



IWTS

INTERNATIONAL
WINE TECHNICAL SUMMIT

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Tuesday, June 20, 2017

Spotlight on New IWTS Participants—India, Kenya, South Africa, and Ukraine

India. The delegate introduced the Food Safety and Standards Authority of India and its work to revise the current draft alcoholic beverage standard which will revise wine definitions, additive levels and test methods. India is revising their test methods and the IWTS could provide an environment for India to discuss them.

Kenya. The delegate described the work of Kenyan Bureau of Standards (KEBS), as part of the East African Community, to revise their alcoholic beverage standard. Work on the draft standard is under a Technical Committee. Since its creation, the EAC has reduced the number of Technical Barriers to Trade within the Community.

South Africa. The South African Department of Agriculture, Forestry & Fisheries presented on the Liquor Products Act, which is currently under review. Topics under review include import controls such as label evaluation, product compliance, sampling and import certificates. Since South Africa is a member of the World Wine Trade Group, any other WWTG member would not need to provide an import certificate.

Ukraine. The Ukrainian Wine Institute (Ukrvinprom), and industry organization, provided an overview of wine production in the country. Ukrvinprom established a tasting panel to monitor quality of Ukrainian wines and this information is passed to the government. Ukraine recently created a new Scientific Center, which is developing measures to adapt domestic legislation to international standards.

Additional Presentation by Mexico

Mexico provided the IWTS delegates with a status update of its work to revise the Mexican Regulation for Wines and Spirits (G/TBT/N/MEX/302), as well as an overview of procedures to set standards in Mexico. Mexican regulators are reviewing the comments received and working with international stakeholders. The presentation included a new requirement in the draft revision which will require conformity assessment for wines.

Frequently asked International Trade-related Technical Questions and their Answers

Rachel Triggs, Wine Australia

Wine Australia discussed some of the questions that they receive regarding export markets including technical barriers that Australian exporters face such as declaration of sorbates, which is naturally occurring in wine, and Australian exporters must undergo a burdensome test of authenticity to establish a sugar free extract level when shipping to the Chinese market. Also, China measures all reducing sugars, not only glucose plus fructose, which can cause issues when wineries declare a sweetness indication on the label. Wine Australia highlighted other issues, such as differing Maximum Residue Limits for pesticides across the globe. To address some of these issues, Australia is working with other APEC economies in a document entitled, "Import MRL Guideline for Pesticides," and the Australian industry is working on a "model wine standard" within the international organization, FIVS, to address technical challenges to the export of wine.

Review of the 2016 IWTS APEC laboratory workshop: Total SO₂, Titratable Acidity, Sugar and Alcohol measurements

Eric Wilkes, Australian Wine Research Institute (AWRI)

Patricia Nedialkova, U.S. Alcohol and Tobacco Tax and Trade Bureau

This session reviewed the 2016 APEC Wine Regulatory Forum laboratory workshop which reviewed test methods for Total Sulfur Dioxide, Titratable Acidity, Sugar, and Alcohol. The workshop arose out of a ring test program to evaluate the degree of variability between laboratories in APEC economies who were involved in the testing of common wine components. The results had such wide variance that the workshop was designed as a tutorial for testing of these four common wine measurements. The ring test is available for another round in 2017, and there have been significant improvements since the 2016 round. Long-term participants are improving their performance, however participants used different analytical methods which led to varied results between laboratories.

IWTS delegates are invited to participate, even if located outside of the APEC region. Kenya and South Africa requested to join the program.

Certificates of Analysis: A Proposal

Paul Huckaba, Bronco Wine Company

The paper for this session was authored by the FIVS.

From a food safety standpoint, wine is an inherently safe product. Despite this demonstrable fact, nearly every country requires certificates of analysis. Regulators request assurance that the products pose no risk to health and safety, and the exporter must demonstrate that they meet local regulatory or commercial requirements. Certificates of analysis are often not necessary to show that the products pose no risk to the health and safety.

In exceptional cases where certificates are justified, the importing country should

have confidence in the analytical data contained in such certificates. Consequently, qualifications of the laboratory that produced the certificates must be recognized by countries involved to eliminate trade barriers and allow commerce to proceed smoothly and in a timely fashion. Any required data must be clearly defined, practical to measure and be reported without ambiguity.

There are over fifty different analytes identified in current export certificates, such as methanol, limpidity and sulfur dioxide. Analytes can be grouped as follows: health and safety, wine quality and legality, additive levels, typical wine parameters, microbiological, and physical characteristics. The presentation, which is based on a FIVS paper, detailed why most analytes are not needed on a certificate of analysis, or are provided elsewhere in export documents.

Issues arise in international trade due to a lack of understanding that laboratory data has inherent analytical variability. Data contained in certificates of analysis should be evaluated by taking this into account.

Session 4. Laboratory Accreditation

Gordon Burns, ETS Laboratories

The paper for this session was authored by the FIVS.

One of principles endorsed by the World Wine Trade Group and FIVS, is that analyses of wine required for demonstration of compliance in international trade should be generated by laboratories complying with international standards. Throughout the world most government, regulatory, and industry laboratories rely upon accreditation as a means of confirming the technical competence of analytical laboratories, or through systems of mutual recognition. Regulators can be reassured when laboratories across the world can operate under the ISO/IEC 17025 standard, or through mutual acceptance agreements such as the International Laboratory Accreditation Cooperation, or other groups.

Tour of Chateau Ste. Michelle Winery

Bob Bertheau, Head Winemaker

Keynote Remarks by Steve Warner, Washington State Wine Commission

The IWTS delegates participated in a technical tour of Chateau Ste. Michelle, the largest wine exporter located in Washington State, USA. Bob Bertheau, Head Winemaker, led the tour to explain the winemaking process, with a focus on wine safety from a microbiological perspective. Mr. Bertheau and Steve Warner of the Washington State Wine Commission gave information on grape growing and wine production in Washington State to the IWTS Delegates.

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Session 5. Laboratory Measurement

Steve Tallman, E. & J. Gallo Winery

This session focused on uncertainty of measurement in laboratories. A measurement assigns a number to a property (such as alcoholic strength, pH, etc.). Measurements are obtained by an instrument. The result of a measurement is a number and a unit of measurement. Uncertainty of measurement means that in every measurement there is always a margin of doubt. It is important for laboratories to study and understand their uncertainty of measurement since it can affect compliance with regulatory limits.

Session 6. Sugar Testing

6.1 Harmonizing Expression of Measurement Results in Wine Analysis: Best Practices When Testing and Reporting Sugar in Wine.

Patricia Nedialkova, U.S. Alcohol and Tobacco Tax and Trade Bureau

The paper for this session was authored by the IWTS.

This session addressed the use of an appropriate methodology and uniform terminology to ensure consistency in measurement and interpretation of wine components such as sugars, when required in wine trade. Different analytical approaches when testing for sugar in wine, variation in reporting units, and non-uniform interpretation of sugar terminology are known to create unnecessary barriers in wine trade. The presenters proposed a unified system of reporting sugar in wine that is grounded in scientific and practical knowledge to reduce potential trade barriers.

The following are suggested best practices when testing and reporting sugar in wine:

1. Clarify the meaning of the abbreviation 'RS' when used, since it could stand for residual sugars, reducing sugars, or reducing substances, which have different meanings.
2. Include sucrose in the total sum of wine sugar when the term 'residual sugar' is used.
3. Use methods that are specific for wine sugars, rather than non-specific methods that test for reducing substances, to avoid erroneously high results.
4. Avoid reporting sugar alcohols, such as glycerol, as a sugar.
5. Avoid testing for sugars not expected in wine, such as maltose and lactose.
6. Use standardized units when reporting wine sugars, for example report in g/L.

6.2 Sugar Free Extract Measurement & Expression

Eric Wilkes, AWRI

Sugar Free Extract (SFE) and the closely related measure Total Dry Extract (TDE) are historical measures for wine. TDE is defined as "The total dry extract or the total dry matter includes all matter that is non-volatile under specified physical conditions" (OIV 2015). Essentially, TDE are the remains if someone dries out a sample of wine. TDE is strongly impacted by sugar in wine. Therefore, Sugar Free Extract is calculated as Total Dry Extract minus total sugars. As the majority of the SFE is derived from non-volatile materials originating from grape juice, this measure was considered in the early 1900s to be a reasonable way to identify adulteration by the addition of water. The trade barrier arises when some regulators set a minimum TDE limit

of 16 g/L for white wine, 17 g/L for rose wine and 18 g/L for red wine, which are based on a data set from the 1900s. These levels do not account for accepted modern winemaking practices such as use of different yeast strains, heat treatment of juices, hydrolytic enzymes and the removal of tartrates during cold stabilization.

Sugar Free Extract also requires the analysis of a wine's sugar content. As seen in the previous session on sugar testing, there are export markets where the non-uniform interpretation of sugar terminology creates barriers for sugar and SFE measurements.

Session 7. Methanol in Wine

Greg Hodson, FIVS

The paper for this session was authored by FIVS and presented at the 2017 OIV Congress.

The presentation examined the origins of methanol in grape wine and the quantities typically found in it, as well as in other foods such as unpasteurized fruit juices. The toxicology of methanol and the associated regulatory limits established by competent authorities in various parts of the world were also discussed. FIVS concluded that such limits are not driven by public health considerations and thus authorities are requested to consider the need for methanol analyses to be performed and reported on certificates of analysis as a condition of market entry for wine. Where methanol limits are still deemed to be necessary to achieve policy objectives, authorities are encouraged to establish them in the light of the levels of methanol typically found in grape wines produced by the full array of internationally permitted winemaking practices, and to consider harmonizing their limits with those that have already been established by other governments or recommended by appropriate intergovernmental organizations.

Session 8. Best Practices when Testing and Reporting Total SO₂ in Wine

Eric Wilkes, AWRI

Sulfur dioxide is an important component of the winemaking process providing both antimicrobial and antioxidant properties. In wine, it exists in a range of forms in a dynamic equilibrium with water and other wine components which is independent of the form in which the original SO₂ was added to the wine and changes over time. It is often only practical to refer to the total SO₂ present when it is deemed necessary to define limits. It is essentially impossible to analytically determine the form in which the SO₂ was originally added to the wine.

There is a significant need for agreement on best practice methodologies for the measurement of total SO₂. There is a range of methodologies which can be used for the determination of total SO₂, each with different advantages and drawbacks. Aeration Oxidation (AO) is most easily implemented in non-specialist laboratories and is free of significant interferences. Independent of the method used, the volatile nature of SO₂ and its sensitivity to oxidation mandate that careful sample handling and rigorous quality assurance procedures using matrix matched control samples are required to achieve accurate and precise results.

Session 9. Expiration Date Labeling

Greg Hodson, E. & J. Gallo Winery

Mari Kirrane, U.S. Alcohol and Tobacco Tax and Trade Bureau

The Codex Committee on Food Labeling is currently revising the date marking section of the General Standard for the Labeling of Prepackaged Foods. The delegates presented reasons why the General Standard should continue to exempt wines from dates of minimum durability based on consumer safety and product quality factors. Wine is a microbiologically safe food due to its alcohol and pH content, therefore there will be little information provided to the consumer by a date indication on a label. In addition, a date indication is not needed to justify an indication of quality since some wines are produced with the intention that they will be aged for long periods.