

PROSECCO: A GRAPE VARIETY FROM THE VENETO REGION OF ITALY



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The George Alexander Foundation/
ISS Institute Fellowship

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Executive Summary

Since the 1980s the King Valley wine region of Victoria has been gaining a reputation for growing many different Mediterranean grape varieties. It is through the forward thinking and innovative approach the wine industry has taken that as consumers we are given the opportunity to taste such varieties as Pinot grigio, Arneis, Albarino, Sangiovese, Barbera, Nebbiolo and Prosecco. The focus of this Fellowship was Prosecco, a grape variety from the Veneto region of Italy.

Prosecco is a sparkling wine that finds its origins in the north east of Italy in the hills of Conegliano and Valdobbiadene and has been grown there for at least two centuries. Some say it was originally known as Pucino in the time of the Roman Empire. The variety produces a sparkling wine that ranges from the brut style to the Cartizze, which is a particularly sweet style that will range from frizzante to sparkling depending on the level of carbonation in the wine.

The Dal Zotto family has a very strong connection with this variety in that Ottorino Dal Zotto, Michael Dal Zotto's father, is from the Valdobbiadene area of Veneto. In 2000, the Dal Zotto family planted the first Prosecco vines in the King Valley in the north east of Victoria and in 2004, released the first commercial Prosecco in Australia. It is this connection to the variety that has driven Michael Dal Zotto to gain a more extensive knowledge of the variety from both a viticultural and winemaking aspect – to build his own brand and to make the findings from his overseas study program available to other wineries and those wishing to enter the Prosecco market. This is in line with his vision to see Prosecco grow into an Italian variety that is embraced both by consumers and winemakers within Australia.

The skills deficiency that the Fellowship focused on was to develop a greater understanding of Prosecco winemaking, viticulture and marketing. That being the gaining of knowledge in establishing quality parameters to determine harvest of fruit and product position, the selection of the sites for establishing vineyards and winemaking techniques in particular relating to the charmat method. This method is used in the production of almost all Prosecco in the region. During this time the Fellow developed additional knowledge about which style of Prosecco was the most popular within the markets it was distributed in.

During his time in Italy the Fellow visited wineries and vineyards in both the Conegliano and Valdobbiadene areas of Veneto. He spoke to viticulturalists and winemakers and discussed the principles about the growing and making of Prosecco, together with the growth in popularity of Prosecco as a wine on a global scale. This region was chosen as it is the only region where Prosecco is grown, however, during the trip the Fellow observed that the region had expanded to as far as Trieste.

This was all achievable through the help of the oenological school in Conegliano and the Institute of Experimental Viticulture (also in Conegliano), that organised for the Fellow to visit various wineries, vineyards and consortiums.

The Fellow's learning reinforced the knowledge that different clones influence flavour and that certain clones assist in aromatics and flavour, whereas other clones provide more palate structure. This demonstrated the need to import various clones to assist in the making of a complete wine. Using the knowledge gained, the Fellow proposes to work with sommeliers (wine stewards) in helping to promote the variety within the Food and Wine Industry in Australia.

Since completing the overseas study tour, the Fellow has made himself available to the general winemaking industry, the AgriFood Industry Skills Council, industry bodies and educational institutions, for the sharing of the skills, knowledge and insights he has learned during the Fellowship.

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Glossary

bar – a unit of pressure. It is about the same as atmospheric pressure, and is legally recognised in countries of the European Union.

brix – a way to measure sugar in determining ripeness of fruit prior to harvest.

Cartizze – is the area that is considered to produce the best Prosecco in the Veneto region.

charmat – when secondary fermentation is undertaken in a tank.

frizzante – sparkling, however in Italy it is used to describe wines that are under 2.5bar in pressure.

lees – sediment settling during fermentation, especially in wine; dregs.

method champenoise – when the secondary fermentation is undertaken in the bottle.

DOC – Denominazione di Origine Controllata (Controlled Denomination of Origin). An Italian quality assurance label for food products and especially wines (an appellation).

Acknowledgments

Michael Dal Zotto would like to thank the following individuals and organisations who gave generously of their time and their expertise to assist, advise and guide him throughout the Fellowship program.

Awarding Body - International Specialised Skills Institute (ISS Institute)

We know that Australia's economic future is reliant upon high level skills and knowledge, underpinned by design and innovation.

The International Specialised Skills Institute Inc (ISS Institute) is an independent, national organisation, which has a record of nearly twenty years of working with Australian industry and commerce to gain best-in-the-world skills and experience in traditional and leading-edge technology, design, innovation and management. The Institute has worked extensively with Government and non-Government organisations, firms, industry bodies, professional associations and education and training institutions.

The Patron in Chief is Sir James Gobbo AC, CVO. The ISS Institute Board of Management is Chaired by Noel Waite AO. The Board comprises Franco Fiorentini, John Iacovangelo, Lady Primrose Potter AC and David Wittner.

Through its CEO, Carolynne Bourne AM, the ISS Institute identifies and researches skill deficiencies and then meets the deficiency needs through its *Overseas Skill Acquisition Plan (Fellowship Program)*, its education and training activities, professional development events and consultancy services.

Under the Overseas Skill Acquisition Plan (Fellowship Program) Australians travel overseas or international experts travel to Australia. Participants then pass on what they have learnt through reports, education and training activities such as workshops, conferences, lectures, forums, seminars and events, therein ensuring that for each Fellowship undertaken many benefit.

As an outcome of its work, ISS Institute has gained a deep understanding of the nature and scope of a number of issues. Four clearly defined economic forces have emerged out of our nearly twenty years of research. The drivers have arisen out of research that has been induced rather than deduced and innovative, practical solutions created - it is about thinking and working differently.

A Global Perspective. 'Skills Deficiencies' + 'Skills Shortages'

Skill deficiencies address future needs. Skill shortages replicate the past and are focused on immediate needs.

Skill deficiency is where a demand for labour has not been recognised and where accredited courses are not available through Australian higher education institutions. This demand is met where skills and knowledge are acquired on-the-job, gleaned from published material, or from working and/or study overseas. This is the focus of the work of ISS Institute.

There may be individuals or firms that have these capabilities. However, individuals in the main do not share their capabilities, but rather keep the IP to themselves; and over time they retire and pass way. Firms likewise come and go. If Australia is to create, build and sustain Industries, knowledge/skills/understandings must be accessible trans-generationally through nationally accredited courses and not be reliant on individuals.

Our international competitors have these capabilities as well as the education and training infrastructure to underpin them.

Addressing skill shortages, however, is merely delivering more of what we already know and can do to meet current market demands. Australia needs to address the **dual** challenge – skill deficiencies and skill shortages.

Acknowledgments

Identifying and closing skills deficiencies is vital to long-term economic prospects in order to sustain sectors that are at risk of disappearing, not being developed or leaving our shores to be taken up by our competitors. The only prudent option is to achieve a high skill, high value-added economy in order to build a significant future in the local and international marketplace.

The Trades

The ISS Institute views the trades as the backbone of our economy. Yet, they are often unseen and, in the main, have no direct voice as to issues which are in their domain of expertise. The trades are equal, but different to professions.

The ISS Institute has the way forward through its 'Master Artisan Framework for Excellence. A New Model for Skilling the Trades', December 2004. The Federal Government, DEEWR commissioned ISS Institute to write an Australian Master Artisan School, Feasibility Plan.

In 2006, ISS Institute Inc. set up a new ISS advisory body, the **Trades Advisory Council**. Members are Ivan Deveson AO; Martin Ferguson AM, MP, Federal Labor Member for Batman; Geoff Masters, CEO, Australian Council of Educational Research; Simon McKeon, Executive Chairman, Macquarie Bank, Melbourne Office; Richard Pratt, Chairman, Visy Industries and Julius Roe, National President Australian Manufacturing Workers' Union.

Think and Work in an Holistic Approach along the Supply Chain - Collaboration and Communication

Our experience has shown that most perceive that lack of skills is the principal factor related to quality and productivity. We believe that attitudes are often the constraint to turning ideas into product and a successful business; the ability to think laterally, to work and communicate across disciplines and industry sectors, to be able to take risks and think outside the familiar, to share – to turn competitors into partners.

Australia needs to change to thinking and working holistically along the entire Supply Chain; to collaborate and communicate across industries and occupations - designers with master artisans, trades men and women, Government agencies, manufacturers, engineers, farmers, retailers, suppliers to name a few in the Chain.

'Design' has to be seen as more than 'Art' discipline – it is a fundamental economic and business tool for the 21st Century

Design is crucial to the economic future of our nation. Australia needs to understand and learn the value of design, the benefits of good design and for it to become part of everyday language, decision making and choice.

Design is as important to the child exploring the possibilities of the world, as it is to the architect developing new concepts, and as it is to the electrician placing power points or the furniture designer working with a cabinet-maker and manufacturer. As such, design is vested in every member of our community and touches every aspect of our lives.

Our holistic approach takes us to working across occupations and industry sectors and building bridges along the way. The result has been highly effective in the creation of new business, the development of existing business and the return of lost skills and knowledge to our workforce, thus creating jobs - whereby individuals gain; industry and business gain; the Australian community gains economically, educationally and culturally.

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Fellowship Sponsor: The George Alexander Foundation

The George Alexander Foundation supports activities in the following two areas:

Education

- to help talented young people achieve their full potential in any endeavour
- to support programs designed to improve educational, employment and leadership opportunities for disadvantaged young people

Environment & Conservation

- to develop partnerships with communities, government and the private sector to prevent irreversible damage to the environment and to encourage the maintenance of biodiversity

Dal Zotto would like to thank the George Alexander Foundation for providing funding support for this Fellowship.

Fellowship Supporters

Individuals/organisations/companies involved in developing the overseas program:

- Sir James Gobbo AC, CVO, Patron in Chief, ISS Institute
Dal Zotto's contact with the the famous Scuola Enologica di Conegliano arose out of Sir James Gobbo's visit to the Scuola. The Scuola is the oldest and most prestigious wine education centre in Italy. Sir James' visit was facilitated by the Associazione Veneto Australia led by Dr Renzo Reffo and Dr Bruno Zanette of the Conegliano City Council. Also helpful in these arrangements and contact was Bruno Spiller.
- Dottore Diego Tomasi, Experimental Institute of Viticulture in Conegliano
- Dottore Gianni Marianni, Language Teacher, School of Viticulture and Winemaking in Conegliano

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- Goulburn Ovens TAFE (GOTAFE)
- The Centre for Adult Education
- King Valley Vignerons
- Wangaratta Unlimited
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- Ian Muller, '04 ISS Institute/Italy (Veneto) Fellow
- David Valentine, report mentor
- Christine Hazell, report mentor

Australian Organisations Impacted by the Australian Wine Industry

Government

- Tourism Victoria
- Australian Government, Grape and Wine Research and Development Corporation
- Australian Government, Australian Wine and Brandy Corporation

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Industry

- Wangaratta Unlimited
- Wine businesses

Professional Associations

- Winemaker's Federation of Australia
- Victorian Winemakers Industry Association
- Victorian Wine Industry Association
- King Valley Tourism Association
- King Valley Vignerons Inc
- Winemakers of the King Valley

Education and Training

- Goulburn Ovens TAFE
- The Centre for Adult Education
- Charles Sturt University
- Local state and secondary schools undertaking winemaking courses

About the Fellow



Name: Michael Giovanni Dal Zotto,

Employment: Winemaker and Financial Controller, Dal Zotto Wines

Education

- Bachelor of Business (Accountancy), Charles Sturt University, Albury, 1993
- Bachelor of Applied Science (Oneology), Charles Sturt University (to be completed)

Professional Associations

- Winemakers Federation Australia
- Wine Grape Growers' Australia
- Victorian Wine Industry Association
- King Valley Tourism Association
- King Valley Vignerons Inc
- Winemakers of the King Valley

Michael Dal Zotto has a vision to see Prosecco grow into an Italian variety that is embraced both by the consumer and the winemaker within Australia.

Dal Zotto's background was initially in accounting, working for a family-run transport business in the north east of Victoria, after completing his Bachelor of Business (Accountancy). After five years Dal Zotto and his wife, Lynne, made the decision to become part of the family business, which at the time was primarily a contract grape growers business. This took place in 1998, the year the Dal Zotto family began the task of sourcing Prosecco vines in Australia.

It was then that Dal Zotto began a Bachelor of Applied Science (Oneology) at Charles Sturt University. During that time Dal Zotto worked with his father, Otto, making wine and working in the vineyard. In 2002, Dal Zotto completed a vintage at King Valley Wines as a cellar hand, as well as making the wine for the family winery. Since then Dal Zotto has been winemaking for the family winery, initially under the guidance of David Valentine, and for the 2008 vintage, under Rollo Crittenden and David Valentine.

Dal Zotto first developed an interest in Prosecco during a visit to Otto Dal Zotto's hometown of Valdobbiadene, in the province of Veneto in north east Italy. Valdobbiadene, along with Conegliano, is considered to be the home of Prosecco. An important point to note is that Otto's family also had a small planting of Prosecco from which Otto's father used to make his own wine.

It was the family's connection with the town of Valdobbiadene and their long established understanding of the variety's fresh, fruit-driven style and natural vibrancy that immediately appealed to Dal Zotto and the rest of the current generation of the Dal Zotto family. Thus began the project of sourcing the planting material to produce Prosecco in Australia.

The Dal Zottos' first enquiries were directed to vine nurseries to try and find out if Prosecco had been previously imported into the country. Fortunately, an Italian migrant had legitimately imported the variety to Australia, thus Customs had the gentleman's contact details. This allowed him to be contacted to discover if cuttings of the variety were available. In the spirit of cooperation (common in the Australian Wine Industry) the gentleman obliged, and so stage one of the Dal Zotto dream to grow Prosecco in Australia commenced.

About the Fellow

The next stage undertaken by the supplying nursery was to DNA test the vine cuttings obtained to confirm that they were Prosecco, which indeed they were. It took a further 12 months to produce grafted Prosecco vines in sufficient number to allow a viable planting to be undertaken.

In 2000, the Dal Zotto's planted their first Prosecco vines on their Cheshunt property. The overall project, from sourcing the material to making the first bottle of Prosecco, took six years (1998-2004) with the first vintage being released in December 2004, under the Dal Zotto brand.

Aims of the Fellowship Program

1. Study and gain a better understanding of the various clones of Prosecco and how they are selected in relation to soil type, site location and the growing environment.
2. Examine at first hand the various methods of pruning, as well as all the other canopy management approaches adopted, to assist in the maximum development of flavours in the fruit.
3. Study and experience the winemaking techniques that are used in the making of Prosecco.
4. Develop an understanding of the quality parameters for the harvesting and winemaking to produce super premium to icon level Prosecco wine.
5. Brand development and product positioning within a regional label. Included in this is the consideration of agri-tourism as well as the marketing of Prosecco wine under the La Strada Del Vino Bianco, which has become an international landmark.

To ensure these aims were achieved, Dal Zotto visited the Conegliano University, which is considered to have one of the most renowned schools of viticulture and winemaking in Italy. This University is well known for its research in the white wines of the province of Veneto. This provided Dal Zotto with the ideal opportunity to learn about these varieties, particularly Prosecco, in a relatively short period.

The Australian Context

The industry Dal Zotto is involved in is winemaking and grape growing in the King Valley in the north east of Victoria. Over the past decade the King Valley has proactively developed a sustainable competitive advantage, based on introducing new varieties (particularly Italian varieties) to both wine consumers and the Australian Wine Industry in general.

Current Status of the Australian Wine Industry

The Australian Wine Industry experienced a prodigious boom and expansion from 1995 until 2002. During this period vineyard area increased over 230%, wine production increased over 250%, export volume increased over 360% and export income increased over 500%.

In a macro-environment of such growth, the almost inevitable oversupply of wine started to emerge in late 2002 and has continued since. This is despite drought induced reduction in production, and a significant decrease in export volumes in response to the increasing Australian dollar exchange rate.

Currently Australia has approximately 2,000 wine companies, and the sector employs an estimated 31,000 people. Wine is third on the list of Australian agricultural exports after meat and wheat. As an export earner, wine is more valuable than wool, milk and cream, and barley, with exports reaching a record value of \$3.02 billion (Australian) in July 2007. Australian wine is enjoyed in more than 100 countries.

Wine sales within Australia have grown steadily over the past decade by up to 4% a year. The average annual wine consumption in Australia has increased over the past decade to 22.5 litres per person, while beer consumption per person is declining.

Australian wine exports have dropped 12% in the last 12 months, as the competitive advantage of quality for price declines proportionally as the value of the Australian dollar increases. This experience is forcing all sectors of the wine industry to strategically re-examine all markets and consumer purchasing preferences. There has been a move away from high volume, low cost production to higher quality and value varietal wines.

(Note: Statistics sourced from Australian Wine and Brandy Corporation: <https://www.awbc.com.au/winefacts/data/default.asp> and The 2007 Australian Wine Industry Directory)

The Wine Industry in the King Valley

Over the last 30 years, the King Valley has developed from an area that relied heavily on agricultural crops, such as tobacco and hops, to now relying on viticulture and wineries, developing strong cellar door sales, cafés and restaurants. This transition has the region going from strength to strength as a clearly identified quality wine and food tourism destination.

The King Valley region's innovation and exploration of a strategy of market differentiation based on new wine varieties has prevented what would have been extremely difficult times for the industry. It has been the reliance on the introduction of such varieties as Sangiovese, Barbera, Pinot grigio, Arneis and other Italian varieties, which has given the King Valley the opportunity to continuously grow a market.

The success of these varietal wines has created a strong niche from both a winemaking and viticulture standpoint. However, now that the niche, based on new and different varieties, has been established, it must be maintained. This is the driving imperative to develop and extend the recent introduction of the Prosecco variety. This imperative is magnified by the fact that it is the first Italian varietal of sparkling wine produced in Australia.

The Australian Context

The Need for and Benefit of Additional Skills in Producing Quality Prosecco Wine

The successful introduction of Italian varieties has relied on the expertise and specific varietal knowledge of the existing wineries of the King Valley. The successful introduction of Prosecco has followed a less secure path, as the understanding of the variety from the viticulture to the winemaking perspective is highly limited.

Currently in Australia there is little knowledge of the variety other than what has been discovered by Dal Zotto's winery. To produce a superior Prosecco wine, Dal Zotto must gain further understanding of producing Prosecco both from viticultural and winemaking perspectives.

In the vineyard, this means gaining further understanding of how particular clones are selected for various sites, alternate pruning techniques, and canopy management to enhance the development of desirable fruit characteristics. In the winery this means gaining further understanding of juice clarification and additive regimes, fermentation control, formative yeast selections, as well as the most appropriate finishing of the wine prior to the charmat fermentation process.

The benefits in obtaining the skills required to maximise the quality of the final product will directly benefit both Dal Zotto's winery and the King Valley region, in that it will enhance the existing sustainable competitive advantage. It will also benefit Australia to grow an expanding market in Prosecco, both here and abroad, as it is in line with whole-of-industry strategies to manage the rising Australian dollar exchange rate by targeting new levels of quality in new market niches.

Prosecco, as a variety, is growing in popularity and in the ability to compete and displace wines being imported to Australia, which is an obvious additional economic benefit to all. Secondly, if the wine industry is to export Prosecco, we have to be able to compete with the Italians on a relatively even quality/price-point playing field.

If the industry were to fail to develop the knowledge to produce the maximum Prosecco quality, then we would miss an opportunity to gain part of a market that is growing at a rapid rate.

SWOT Analysis (Strengths, Weaknesses, Opportunities and Threats)

Strengths

- Prosecco itself as a style is approachable from the entry level drinker to the wine enthusiast.
- The King Valley Region has a well established history in the development of Italian varieties and is strongly identified as also growing other Mediterranean varieties very well.
- The King Valley has a strong Italian migrant population.
- The region is already known as a 'must visit' area for food and wine enthusiasts.
- Michael Dal Zotto's family originates from Valdobbiadene in Italy and already has a strong connection with both the variety and area.

The Australian Context

- The region's climate is favourable to growing quality Prosecco.
- The region has a history of viticultural innovation.
- Even with the change in climate, King Valley provides numerous micro-climates that would allow for suitable sites for the variety.

Weaknesses

- There is limited knowledge in Australia about the variety both from a viticultural and winemaking sense.
- Only one clonal type is available for planting, ie there is a lack of knowledge about the types of clones available and how they may differ in production of fruit in relation to the sites and climate they are planted in.
- Winemaking in the charmat method has to be done on a reasonably large scale to achieve economies of scale.
- At present only one winery is making the variety, therefore not allowing for critical mass.
- Facilities for making the wine are limited.
- Price restrictions, due to winemaking processes.
- Lack of knowledge of varietal blending with this wine – why they are used, if they are used, and at what stage of the winemaking process is this done?
- Wine industry's current competitive climate.

Opportunities

- Develop a larger market for Prosecco.
- Grow the variety based on both the increase in demand for sparkling wines as well as new varieties.
- Develop critical quality knowledge in an otherwise unknown variety.
- Assist to reinforce the King Valley Region as the Italian varietal producer.
- Opportunity to discover the type of aspect, at first hand, for growing Prosecco and therefore leading to the identification of likely sites in the King Valley.
- Develop new markets.
- Continuing to grow in the King Valley region allows us to create an opportunity for further employment, both on a casual and permanent basis.
- Experience how Prosecco is handled at the winery, therefore developing further winemaking skills.
- The ability to grow sales of not only Prosecco, but for all Mediterranean wines through the increased awareness and increasing interest in these wine varieties.
- One of the most renowned tourist drives exists in the Veneto area called La Strada Del Vino Bianco (the road of the white wine), providing an opportunity to see how businesses cooperatively produce and market Prosecco. Such a development could be easily replicated within the King Valley and other areas.

The Australian Context

Threats

- By failing to be innovative and developing further knowledge about Prosecco, the industry leaves itself vulnerable to this new market being supplied by imported product.
- Currently the industry is in a downturn due to oversupply.
- The fluctuation in strength and weakness of the Australian Dollar.
- Increasing costs across the board.

Identifying the Skills Deficiencies

Skills and Knowledge Deficiencies

There is currently only one clonal type, one vineyard site and one winemaking approach to producing sparkling Prosecco wine in Australia. This highly limited skill base must be expanded to allow a more stable development platform for future expansion.

The following outlines the skills deficiencies that were addressed during the Fellowship.

Study and gain a better understanding of the clones of Prosecco and how they are selected in relation to soil type, site location and the growing environment they exist in.

- Examine soil types, climate and topographic characteristics of site location relating to Prosecco and how it may beneficially influence the final product.

On site examination of the various methods of pruning used as well as the canopy management incorporated to assist in the maximum development of flavours in the fruit.

- Look at the differences in methods of pruning and canopy management used in relation to the sites and soil types of long established vineyards and whether these have been altered at any stage due to change in the environment of the vineyards.
- Develop skills in the knowledge of the overall growth management of the variety within different environments.

Study first-hand the winemaking techniques that are used in the making of Prosecco.

- This would include looking at the harvesting, processing, fermentation and blending, along with controls or benchmarks used to make the final wine.
- This would include such things as the timing of harvest, the pH, acid and the flavour of the grape at harvest.
- Review existing research and trials to test the two production methods on the same wine, which are charmat versus method champenoise.
- What are the long term aging characteristics for Prosecco: in general does the wine colour develop; are there differences in crown seal versus cork?
- What other clones can improve the flavours in the wine?
- What bottle dosage levels are used, are there dry and sweet styles produced?

Develop an understanding of the quality parameters that exist within winemaking.

- What quality manipulation can be achieved by alternative winemaking methodologies: charmat or traditional, the use of natural versus introduced yeast strains, time spent on lees to develop structure?
- What has been attempted and how did it influence where the wine was positioned in the market?
- The possible use (blending) of other varieties in the production of the final wine
- Is the charmat process perceived to be an inferior product to the metodo classico process in Italy as it is in Australia?
- Are there perceived quality/price differentials between the two methods of production?
- Gain skills and knowledge of how to finesse the final structure of the wine.

Identifying the Skills Deficiencies

Brand development and product positioning within a regional perspective.

- Investigate the methods and means by which the Prosecco growers, in Italy, have worked together on initiatives such as cooperative marketing – how the individual growers and winemakers work together on one clear message.
- Investigate the development of tourism initiatives such as La Strada Del Vino Bianco, including the methods of liaising with levels of government both local and national, how they work with local businesses (accommodation, food producers, and restaurants) to achieve a positive result for everyone?
- Look into how the Prosecco growers work internationally to market both their product and develop their position on tourist routes.

The International Experience

The Zone of Prosecco

The Prosecco Zone

The zone of Prosecco production comprises 15 communities and covers an area of around 18,000 hectares. The vines are nearly always planted on south facing slopes at an altitude of around 50-500 metres above sea level. Of this 18,000 hectares there are only 3,600 hectares that are classified as DOC (Controlled Denomination of Origin) and 106 hectares that are classified as Prosecco Superiore di Cartizze. The Cartizze zone is within the region of Prosecco di Conegliano-Valdobbiadene in the commune of Valdobbiadene. Referred as the 'golden pentagon', it includes Saccol, San Giovanni, San Pietro and Santo Stefano.



View over Valdobbiadene

The International Experience

Types of Prosecco

Prosecco is made in three types or styles:

- spumante, which is sparkling wine above 2.5 bar
- frizzante, a mild sparkling style below 2.5 bar which loses its bubbles quite quickly after pouring it
- tranquillo (still)

The latter is made only in very limited amounts, as the spumante style is the most popular.

In the spumante style there is a range of differing types as listed below:

Brut: This has only recently been developed and was made to satisfy export markets. The wine is typified by characters of citrus and fresh vegetation and hints of bread. The maximum residual sugar the brut style can have is 15g/L.

Extra dry: This is the most popular style among consumers. It has characters of crisp apple, pear and citrus with a fragrant floral bouquet. Its level of residual sugar is between 12-20g/L.

Dry: The Cartize region almost only produces this style. This wine displays characters of apple, pear, apricot and citrus. The wine is generally made with a residual sugar of above 20g/L.

The following outlines the 11 destinations in the Prosecco Region that were visited during the Fellowship journey.

Destination 1: Tutelary Consortium of Prosecco

Contact: Giancarlo Vettorello

Objective: To gain an understanding of parameters for quality for Prosecco and the role played by the consortium.

Outcome: The consortium was established in 1962 by a group of 11 producers. In 1969 they received recognition as the only DOC production zone for Prosecco and Prosecco Superiore di Cartize. The consortium is responsible for the adherence to the rules that are set out for the production of Prosecco. It is through this body that the consumer is then able to feel assured that they are purchasing a product that is in fact Prosecco. By adherence to the discipline and tight monitoring of the regulations they are also able to protect the product (Prosecco) both in Italy and around the world. The consortium works closely with the producers of Prosecco, from pruning right through to harvest, where they are involved in providing analysis for each of the winemakers in the Prosecco zone. Before the wines are released for market they have to be tasted and analysed and then passed for release with the issue of a certificate that gives the producer the right to display 'DOC' on the label.

The consortium is also involved in developing new techniques, both in the vineyard and the winery, and improving on existing techniques to ensure the product of Prosecco is continually improving.

The International Experience

This close monitoring of the fruit from the initial growing phase to bottling and the release of the final product (which is focussed on one variety) gives the consumer enormous faith and confidence that they are in fact consuming a quality product. It also gives the area of production a greater level of significance and merit when the product is being marketed around the world.



Vineyards in the zone of Cartizze

Destination 2: Canevel – Valdobbiadene

Producer of Spumanti di Valdobbiadene (Prosecco)

Objective: To gain an understanding of winemaking involved in the production of Prosecco.

Outcome: In talking with the winemaker, the Fellow determined that there is enormous importance placed on the level of acid in the fruit prior to harvest. The winemaker likes to maintain an acid level of above 6.8 at harvest and a pH of 3.10 to 3.20. This assists in the stability and maintaining freshness in the finished wine.

The fruit is all hand picked into containers of 18 to 20kg and loaded directly into the press with no addition of enzyme. The wine is held at approximately 12°C for eight hours and then racked, with the lees then filtered and added back to the juice. The juice is then allowed to warm to 18°C when it is inoculated with an introduced yeast, and fermentation then begins. The majority of this fermentation is held at 16-18°C, however at the final quarter of the fermentation the winemaker allows the ferment to warm as high as 22°C to ensure the fermentation stays healthy.

The winemaker mentioned the primary ferment can be stopped at the winemaker's desired sugar level although he tends to ferment to dry at this point.

The wine is then chilled and filtered to stop the ferment. The winemaker says that he does this immediately as he does not want any time spent on the lees as it detracts from the fresh fruit characters he is after in his wines. The wine is then held until required. The winemaker mentioned that he does not undertake the second ferment until the wine is required for market. This way he is able to maintain the freshness that Prosecco is famous for.

The International Experience

To begin the second fermentation the winemaker uses a combination of sugar and Prosecco juice which he has held at 1°C and filtered to 4 micron. The wine is not protein stabilised as the proteins assist in the development of the soft persistent bubbles important in the palate structure of Prosecco. During the second ferment there is an agitator on the tank which is used to keep the yeast suspended throughout the secondary ferment – this is generally used twice a day for 30 minutes each time. This fermentation is held at a temperature between 16-19°C. At completion of the secondary ferment (which is determined by the style of wine the winemaker is producing), the wine is chilled and racked off the lees and then filtered to 0.001 micron. The wine is then cold stabilised and sulphur is added at 25g/100L.

At any point if the wine develops H₂S (hydrogen sulphide), the winemaker stops the ferment, racks the wine, filters it and corrects it with copper. He then restarts the ferment.

The wine is made for consumption while young and only ever aged for a maximum of two years. The winemaker mentioned that very little wine in the Prosecco style is aged and is all bottled using cork.

Destination 3: Colesele

Objective: Investigate winemaking and viticulture methods with Vladi Bortolin, winemaker.

Outcome: Here, in the heart of Prosecco Superiore di Cartizze, Dal Zotto spoke to the winemaker of Colesele (Vladi Bortolin) who placed enormous importance on the work done in the vineyard. Bortolin believes that the time taken during the growing season to ensure sound fruit will determine the quality of the finished wine. Being an old vineyard in the Cartizze zone, Colesele still uses the traditional methods of pruning and canopy management. Due to the terrain most of the work is done by hand.



Colesele

The International Experience

Below are photos of the trellising technique used for Prosecco. New canes are trained each year from a central stem.



Trellising on a hill



Trellising on a hill



Trellising on a hill

The International Experience

The Colesel Vineyard is planted on a south facing slope in the Cartizze area in Santo Stefano. Bortolin mentioned that the fruit from the bottom and middle of the slope had greater aromatics. This was a result of the fact that the temperature change from during the day to the night was greater, thus contributing to greater development in these characteristics.



Fruit and canopy, Cartizze



Soil, Cartizze

The Vinification Process: Harvest occurs at approximately 18 brix (a measure of sugar in the grape) and acid levels around 7.60-7.80 g/L are aimed for.

The fruit is hand picked and 'whole bunch' pressed and allowed to clarify for 24 hours at 10° C. Again, there is no addition of enzyme and the approach is very much about minimal intervention. The primary ferment starts with introduced yeast and the fermentation temperature at the beginning is approximately 16° C. As the ferment progresses the temperature is lowered to as low as 10° C because at Colesel they believe this assists in maintaining fresh, crisp characters in their finished wines. Bortolin believes that the lower fermentation temperature will assist later on in the winemaking process to cold stabilise the wine.

Once the primary ferment is complete the wine is racked off, the lees chilled and then filtered. Colesel then determines when the wine will be required to calculate when the secondary ferment is to be commenced. The wine is held in a tank until this point, therefore allowing the wine to maintain its freshness. The secondary ferment commences with the use of sugar, not juice, as Bortolin believes there is no real benefit to juice. The ferment progresses at a temperature range of 14-16° C, always trying to make sure the ferment never goes above 16° C. Once the secondary ferment is finished the wine is racked, chilled and filtered so as to prevent any yeast characters developing in the wine. Sulphur is added at this point at a rate of 25g/100L.

The wine is at its best quality in the first two years of its life when Bortolin believes it is in its prime.

The International Experience

Destination 4: Il Colle – San Pietro di Feletto

Objective: Investigate winemaking methods with a winemaker.

Outcome: Upon arriving at Il Colle the Fellow was given a very general tour of the facility by a staff member who was not the winemaker. In discussing the Prosecco zone the Fellow found out that the region did not really cooperate in the overall marketing of the area. This was the responsibility of other bodies.

It was here that the Fellow discovered the relatively new technique of making Prosecco by carrying out one fermentation in a pressurised tank. However, the staff member was unable to elaborate on this procedure other than to tell the Fellow that this was considered their best wine that was made using Prosecco.

Destination 5: Sorelle Bronca

Contacts: A winemaker plus two other staff members

Objective: Investigate winemaking techniques used in the making of Prosecco.

Outcome: The Sorelle Bronca vineyards are situated in the hills of Valdobbiadene in a small area known as Colbertaldo. All the vineyards are south facing, maximising the sunlight throughout the day to assist in the ripening process. Soils on this site have quite a thin layer of top soil which is quite porous in structure. It sits on limestone and clay known as marl. One of the staff explained that it was this type of soil structure that was important in the aromatics of their wines. The rows were approximately one metre apart, however in various places were wide enough for two people to pass. This row spacing was mainly attributed to the terrain and all vineyard management was carried out manually. As with the vines at Colesel, Sorelle Bronca use the traditional trellising system.



Soil at Sorelle Bronca

The International Experience

The Vinification Process: The Fellow found there was a lot of emphasis placed on the flavour of the fruit prior to harvest. The winemaker aimed to have a brix reading of approximately 18 at harvest and an acid level of 8-9 g/L, which was much higher than most other producers.

As with most of the smaller producers, the grapes are hand picked into 20kg containers to prevent any damage to the fruit prior to pressing.

When the fruit arrives at the winery they place dry ice on it, and then prior to loading the press dry ice is put in, to protect the fruit at all times. After pressing, the juice is clarified and then the winemaker determines what portion of juice will be kept for use in assisting to start the second ferment. This juice is then micro filtered and held at -2° C without sulphur, until it is required.

The primary ferment then commences. The winemaker holds the primary ferment at 16° C – no higher – so as to ensure delicate flavours in the finished product. He stops the ferment at the sugar level point that he wants in the finished product. At this point the wine is then racked and filtered and prepared for the second ferment. If the wine is not required for market it is held and only undergoes the secondary ferment process when they are ready to release it.

The secondary ferment is started using juice they have held in a tank. The reason the winemaker uses the juice is because he believes it gives a better finished product that has better balanced residual sugar within the finished wine. The winemaker likes to maintain a slow controlled second ferment which can take as long as one month to six weeks. The winemaker stated that this assists in developing the soft, creamy persistent bubbles in the Prosecco. This ferment is done at no higher than 16° C. It is at the completion of the second ferment that he undertakes all stabilisation processes – both protein and cold stability. In the finished wines the winemaker likes to have a free sulphur dioxide (FSO₂) of 25-35ppm and a total sulphur dioxide of 70-90ppm.

If at any point in the primary or secondary fermentation process there is a problem, such as stuck ferment or development of sulphide characters, the winemaker will, in the case of the stuck ferment, rack the wine and restart the ferment. In the case of sulphides during the second ferment, he will again rack the wine under pressure and then make a copper addition to correct the problem. However, the winemaker believes that the use of copper in the vineyard assists in minimising sulphide development in fermentations.

It was here at Sorelle Bronca that the Fellow came across a wine called Patricella 68 which was made from the method where juice was fermented immediately in a pressurised tank with the use of one fermentation process only. This process seems to produce a wine that is a lot fresher and crisper on the palate. The level of intensity of fruit on the palate, especially the citrus characters, is increased. This process seems to be relatively new in the winemaking techniques used.

One of the staff explained that they have only been making wine using this method for five years. The Fellow feels that further time needs to be devoted to this aspect of making Prosecco and will continue to liaise with winemakers in the region to increase his knowledge on this method further.

The International Experience

Destination 6: Vettori

Contact: Prosecco producer Arturo Vettori

Objective: Investigate Prosecco winemaking with Vettori

Outcome: Up until this point the Fellow had encountered wineries that had numerous tanks and equipment to be used in the making of Prosecco. However, while Vettori is regarded as a maker of good quality Prosecco, his operation was on a small scale that would be possible to replicate without a large outlay of capital. His operation included two autoclaves (pressure tanks).

Vettori runs a small operation in which he and his wife complete all work, both in the vineyard and the winery. Vettori's goal is to preserve the work he has completed in the vineyard. When determining the time of harvest he will aim for an acid level between 6.5-7.0 g/L total acid and a pH of around 3.15-3.25. When assessing the fruit he will take into consideration not only the above analysis but also the flavour of the fruit, ensuring it has the crisp, fruit flavour of apple, pear and citrus desired in the finished wine.

Upon harvesting the fruit he then 'whole bunch' presses the fruit and holds this in a tank overnight to clarify, using enzymes at 17-18° C. He clarifies at this temperature because as it is clarifying he prepares a yeast to inoculate the juices after he has racked the wine. Vettori places a lot of importance on the temperature of the ferment to ensure the ferment is healthy and limits the development of any negative characters. He starts his ferments at 17-18° C and allows it to rise as high as 19-20° C and towards the end of the ferment he is happy for the ferment to rise as high as 21° C. Thereby making sure the ferment finishes completely dry and has stayed healthy throughout the ferment. He believes that if the temperature was lowered below 17° C it would cause the ferment to stress and thus the chance of encountering a problem would increase. After the primary ferment is completed he immediately racks the wine so as to prevent the wine developing any yeast characteristics. He wants to maintain clean, floral aromatics and fruit characters. During the first seven days from pressing to completion of the primary ferment, the juice and ferment will be racked as many as five times, but not during ferment unless there is an issue of sulphides. After the first ferment the wine is tested for protein stability, however bentonite is only ever added to a maximum of 10g/hL.

To start the second ferment Vettori uses sugar and allows the ferment to proceed at around 16° C. He uses the same type of yeast as was used for the first ferment and hopes for the wine to ferment approximately 0.2 bar per day. At the desired sugar level Vettori then stops the ferment by chilling the wine and checks the wine for tartrate stability. Vettori then adds sulphur dioxide aiming for 25ppm FSO₂. The wine is then racked and filtered immediately after completion of the second ferment in preparation for bottling.

Destination 7: Bisol – Santo Stefano di Valdobbiadene

Contact: Claire Tonon

Objective: Investigate the winemaking process.

Outcome: Here at Bisol it was observed that the family produced Prosecco with use of the charmat method but were also doing some experimentation with the classic method.

The International Experience

The Vinification Process: The fruit is hand picked and taken to the winery in 18kg containers. Once at the winery the fruit is de-stemmed gently, trying to keep the fruit as intact as possible (Although the Fellow didn't witness this process, it would be interesting to see how the de-stemming was carried out, while still keeping the fruit intact). The fruit is then cold macerated, held at 8° C for 14 hours, which those at Bisol believe enhances the aroma and flavour development. The fruit is then pressed and racked off the lees the following day. The primary ferment is then commenced and undertaken in approximately seven days at 16° C. The ferment is then stopped and allowed to settle for four days before racking of the lees to assist in some structure development. Some of the juice undergoes primary fermentation in barrels to add another dimension to the finished wine. After the completion of the first stage of the fermentation the wines are then blended from the various different vineyards including the barrel-fermented Prosecco, and it is at this point that the winemaker may blend in other varieties such as Verdiso and Pinot bianco in preparation for the secondary ferment.

Bisol was the first winery the Fellow visited that was doing experimentation with a secondary ferment in bottle, which it had done with the 2007 vintage. At the point of the Fellow's visit the wine had not been tasted as they were aiming to age it for five years in bottle before deciding to release it.



Bisol cellar with bottle aging of their first prosecco made using the metodo classico

Destination 8: Carpeno Malvolti – Conegliano

Objective: Discuss winemaking techniques

Outcome – the Vinification Process: At the press the juice is allowed to settle without the use of enzymes as the winemaker believes this produces a wine with more structure.

The primary ferment is done at 18° C and the duration of the ferment is anywhere between 5-15 days. At the completion of the first ferment the wine is protein stabilised and then held until the wine is required for market, at which point the second ferment is completed. The wine is protein stabilised again.

The International Experience

Cold stabilisation may take place after either the first or second fermentation. The secondary ferment can take as long as one month to six weeks, aiming to develop 0.2 bar pressure per day. During the secondary ferment the circulation pump on the tank is used twice a day – morning and afternoon – for around 20 to 30 minutes, and if the ferment is sluggish the winemaker will use the circulation pump more often to promote the ferment before having to try and restart. Once the secondary ferment is finished the wine is then passed through a centrifuge to clarify and chill in preparation for bottling.

Destination 9: Spagnol

Contacts: Marco Spagnol, Stefano Spagnol and Andrea Miotto

Objective: Investigate differences between the areas of Valdobbiadene and Conegliano.

Outcome: Spagnol has separate vineyards in both of the above areas. Marco says the Conegliano area has a quite fertile terrain. Valdobbiadene has a terrain which is a lot more diverse and the soils are less fertile. The vineyards are older in this area.

Another point of difference between these areas is that in the Conegliano replanting of vineyards occurs. This changes the structures of the wines from each of these areas. In Valdobbiadene the wines tend to have greater aromatics, minerality and higher acid levels; in the Conegliano area the wines produced have a broader palate structure and higher sugar levels.

In their older vineyards in Valdobbidene they grow Balbi (a Prosecco variety). The vineyards of Conegliano are planted with a clone of the Balbi known as ISV-ESAV 19, which Marco says is the best clone of Prosecco available. It ripens well, arriving at good sugar levels early and develops more aromatics and flavours than other clones of Prosecco. This is regardless of whether the vineyard is in Valdobbiadene or Conegliano.

The Vinification Process: When determining harvest times Stefano looks to have an acid level of approximately 7g/L and a pH of 3.10-3.20. Stefano uses slightly different methods throughout the winemaking process at Spagnol. Once he receives the fruit, which is hand picked, he axil feeds this into the press as it is quicker and more cost effective. After the first ferment is completed, he leaves the wine on lees for up to three months to assist in structure development and at this point may add up to 5% of Chardonnay to give structure and complexity.

At this point the wine is protein stabilised with the addition of 10-15g/hL of bentonite. After the wine is racked off the lees, it is then put through the secondary fermentation which takes anywhere from four to six weeks and is then again allowed to stay on lees in the autoclave for three to four months. Stefano uses a combination of both must and sugar to restart the ferment. At this point the wine is cold stabilised.

The Fellow asked Stefano and Andrea about making Prosecco using a single ferment with the juice immediately in the autoclave and what their thoughts on this were. Stefano mentioned that he felt wines made using this method had good upfront fruit, however they lacked palate structure and had no real life beyond 12 months. Andrea concurred with Stefano on this saying that because the wine has only undergone one fermentation it was devoid of structure. Although it had good aromatics initially, they disappeared quite quickly. Both believe it is important for Prosecco to go through a secondary fermentation to assist in giving it greater structure.

The International Experience

Destination 10: Masottina – San Fior

Objective: Investigate winemaking

Outcome – the Vinification Process: At harvest the fruit is approximately 16-18 brix with an acid level around 7g/L and a pH of 3.10-3.20. When the fruit arrives at the vineyard it is put through a crusher de-stemmer and feed into the press. It is pressed and held at 10° C for 24 hours with 2g/hL of enzyme used to assist in clarification.

The ferment is started with an introduced yeast and the temperature is monitored over three phases. The first phase is at 18-20° C, the second phase is at 16-18° C and the third phase is at 18-20° C. After the first fermentation the wine is held on lees for up to four months to give it more structure, with a close eye on making sure the wine doesn't start malolactic fermentation. If it does it is immediately taken off lees and filtered.

After the four months on lees the wine is tested for protein stability and an addition of bentonite is applied, however this is never greater than 10g/hL. During this time prior to the secondary ferment the winemaker may choose to blend other varieties with the Prosecco – these may include Pinot bianco, Pinot grigio and Chardonnay. At this point the secondary ferment is commenced in an autoclave. This may be done using up to 30% juice, depending on the discretion of the winemaker.

The winemaker at Masottina tries to have a slow secondary ferment, between four to six weeks, after which point he stops the ferment at the desired sugar level and bar, clarifies the wine and makes an addition of sulphur dioxide, trying to have a level no higher than 25ppm FSO₂.

The style of Prosecco Masottina focuses on is the extra dry in the spumante style, which has a residual sugar level between 12-20g/L.

Destination 11: Experimental Institute of Viticulture

Contact: Dottore Diego Tomasi

Objective: Investigate the Prosecco grape from a viticultural viewpoint.

Outcome: During the Fellow's time spent with Tomasi, he made it quite clear that each time the Fellow referred to the variety as Prosecco, Tomasi would correct him, saying that the variety is not called Prosecco. In fact, it is either one of two varieties, the first being Balbi, named after the Count Balbi (also known as Prosecco tondo), which has within it five separate clones. The other is Prosecco lungo or Prosecco lungo segat, which also has within its family five separate clones.

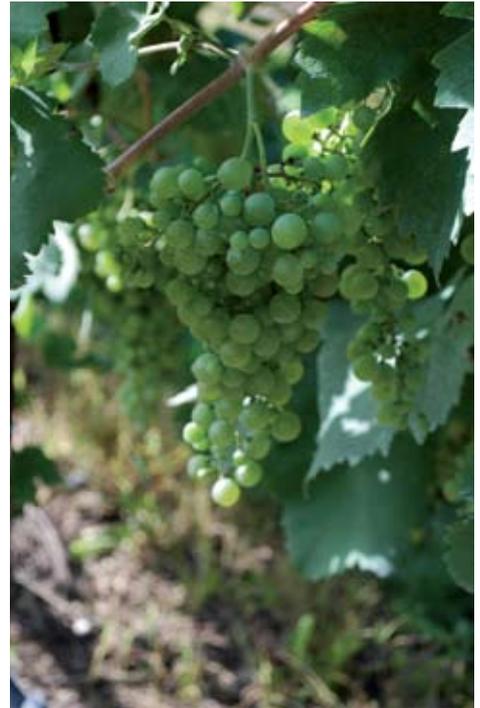
The Balbi or Prosecco tondo has round berries and is quite aromatic with flavours of crisp apple, pears and citrus when it is ripe. Whereas Prosecco lungo has the characteristic of being able to ripen well during most seasons and is used to increase sugar levels in the Prosecco tondo in years when it has been difficult to get fruit ripe. Within the Balbi family is the clone ISV-ESAV 19, which Tomasi stated as being the best clone, whether it be in the hills around Valdobbiadene or in the lower areas of Conegliano. This clone not only allows for good development of aromatics but is also able to ripen quite well each year.

The following pages show photos of the two different varieties.

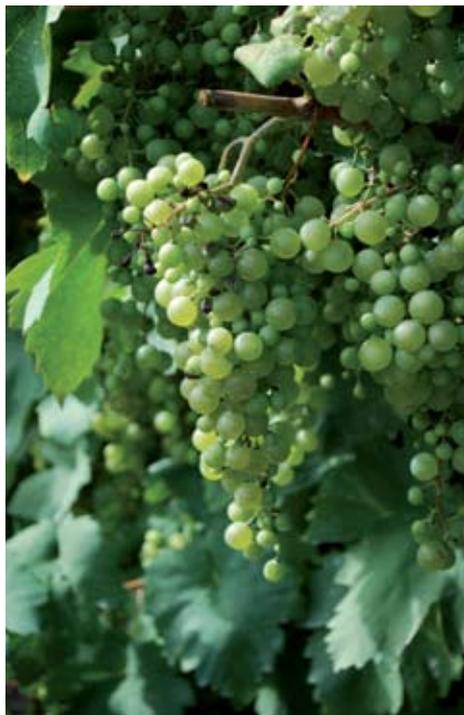
The International Experience



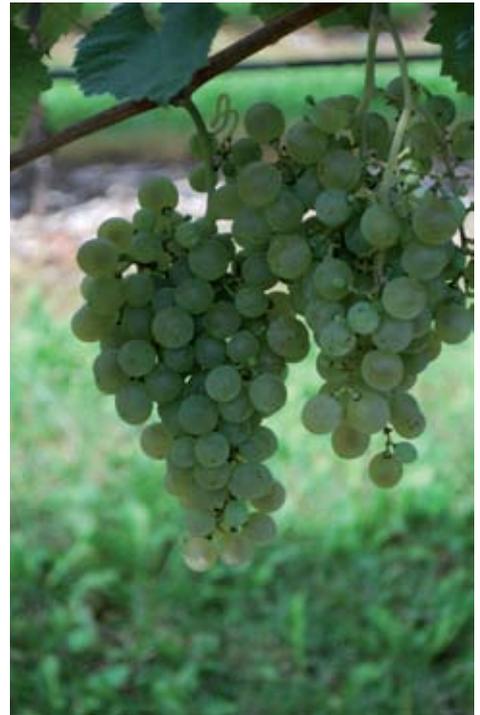
Prosecco tondo (Balbi)



Prosecco tondo (Balbi)



Prosecco tondo (Balbi)



Prosecco lungo segat

The International Experience



Prosecco lungo segat



Prosecco lungo segat

Trellising

Trellising varies according to the type of terrain. For instance, in the hills of Valdobbiadene where the vineyards are quite old and the terrain is quite steep, they use the traditional training and pruning method (as shown in the photos of the Colesel vineyards in the Cartizze zone).

In the newer vineyards different types of trellising are used. These include:

- The Sylvoz method, which is used in heavy fertile soils
- Double Capovolto, which is used in leaner less fertile soils
- The Guyot method, used in more recent vineyards



Sylvoz Trellising: used in more fertile soils.



Doppio Capovolto: used in soils which are less fertile.



Guyot Method: which has been used more recently

The International Experience

Terrain also forms an important part of flavour development with Prosecco. Dottore Diego Tomasi mentioned that the fruit from the hills of Valdobbiadene, where the soils are leaner, tended to be more aromatic and had more delicate, fresher flavours. Whereas the flavours of fruit from the lower areas of Conegliano, where soils tended to be heavier and more fertile, tended to be of ripe fruit.

Summary of Knowledge Gained

Vineyard

The most aromatic and intense flavour comes from fruit on the south facing slopes of Valdobbiadene. Aromatics include citrus and mountain flowers with lemon and lime on the palate. Down on the plains or more rolling hills of Conegliano, the wines tend to have a little more alcohol, are higher in sugar and the grapes ripen earlier.

Gravelly soils in the Valdobbiadene area produce higher aromatics than fruit from the same area from heavier soils. They lack the same intensity that is evident in the gravelly soils, but can be used to add broadness to the palate. As for viticulture, this varied from vineyard to vineyard and, as in Australia, some vineyards that had been neglected had disease, whereas others, considering a tough year, had very sound fruit.

Harvest focused on flavour with a strong emphasis on the level of acidity, trying to make sure it was between 5.8-7g/L, always mindful of aromatics. Row width depended on terrain, this could range from 0.6 metres in the hills of Valdobbiadene (planted this way due to terrain and history, ie using a lot of manual labour which is still the case now) to 2.4 metres in the Conegliano area, where most new plantings are all done to allow work with machinery. The aspects were south facing to try and maximise the sunlight hours, as the variety has a slow ripening process, considering it is a sparkling variety.

At this point in time Italians are trying to change the product positioning regarding Prosecco, positioning it as a wine style different to that which has been sold in the past. Their approach is changing, in that they believe Prosecco is the style and there are two families or varieties (as already mentioned) which each hold a number of different clones. These are as follows.

1. Balbi – finesse and structure

Clone ID	Zone of Origin	Productivity
ISV-ESAV 10	Solighetto	High
ISV-ESAV 14	Stefano Di Valdobbiadene	Medium
ISV-ESAV 19	Collagu di Farra Di Soligo	High
FEDIT 8 CGS	Colli Euganei	High
VCR 101	San Pietro di Feletto	Medium

The International Experience



Prosecco tondo (Balbi)

2. Segat – ripeness used in varying levels depending on the year and how ripe the Balbi variety gets

Clone ID	Zone of Origin	Productivity
VCR 40	Mas di Vittorio Veneto	Medium
VCR 50	Vittorio Veneto	High
VCR 90	Vittorio Veneto	High
ISV 2	Mas di Vittorio Veneto	Medium
ISV 3	Susegana	High



Prosecco lungo segat



Prosecco lungo segat

The International Experience

Each of the two families mentioned have a number of clones within them (as shown in the previous tables) which are quite similar. However, there are enough differences for them to be considered different clones. Thus they are different varieties in their own right. The bunch differences between Balbi and Segat vary in size.

Harvesting Prosecco occurs around 18 brix – this ensures there is enough natural acidity, which is critical in the lifting of the floral and citrus characters natural in Prosecco.

Listed below are the rootstocks that are commonly used:

1. Cobar: vigorous
2. SO₄: not vigorous, but has trouble with take up of magnesium
3. 1103: very vigorous

Winemaking

In Italy the Prosecco are generally hand-picked and placed into boxes of approximately 18-20kg. They are not put into large bins as per the procedure in Australia. This practice helps prevent the berries from crushing and the juice from oxidising.

Depending on the winemaker, there was little to no use of enzymes. Juice tended to be settled overnight or for 24 hours at 4° C. Juice was then racked and filtered. The first ferment commenced at approximately 18-20° C, then the temperature was dropped to between 16-18° C and left at this temperature for around a third of the ferment. The temperature was then lowered to below 16° C until near completion. It was then allowed to raise above 18° C for the ferment to finish off. Once the wine was finished it was then chilled to zero. 25ppm of sulphur was added and the wine was settled, racked and earth filtered. Then, depending on requirements, the second ferment commenced or the wine was held at zero, after being filtered to 0.4 micron until such time as the wine was required.

Also depending on the winemaker, at the completion of the first ferment, wine was protein tested to see the level of instability. If required, bentonite was added at a level of no greater than 10g/hL, 100ppm. The use of bentonite is one area that creates changes in the winemaking process. The Fellow found those that were closer to Valdobbiadene tended not to use any bentonite at all – they stated it stripped too many flavours and aromatics from the wine and inhibited the development of the bubbles.

While meeting with the winemakers the Fellow found that a few had been experimenting with carrying out the first ferment immediately in the autoclave. This would occur after the wine had been filtered at 0.4 micron. They would leave the valve open on the autoclave, thus allowing CO₂ to be released until they got to the last phase of the ferment, then closed the valve, allowing pressure to build. This resulted in a wine that was a little more intense in primary fruit characteristics, however, the Fellow was informed that the wine would not last. It was a style to be consumed immediately.

There is a need for further research on this experimental process as the winemakers were still experimenting, leaving the Fellow with more questions than answers.

The International Experience

Another practice noted was fermenting grape juice to approx 10% alcohol. For the final part the autoclave was closed and allowed to finish fermenting. One percent of alcohol was equal to 5 bar pressure.

The winemakers placed enormous weight on the level of acid that is in the fruit when it is harvested, as it is critical to the aromatics of the wine. Fermentation is stopped by the rapid drop in temperature, rather than the use of bentonite and sulphur. The reason being is that the proteins in the wine help develop the fine persistent bubbles, or mousse, as it is often described.

Knowledge Transfer: Applying the Outcomes

Since completing the overseas study tour, the Fellow has made himself available to the general winemaking industry, the AgriFood Industry Skills Council, industry bodies and educational institutions, for the sharing of the skills, knowledge and insights he has learned during the Fellowship.

Vineyard

Through the knowledge gained, the Fellow has a greater understanding of selection of sites for future plantings of Prosecco.

In speaking to viticulturalists and winemakers it has become evident that the clones that are available in Australia are satisfactory, however, there is another clone available that is considered superior in that it develops more aromatics and structure than all other clones. This clone would need to be introduced with the assistance of nurseries that specialise in importing alternative varieties, and is a project that should be undertaken immediately.

Canopy management that is currently being used on the Dal Zotto vineyard has been confirmed as being best practice and in line with the canopy management undertaken in the Italian Prosecco region. This can be transferred to future growers with confidence.

The assessment of fruit prior to harvest, to ensure it is harvested when it has developed optimum aromatic and flavour characteristics, is carried out by tasting and analysing the fruit and is being actioned on an annual basis as the fruit matures.

Winemaking

The discovery that the Italian winemakers in the region were fermenting Prosecco in the pressurised tanks from the juice stage immediately into a sparkling wine is an aspect of the journey that the Fellow would like to pursue further.

This is a style of Prosecco the Fellow would like to undertake in a future vintage and will be carried out through gaining increased knowledge from the contacts made during the Fellowship. This could also be achieved by bringing an Italian winemaker to the King Valley to assist in this process.

The Fellow's learning reinforced the knowledge that different clones influence flavour and that certain clones assist in aromatics and flavour, whereas other clones provide more palate structure. This demonstrated the need to import various clones to assist in the making of a complete wine. Once again this is a process that can be undertaken immediately through the assistance of a nursery.

It was reinforced that the process used to make Prosecco was the charmat winemaking process. In fact approximately 99% of all Prosecco was made using this method. The Fellow witnessed only one winery undertaking a trial with the metodo classico, who were aging the wine for five years before release. The charmat process is a method the Dal Zotto family has just started to use and the release of the 2008 vintage was the first wine using this method. However, with developed knowledge through the viticultural and winemaking processes, the wine can be made to further reflect what is considered Prosecco.

Knowledge Transfer: Applying the Outcomes

Marketing and Sales

A major point observed was that regions of Italy focussed on one particular variety, which helps to reinforce that the King Valley is strategically positioning itself as a producer of alternative varieties and, more so, as a producer of Italian varietals.

Wineries in particular, focus on being known for one product and may produce other varieties. It is an aspect of the journey that the Fellow would like to implement this strategy in the Dal Zotto family business. It needs to be stated that the first step of this strategy is already being put into action at the Dal Zotto winery, via the recent release of two styles of Prosecco one being the charmat and the other the metodo classico.

Recommendations

Government

Through the assistance of Austrade there could be a growth in the marketing of Prosecco, particularly in Asia. As there are many hurdles to overcome when developing overseas markets, the expertise held within Austrade would be most beneficial in developing these future markets.

Wine Industry

The Fellow proposes to involve wine industry journals by forwarding articles for publication to spread knowledge about Prosecco, which could benefit future growers.

Media

With the growing interest in Prosecco the Fellow is able to provide knowledge gained to journalists in all media so as to help develop a greater understanding of Prosecco.

Professional Associations

Through the Fellowship report, the Fellow proposes to distribute knowledge of Prosecco with those wineries starting to grow Prosecco.

Using the knowledge gained, the Fellow proposes to work with sommeliers (wine stewards) in helping to promote the variety within the Food and Wine Industry in Australia.

Community

Through the Dal Zotto family newsletter, the journey and the Fellowship undertaken by Dal Zotto will be shared with a large database of people across Australia who are passionate about Italian varieties.

ISS Institute

ISS Institute can assist in providing continued support to other Fellowships in related areas, to build on the findings and the knowledge gained in this Fellowship. This will thus broaden the knowledge to further develop the expertise in the charmat winemaking processes. This could also be achieved by bringing an Italian winemaker to Australia to conduct master classes in this field.

References

Australian Wine Industry Information and Statistics

<http://www.wineaustralia.com/australia/>

<http://www.gwrdc.com.au/>

<https://www.awbc.com.au/winefacts/data/default.asp>

Attachments

List of questions asked during the Fellowship Program

Winemaking

- What are the processing times?
- Is gas vented off, and if so how?
- What is done in the tank?
- Are ferments stopped or are they allowed to ferment to completion and then add sugar?
- If sugar is added at completion, how is this done?
- If they are stopped how is this decided?
- What methods are used to stop the ferments?
- In relation to stabilising the wines at what point of the process is this done, eg, protein stab, cold stab? Is bentonite used and at what point?
- How is the juice clarified?
- If there is a problem with the ferment eg H₂S, what is done to rectify this or what may be done to prevent this?
- How are additions made once in pressurised vessel? Are there certain stages that additions can and can't be made?
- Secondary ferment is finished, how is it racked off the lees, how long is it left on lees before racking?
- What is the timeline for racking – filtration – bottling?
- Is the palate structure looked at when determining time on lees?
- How are carbonation levels determined?
- What are the main issues through the whole process?
- Post ferment: stop ferment, rack filter bottle? OR stop ferment, rack, hold, make adjustments, filter and bottle?
- What are the requirements for setup on a small scale?
- Do different winemaking techniques determine price point, are there other factors eg vineyard location?
- What is blended with Prosecco, what levels and why?
- How do you work cooperatively?
- What, if any, are the perceived quality differences between method champenoise and charmat?
- Do you use solely cork or have you considered crown seal?
- Do tasting trials between the two methods show great differences?
- What are the long term aging characteristics of Prosecco?
- What are your quality parameters?
- What are the pH, acid and sugar levels at harvesting?

Vineyard

- How is harvesting determined?
- What pruning techniques are used?
- What trellising systems are used?
- Are different trellising systems used in relation to the type of end product being made?
- What Prosecco clones exist?
- Do different rootstocks give different flavours?
- How does soil structure influence flavour?
- How do the different clones differ in flavour?