



## 3rd World Congress on Climate Change in Wine Conference 2011, Spain.

### Conference report by Dr Belinda Kemp

Following a successful application to The Farmers Trust for postgraduate funding to attend a work related conference, I attended the III World Climate Change and Wine Conference 2011, in Marbella, Spain. The subsequent report is a detailed account of the conference including the main, important issues that were discussed.

#### Day 1 – Wednesday, April 13th

09.00 – 10.00 Session 1 – The current status of climate change

Speakers: João de Lima – Pedro Ballesteros MW (Via videoconference) - Greg Jones (Via videoconference) Moderator: Pancho Campo MW

“What gets us into trouble is not what we don’t know, but what we know and it just ain’t so”. Mark Twain

This first session began with an overview of global temperature increases, maps of Greenland from 1979-2007 and CFC emission decreases. Dr Greg Jones discussed current implications and issues relating to the problem of variability of the climate. He mentioned climate vents i.e. ice decrease, cold winter and warm summer in Northern Hemisphere, changes in El Niño and El Niño, floods in Brazil, Asia and Australia, fires in South Africa and the Australian drought broken by extremely heavy rain. He stated that 2011 saw the coldest winter in the EU in 50 years and in the EU 2003 was very warm 2010 was hotter but for a shorter time. He explained that the biggest challenge for the wine industry is the climate variability in the last 15-20 years which will continue. All the speakers agreed that research was needed into cultivar suitability and adaptation, carbon source and sink issues, plant breeding and genetics, canopy management changes and oenological issues i.e. yeast, processing and fermentation. Dr Greg Jones also stated that social science research should include market issues i.e. climate will force changes in wine styles/cultivars and consumer opinions and acceptance. This overview led to the first Guest Speaker Mr Steve Smit, Constellation USA.

## 10.30 – 12.00 Session 2 – Climate change and viticulture

Speakers: Steve Smit – Agustín Santolaya – Nigel Greening – Carlos Falcó

Steve Smit started his presentation by referring to the El Niña and El Niño changes that can cause extreme shifts in climate in wine regions and cited the heavy rains in 2011 in Australia that resulted in up to 80% of grape harvest losses with very little fruit in Victoria left undamaged. Nigel Greening discussed the increased frost risk and explained that by introducing frost protection i.e. trees at Felton Road Vineyard, Central Otago, New Zealand that the ecosystem changed. Now data loggers and ground penetrating radar for soil moisture measurements is utilised. Nigel stated that the biggest use of carbon is glass in the NZ industry so they are trialling recycled glass bottles but glass collection and production is extremely problematic in New Zealand. Agustín Santolaya presented the research into Tempranillo clones in Rioja explaining that they have found 531 morphological differences i.e. maturation differences and seed differences. This research will enable the grape growers and winemakers in Rioja to select clones suitable for the climate variability. Further discussions included the use of Biofuel in the vineyard engines, soil health, Integrated Pest Management (IPM) and biodiversity. Steve Smit explained that “If you cannot measure it you cannot manage it” which is the approach to their IPM programme. Carlos Falcó discussed genetic material, grapevine nutrition, soil health, root system, the length of sunlight on the vines and the use of partial rootzone drying (PRD) to reduce water use. Much of his work was carried out by monitoring stress in grapevines in vineyards. The first use of the term “sustainable” occurred in this session as all speakers agreed that sustainability programmes should allow for new information and be updated regularly using data from research and that globally the wine industry should share information from research to increase knowledge.

## 12.00 – 01.30 Session 3 – Climate change and oenology

Speakers: Nigel Greening – Paul Symington – R. Cotarella Moderator: Fernando Zamora

Nigel Greening began the session stating that generally there is a wine glut not a wine shortage so climate change might naturally force the industry to reduce production thereby reducing the wine glut. As part of the Family of Twelve in New Zealand, (<http://www.familyoftwelve.co.nz/>) Nigel Greening of Felton Road Winery explained that the 12 family owned and operate wineries have agreed a zero growth pledge to never make over their agreed amount so that they do not contribute to the wine glut. They do not want to strive to make more wine but strive to make better wine which in his view, results in prices increasing and therefore, profit increasing. Nigel Greening finished by saying that “winemaking contribution to climate change should be to make less wine!” Paul Symington, Symington Family Wine Estates, Oporto, Portugal gave a strong and passionate presentation about the challenges facing the Port producers and industry. In particular he focused on the soil erosion problems of the terraced vineyards, biodiversity, planting densities and the lack of rainfall for two months in Portugal in 2010 and the effect on the grapevines.

Riccardo Cotarella discussed the issue of sugar ripeness (high alcohol) without phenolic ripening in red grapes. This issue is a problem worldwide and picking earlier will not improve the situation as it results in unripe tannins. Aroma profile of wines is also altered by early picking dates therefore changes in winemaking is being trialled in Italy i.e. more reductive winemaking and extended cold maceration.

03.30 – 04.30 Session 4 – Climate change in the sparkling wine industry

Speakers: Fernando Zamora – Dominique Moncomble - David Piqué (Gramona)

This session discussed the continued the ripeness theme but with emphasis on the effect of high alcohol levels, aroma profiles, nitrogen levels and foamability of sparkling wine. Also mentioned were the appearances of new pests to vineyard regions including moulds and ciccadelles. Climate variability results in variability in acid levels, sugar levels, aroma profiles, phenolic ripeness as well as early harvests.

*From this debate I decided to initiate a Sparkling wine project at Plumpton College Wine Research Centre regarding wines made from early grape harvest with chaptalisation (sugar addition) Vs late grape harvest with acidification for a Project 3/Honours project student to carry out. This will be undertaken in 2011-2012.*

04.30 – 05.15 Session 5 – Hydric resources and water Management

Speaker: Inge Kotze – Carlos Moro Moderator: Lynne Sherriff MW

Inge Kotze, World Wildlife Fund, South Africa gave a marvellous presentation entitled “Adapting to Climate Change: A Freshwater Approach”. The presentation covered CO<sup>2</sup> reduction but focused on water footprinting and benchmarking sustainability. This session was a thorough presentation regarding ecosystems, native plants, water, invasive plants and healthy soils. *This prompted me to set up a project to investigate native and alien plant species in UK vineyards and their effect on pests which should commence in 2012 with BSc students.*

06.00 – 07.30 Session 6 – The Global Compact: Challenging Business to Become Leading Actors in Sustainable Development Speaker: Kofi Annan

The day drew to a close with an insightful and thought provoking speech by Kofi Annan. The speech is available on the Climate Change in Wine Conference website <http://www.climatechangeandwine.com/program.php?congress> and was mentioned in an article I previously wrote for The Farmers Club magazine.

## **Day 2 – Thursday, April 14th**

09.00 – 10.15 Session 7 – Cenit Demeter Project

Speakers: José Ramón Lissarrague – Dr. José Miguel Martínez Zapater – Dr. Pau Ferrer Alegre – Dr. Albert Bordons de Porrata–Doria Moderator: Mireia Torres

This session explained the work of the Cenit Demeter Project (whose initials, translated from Spanish, mean: Development of viticulture and oenologist strategies and methods to combat global warming, and the application of new technologies to improve the efficiency of the processes encountered). A joint-program run between the Spanish Government and a group of Spanish wine businesses, and led by Bodegas Torres. The program aims to carry out exhaustive research into the effects of global warming on Spanish viti/viniculture, orientated towards the sector's future position in view of the current situation. Many results from their research were presented which included tannin maturation, protein synthesis, sugars, yeast, photosynthesis, anthocyanins and nitrogen.

10.45 – 11.45 Session 8 – Packaging, transport and closures

Speakers: Nicola Jenkin – Patrick Spencer Moderator: David Furer

Nicola Jenkins, WRAP, gave a strong presentation about water use in packaging, UK glass and plastic waste and suggested solutions such as lighter glass bottles, transportation of wine by train and bulk shipping for wines to be bottled in UK. Patrick Spencer, CFCA, represented the cork manufacturers and put forward a very strong case for the use of corks instead of plastic or screwcaps for wines.

11.45 – 12.45 Session 9 – The consumer and the media

Speakers: Alfonso de Salas – Richard Siddle – Juan Park – Daniele Cernilli – Michel Remondat Moderator: Mónica Muñoz

This session discussed the views of wine consumers on the environment and climate change issues. It was found in a study by Wine Intelligence that only 52% of wine consumers were worried about climate change. Raising the question as to whether wine consumers would pay more for products that respect the environment. However the study also found that wine consumers were more worried by pesticide use, worker welfare, use of sulphites and long term health problems of wine consumption. Richard Siddle, Harpers Wine Magazine discussed the media attitude to Climate Change and how sustainable wine production benefits wine consumers. Some of this session was mentioned in the article previously submitted to The Farmers Club.

12.45 – 02.00 Session 10 – Wine Tasting Speakers: Viña Emiliana - Concha & Toro

03.30 – 04.45 Session 11 – Biodiversity, organic and biodynamic viticulture

Speakers: Nicolas Joly – Claude Bourguignon – Inge Kotze Moderator: Marie Louise Banyols

This passionate session discussed the advantages and disadvantages of organic and biodynamic grape growing and winemaking methods and adaptations that are being undertaken by some practitioners.

04.45 – 06.00 Session 12 – Debate: the future of the wine industry under a changing climate

Speakers: A. Alcantara - N. Joly – Torres – F. Zamora – I. Kotze – S. Smit Moderator: Pancho Campo MW

The conference ended with a lively and passionate debate which centred on the issue of sustainability in the wine industry which is also available online.

### **Use of information and contacts since attendance at the conference.**

Since attendance at the conference I have presented and discussed the issues raised in the sessions with students in all three years specifically in viticulture modules such as Grapevine Biology 2, Grape Berry Development. It will also form the basis of an entire lecture with Dr Richard Selley, Imperial College, UK in January. All presentations and discussions from the Conference are available online to the public and Plumpton College students. The Association of Wine Educators have organised a trip to Plumpton College on 5<sup>th</sup> September following my meeting with them at the conference and Paul Symington has agreed to give a Guest Lecture to students. Additionally, Plumpton College Wine Research Centre submitted a joint application to the EU for funding for a Climate Change and Viticulture project in collaboration with five EU Viticulture and Oenology Academic Institutes. Recently it was announced that our application was successful and we commence the project on 1<sup>st</sup> October 2011.