	High Gravity Apple / Pear Juice		When diluting High Gravity Apple / Pear Juice at this gravity at 20°C,	High Gravity Apple / Pear Juice		When diluting High Gravity Apple / Pear Juice at this gravity at 20°C,	High Gravity Apple / Pear Juice	
	A.	B.		A.	B.		A.	B.		A.	B.
	volume required to make 1,000 litres of 1033 gravity juice at 20°C,	OR, 1,000 litres will make this final volume of 1033 gravity juice at 20°C.		volume required to make 1,000 litres of 1033 gravity juice at 20°C,	OR, 1,000 litres will make this final volume of 1033 gravity juice at 20°C.		volume required to make 1,000 litres of 1033 gravity juice at 20°C,	OR, 1,000 litres will make this final volume of 1033 gravity juice at 20°C.		volume required to make 1,000 litres of 1033 gravity juice at 20°C,	OR, 1,000 litres will make this final volume of 1033 gravity juice at 20°C.
	Req'd Vol (litres)	Final Vol (litres)		Req'd Vol (litres)	Final Vol (litres)		Req'd Vol (litres)	Final Vol (litres)		Req'd Vol (litres)	Final Vol (litres)
1033	1000.0	1000	1059	558.4	1791	1085	385.5	2594	1111	294.6	3395
1034	975.5	1025	**1060**	550.2	1817	1086	381.4	2622	1112	292.1	3424
1035	941.4	1062	1061	538.7	1856	1087	377.4	2650	1113	289.6	3453
1036	919.6	1087	1062	531.1	1883	1088	373.5	2678	1114	287.2	3482
1037	889.0	1125	1063	523.8	1909	1089	369.6	2705	1115	284.8	3511
1038	869.5	1150	1064	513.3	1948	**1090**	364.2	2746	1116	282.5	3540
1039	842.0	1188	1065	506.3	1975	1091	360.5	2774	1117	280.1	3570
1040	824.4	1213	1066	499.6	2002	1092	356.9	2802	1118	276.9	3612
1041	807.5	1238	1067	490.0	2041	1093	353.4	2830	1119	274.6	3641
1042	783.6	1276	1068	483.6	2068	1094	348.3	2871	**1120**	272.4	3671
1043	768.3	1302	1069	477.4	2095	1095	344.9	2899	1121	270.3	3700

Basic Principle – Standard Gravity

- 100 litres of juice at 1.033 fermented = 100 litres of cider @ 100% Std juice content
- 70 litres of juice at 1.033 topped up with fermentable sugars to 100 litres = 70% Std juice content

Declaration -Validation - Compliance

Declaration

- How do HMRC ensure a producer is complying with the definition
- When you enter the cider into your return as cider you are making a declaration that it fully complies with the definition and is therefore eligible to be dutied as cider
- If it does not comply it should be entered as made wine and appropriate duty paid

Validation – Compliance

- No definative test for JC only indicator
- HMRC will validate by audit
- You will need to demonstrate from your records that you are compliant
- If you are a cider maker how is making products with a juice content far exeeding the minimum. You have little to worry about
- If you are below 70 hl and making products which do not comply. You will need to pay made wine duty. The 70 Hl rule applies only to ciders that meet the definition

Next steps for NACM

- Acceptance of Dilution table
- Test audits by HMRC
- Amend Notice 162
- Revision of NACM code of Practice

- Use of Aroma
- Maybe another day