

EVALUATION OF AGRI-FOOD SUSTAINABILITY CERTIFICATION SYSTEMS



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EXECUTIVE SUMMARY

The sustainable sourcing of agricultural products is becoming increasingly important for retailers and beverage and food manufacturers. Sustainability programs are also being used by retailers as a competitive advantage, source of innovation, differentiation and as a tool to improve business efficiencies. As a consequence, farmers will need to turn their attention to on farm sustainability in order to maintain market position.

The purposes of this project were to describe observed trends in sustainability certification and anticipated future sustainability trends, with a focus on horticultural products. The objectives of the project were a) to understand the trends in sustainability standards and anticipated future sustainability standards in the Ontario/Canadian and European markets and b) to consult with Ontario farmers to discuss potential approaches for sustainability verification.

While there is much discussion about sustainability and the three pillars of environmental, social and economic sustainability, there is still a lot of confusion surrounding what exactly these three pillars mean and how they could be addressed simultaneously. Observed sustainability initiatives range in the extent to which they are prescriptive regarding farm practices, and most target environmental sustainability. To a large extent, the observed initiatives include a certification element. However there is little evidence of follow up measurement to indicate the impact of these initiatives on the three pillars of sustainability.

There are many programs and initiatives observed in Germany and the United Kingdom that guide sustainability. The increasing focus of the European Union's Common Agricultural Policy (CAP) on greening/cross-compliance measures of farm programs is an important facilitator of this, but retailer/processor initiatives and sourcing requirements appear to be the bigger influence. To a large extent, this combined with other factors has led farmers toward organic certification; although this has not met organic targets. Farm sustainability initiatives outside of organic production have experienced challenges through low rates of adoption, as farmers see adoption as onerous and expensive.

Canadian sustainability initiatives have thus far been voluntary responses to marketplace demands or proactive anticipation of future market demands. There has not existed an agricultural policy cross-compliance tradition as in Europe, and where cross-compliance is observed in reference to the Environmental Farm Plan (EFP), it is voluntary. Instead, sustainability initiatives in Canada are developing in a similar manner to food safety as a consideration 15 years ago, which resulted in a national umbrella standard for fruit and vegetable growers (CanadaGAP). To date, most of the work in Canada appears to have focused on sustainability measures rather than certification.

Given where Ontario horticulture is today, it appears that there is still an opportunity to be proactive on sustainability certification. The main concerns of producers are compliance costs and the possibility that stakeholders demand a number of different sustainability requirements. The principal means of mitigating this is to build upon existing platforms that producers have already incorporated. These may exist in the form of the EFP and CanadaGAP.

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1 INTRODUCTION

Food and beverage manufacturers are involved in a number of food safety and sustainability initiatives and schemes. For example, Unilever intends to source 50 percent of its agricultural inputs sustainably by 2015, and 100 percent by 2020 (Unilever, 2011). Some schemes are required in order for producers to supply retailers and manufacturers, while a number of retailers have developed their own standards. This influence is likely to increase and Canadian agri-food producers will have to respond.

Agricultural sustainability can be thought of as comprised of three components: social, economic and environmental sustainability (Hayati et al, 2011), which take into account the multifunctional nature of agriculture. There is still a lot of confusion surrounding exactly what these three pillars mean and how they could be addressed simultaneously. Expressed in very general terms, the goal of the economic pillar is to ensure the economic viability of farming systems at the local farm level. The social pillar is about the social relationships between farmers and rural communities and the environmental pillar addresses the preservation of environmental resources (SAI Platform, 2013).

These pillars can be addressed with a number of different indicators. However, many indicators in sustainability programs fail to account for the interactions and interdependencies between the three components. Using a number of indicators, most of the major sustainability standards capture each of these goals, but they vary significantly with regards to weighting of these goals (Giovannucci and Potts, 2008; Hayati et al, 2011). Intertwined sustainability problems are hard to capture with these three pillars. Often, the assumption is made that sustainability is about balancing these factors. However, this may result in trade-offs that do not satisfy all stakeholders.

If relatively few producers are equipped to provide sustainability certification, supplier relationships will need to be managed much more like strategic alliances than simple purchasing agreements. Unless producers are engaged effectively, sustainability initiatives promoted by processors and retailers could end up being a new market access barrier to farmers, which in turn could create social liabilities for processors and retailers, and ultimately limit the availability of sustainably produced product.

As suppliers to food retail, farmers will increasingly need to turn their attention to on-farm sustainability in order to maintain market position or gain entry to new markets. The Ontario Fruit & Vegetable Growers' Association (OFVGA) requires information and knowledge in order to review and interpret existing sustainability programs around the globe and to assess the suitability of these programs as it works with farmers and their customers on appropriate sustainability initiatives.

1.1 PURPOSE AND ORGANISATION

The purposes of this project are to describe observed trends in sustainability certification and the anticipated future sustainability trends with a focus on horticultural products. The objectives of the project are a) to understand the trends in sustainability standards and anticipated future sustainability standards in the Ontario/Canadian market and European market and b) to consult with farmers to discuss potential approaches for sustainability verification.

The report begins with an overview of the European market demand for sustainability certification. It then proceeds to provide an overview of initiatives by Canadian commodity groups. Throughout the paper a number of sustainability programs and certification systems are discussed. This report focusses mainly on programs and initiatives that certify sustainable production practices and have a horticultural

component. A brief summary of each program is provided in the Appendix. At the end of the report recommendations on next steps are provided.

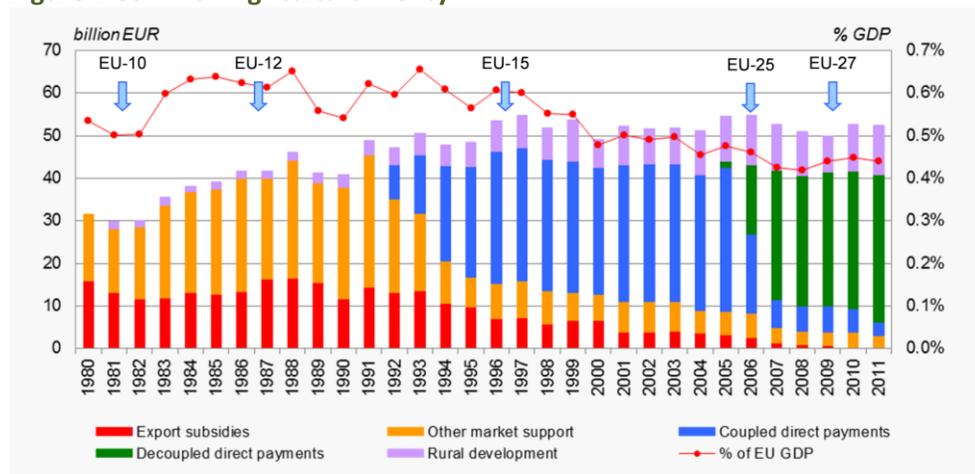
2 SUSTAINABILITY TRENDS IN EUROPEAN AGRICULTURE

The European agri-food sector has long been recognized as emphasizing the connection of farm and food marketing to the three pillars of sustainability. This section provides an overview of how this has occurred, drawing on Germany and the United Kingdom as specific examples.

2.1 COMMON AGRICULTURAL POLICY

The external policy environment influences the demand for environmental sustainability measures. The European Union’s (EU) Common Agricultural Policy (CAP) has undergone significant evolution since its inception. The history of the CAP in terms of the budgetary allocation is shown in the Figure 1. The subsidies to the agricultural sector as a percentage of EU Gross Domestic Product (GDP) have decreased significantly over time, and the structure of these subsidies has shifted. The column to note is decoupled payments (green blocks), which have largely taken over from coupled market support. Decoupled payments do not influence production patterns and these payments are dependent on cross-compliance¹ (Jambor and Harvey 2010). It also should be noted that budget spending overall has been decreasing over the past 20 years, from almost 75 percent of the total EU budget to about 45 percent. As a result of the addition of new EU member states, the extent of support per head and per hectare has declined substantially (Jambor and Harvey 2010). Since 1992, agri-environment measures (AEM) have been a part of the CAP and cross-compliance became mandatory for producers receiving program payments as of 2005, replacing previous voluntary measures.

Figure 1 Common Agricultural Policy



Source: European Commission, 2013

¹ Cross-compliance refers to producers meeting the minimum statutory management requirements and maintaining good agricultural and environmental conditions. To receive payments such as price supports and whole farm payments, producers must meet these minimum cross compliance standards. The penalties for failure to comply through negligence are a 5 percent reduction in direct payments, with up to a 15 percent reduction for repeated failure to comply. If compliance failure is deemed intentional then producer payments are deducted anywhere from 15-100 percent (Baylis et al. 2008).

The European Commission is in the process of finalizing the CAP reform. The key word, when it comes to environmental sustainability, for this reform is the “greening” of Pillar 1. Greening “refers to the further enhancement of the environmental sustainability of farming in the European Union” (European Commission 2013a). Greening requirements of Pillar 1 of the reform are that 30% of the national ceiling for direct payments is paid to farmers on the condition that they fulfill certain mandatory measures such as:

- the maintenance of permanent pastures
- crop diversification: cultivation of at least three crops on arable land with no one crop accounting for more than 70%, and the others at least 5% of arable land
- set aside area (“ecological focus areas”) of at least 7% of farmland i.e. landscape features, land left fallow, buffer strips and afforested areas.

While the further “greening” of the CAP may not directly increase the demand for agricultural sustainability certification, more emphasis will be placed on sustainable practices and it puts the farm sector in a position that is more amenable to marketing under sustainability rules. It remains an open question whether these sustainability requirements will be demanded by EU importers. EU imports are already required to comply with the EU Renewable Energy Directive for biomass sustainability certification.

2.1.1 BIOFUELS

Biomass sustainability certification is based on the EU Renewable Energy Directive 2009/28/EC (RED, which stipulates that only certified sustainable biofuels are eligible for biofuel use mandates (USDA, 2011). Since 2011, the Biomass Electricity-Sustainability Ordinance and the Biofuels Sustainability Ordinance are in effect in Germany.

In Germany, two major certification systems currently acknowledged: RedCert and ISCC (International Sustainability and Carbon Certification). The main burden to comply with the directive falls on participants further down the chain, the “first enterer” (distributors). Farms have to sign a self-declaration and prove that their products have not been harvested from areas that were converted from sensitive areas into crop land after January 1, 2008 (USDA, 2011). Under RedCert, generally, farmers do not incur a cost to comply. Five percent of farms delivering to a “first enterer” in the biofuel supply chain will get audited; audit costs may range 150 to 500 Euros depending on the certification body. However, these costs are incurred by the first enterer (USDA, 2011). There are costs to farmers if the farmer actually did convert sensitive land into crop land after 2008, as these crops have to be kept separate from the certified crops.

However, the ISCC certification is more stringent. ADM (Archer Daniels Midland Company), which prefers ISCC, has staff check with farmers about their environmental practices. In the UK, ADM also accepts LEAF as an environmental sustainability certification. Upcoming is ISO 13065, which is a new process standard that will specify sustainability criteria, principles and practices for biofuels. It is expected to be published in 2015. However, it is not a certification system (Nordstroem, 2013). The next section will provide a more in depth look into the agri-food markets in Germany and UK.

2.2 GERMANY

Germany's farm structure is very diverse. Farms in the eastern part of Germany are generally larger than in the western part. For example, in 2009/10 the average farm size in Bavaria (western Germany) was 44.5 ha and in Saxony-Anhalt (in eastern Germany) was 232.4 ha (BMELV, 2011). Direct payments farmers receive depend on the size of their farm, as payments are paid out on a per hectare basis. For example, in Bavaria the average payment in Euros/farm was 15,768 and in Saxony-Anhalt 75,262.

Organic Agriculture

Organic agri-food products play a significant role in the German market. Germany has one of the largest markets in Europe for organic food and beverage products, which accounted for about US\$9 billion in 2009 (AAFC, 2011). Organic farming has increased from 3.2 percent of total farmland in 2000 to 6.2 percent in 2012 (subject to the inspection system prescribed by the EU legislation on organic farming (Regulation (EC) No 834/2007) (DeStatis, 2013).

Organic agriculture has been supported with public funds since 1989. The BSE crisis and other food scandals, caused an "organic boom" in Germany. An official organic seal was introduced in 2001. The goal was to increase the area certified for organic production to 20 percent by 2010. This goal is still in place, however the time reference has been removed. According to Nieberg et al. (2013), annually 1.4 percent of organic farms leave the market and 3.3 percent convert back to conventional agriculture. The main reason is the lack of additional income, as prices for organic products and subsidies are not high enough to compensate for the higher costs of organic production. Other reasons are the opportunity costs to comply with regulations and other production based issues.

Farm Certification Programs

There are currently three full farm sustainability certification schemes available: DLG (Deutsche Landwirtschafts Gesellschaft) sustainability certificate, Criteria for sustainable farming (KSNL) and Eco-Audit and Management Scheme (EMAS). Sustainability indicators are at the core of the DLG sustainability certificate and KSNL.

DLG

The sustainability certificate program has been in place since 2008 and certifies environmental, social and economic sustainability on German and Austrian farms. GlobalG.A.P. certification is accepted to fulfill food safety requirements. The audit takes the past three years of farm data into consideration. Specific indicators are investigated (see appendix). Every indicator is assessed on a scale from 0 to 1, where 1 is the best possible outcome. If any of the indicators does not reach the threshold of 0.75, the farm cannot be certified. Indicators are assessed against specific benchmark values. These benchmarks come from the German Ministry of Food, Agriculture and Consumer Protection's farm accountancy data network, which allows benchmarking for all regions against farms in the network. In addition a program called REPRO is used, which calculates environmental sustainability indicators based on individual farm data.

KSNL

Criteria for sustainable farming (KSNL) has been developed by the "Thüringer Landesanstalt fuer Landwirtschaft" (TLL – the agricultural ministry in Thuringia) in 2006. The system includes all three sustainability pillars. Similar to the DLG system, a number of sustainability criteria are used and assessed

using a threshold. The audit takes the past one or three years of farm data into consideration. A separate certification, solely focusing on the environmental aspect is possible. About 30 farms were KSNL certified as of June 2012, for just the environmental portion of the certification over 400 farms were certified (Goedeke and Breitschuh, 2013).

Eco-Audit and Management Scheme (EMAS)

EMAS is based on ISO 14001. It was developed in 1993 by the European Commission. EMAS continues to evolve and is now based on Regulation (EC) No 1221/2009 (EMAS III). Most firms certified in the industry by EMAS can be found in Germany, Italy and Spain.

The EMAS certification and auditing process for farms is extensive. First the farm undergoes an environmental review of direct (e.g. waste, resource consumption, material flow analysis, energy balances) and indirect environmental aspects (e.g. transportation, marketing channels, landscape design). The certification process involves a mix of self-administered questionnaires and the calculation of sustainability indicators. Then, goals to improve the environmental performance will be set and plans will be established. When the audit process is completed the environmental statement of the farm is validated and, if required, the auditor can issue a certification for ISO 14001. The legal entity may use the EMAS logo; however, the logo cannot be placed on products. Hence, a direct link between the end consumer and the producer cannot be established. The uptake of EMAS certification has been low (Spindler, 2013).

Sustainability Program Uptake

The German Farmers Union (Deutscher Bauernverband), which is an umbrella association for 18 farm organizations in Germany (over 90 percent of Germany's approximately 300,000 farms are voluntary members), released a statement in June, 2013 in reference to sustainability certifications for agricultural production. It stated that:

- German agriculture supports the principle of sustainability, which includes the balance of the three pillars: environmental, economic and social sustainability. A sustainable agricultural sector preserves the resources while using them simultaneously.
- Sustainability is not a static but dynamic process. Documentation, certification and standards of sustainability are not just the responsibility of agricultural producers, but for the entire supply chain.
- Given the demands of trading partners and supply chain participants, it is not expected that one all-encompassing sustainability certification system can be found. The activities of the German government with regard to extending the sustainability certification across all agricultural biomass are viewed as critical.
- Good agricultural practices and cross compliance are sufficient for sustainable production. Any additional full sustainability certification of farms does not bring additional gain and is therefore rejected.

The uptake of and demand for agricultural sustainability certification systems is low in Germany. The DLG lists about 23 farms in Germany and two in Austria as being certified. As of June 2012, 20 farms were certified with KSNL and over 400 with the environmental portion of the KSNL certification. The reasons mentioned for low uptake from German supply chain participants consulted were:

- lack of customer demand

- cross compliance and regulations pertaining to animal -, environmental- and consumer protection already incorporate different sustainability aspects
- perceived lack of necessity
- most programs are voluntary
- high costs
- missing/insufficient financial incentives

Germany has a strong agricultural consultant system. The cost savings and production optimization that many sustainability certification systems advertise might also be achieved with the help of a consultant. Nevertheless, some expect that through the current CAP reform and the demand for greening, the role of certification may increase, but will probably be adopted very reluctantly. According to Christen (2013), at this point in time, German farmers acquire a sustainability certification more out of conviction than seeing a true market demand for it. Retailers are very influential in determining the food sustainability agenda in Germany, and as long as the retailers still focus on food safety and quality, environmental and social sustainability certification will remain voluntary.

2.3 UNITED KINGDOM

Farm and food markets in the UK have long demonstrated an interest in sustainability attributes. A 2005 study by the Institute of Grocery Distribution showed the price, taste and sell by date are the primary drivers of food purchasing decisions in the UK (DEFRA, 2006). While these are the primary drivers of consumption decisions, further research (IDG, 2007) shows that consumer concerns about environmental, social and economic sustainability as well as animal welfare are also increasing.

According to the Department of Environment, Food and Rural Affairs (DEFRA) there were 3,913 organic crop producers and 2,743 organic livestock producers in the UK, in 2012 (DEFRA, 2013b). Organic land in the UK reached a peak in 2010 and declined in both 2011 and 2012. Additionally, the land in conversion has also been declining from 149,000 ha in 2008 to 32,000 ha in 2012. Organic acreage makes up just over nine percent of total arable land in the UK.

A 2011 Agriculture and Agri-Food Canada Market Analysis Report (AAFC, 2011) noted that UK consumers have “demonstrated a strong desire for environmental issues to be addressed by both retailers and manufacturers. Increased disposable incomes and greater awareness of issues like climate change mean that consumers are more likely to buy products that benefit the environment and their communities.” The report also notes that despite a turbulent economy due to global recession, sales of ethical products did not decline as much as expected, while organic product sales declined during the same period.

The major UK certification schemes that apply to farm level certification are Red Tractor, LEAF Marque Freedom Foods (animal welfare standards), the organic standard, and Conservation Grade.

LEAF Marque

LEAF (Linking Environment and Farming) Marque is a whole farm certification program that is based on a questionnaire self-assessment, which is audited for certification. LEAF Marque recently became a

member of ISEAL². As of 2012, 937 farms are LEAF Marque certified across 36 countries. LEAF Marque is just one part of LEAF. LEAF is a charitable organization that started in the 1990's in the UK and has demonstration farms and offers management tools to farmers (water management, green box) (Drummond, 2013).

Fruit and vegetable growers delivering to UK food retailer Waitrose must be LEAF Marque certified. Unilever supports LEAF Marque for the certification of oilseeds. ADM accepts oilseeds when they are LEAF Marque certified. LEAF has traditionally focused on environmental sustainability. Additional certifications (such as GlobalG.A.P.) are required for the LEAF certification. In the future, LEAF will also focus on economic sustainability. Since 2012, after agreement was reached between ADM Direct, Unilever and LEAF, LEAF members are being offered an additional £15/t for standard oilseed rape for five years (Farmers Guardian, 2012).

Red Tractor

Red Tractor's standards apply to food safety, animal welfare and environmental protection. As a standard it is equivalent to GlobalG.A.P. The ownership is shared by a number of UK organizations including the National Farmers' Union, the Ulster Farmers' Union, the Agriculture and Horticulture Levy Board, Dairy UK and the British Retail Consortium. Participants are able to use the trademarked Red Tractor logo. The website offers retailers and distributors access to the database of participants for each commodity group. Red Tractor has been under critique in recent years. ADM has preferred LEAF certification over Red Tractor (Farmers Guardian, 2012). In addition, Sainsbury has dropped the Red Tractor logo from its products, stating that too many labels confuse their customers (The Grocer, 2012).

2.4 RETAILER AND MANUFACTURER'S REQUIREMENTS

In general, retailers and food and beverage manufacturers are very active in the development of standards. Already, a number of manufacturers (for example, McCain) follow the Sustainable Agricultural Initiative (SAI - mentioned below) principles. Food and beverage manufacturers are also involved in a number of sustainability dialogues, such as AIM-Progress, The Consumer Goods Forum or the Canadian Agricultural Sustainability dialogue³. Some schemes are required in order for producers to

² ISEAL is a membership organization for sustainability standards and accreditation bodies that comply with ISEAL's "Code of Good Practice" and are striving for continuous improvement. The goals of ISEAL are to improve the impacts, define credibility, and improve the effectiveness and increase the uptake of credible sustainability standards. For example, full members of ISEAL ("high level of compliance with ISEAL's Codes of Good Practice") are FAIRTRADE, Sustainable Agricultural Network and the Marine Stewardship Council; associate members (meeting the baseline criteria of ISEAL's Code of Good Practice) are LEAF and Roundtable on Sustainable Palm Oil, among others. (<http://www.isealalliance.org/about-us>).

- ✓ ³ *AIM-PROGRESS* is a global initiative that establishes a forum of consumer goods manufacturers and suppliers to: "enable and promote responsible sourcing practices and sustainable production systems". Members from the food sector, among others, include Kellogg's, Kraft, McCain, MacDonald's, Nestle, Pepsico, Coca Cola and Unilever (<http://www.aim-progress.com/index.php>)
- ✓ *The Consumer Goods Forum* (CGF) was created in 2009 and is a global member driven industry network. Members are CEOs and senior management of over 400 retailers, manufacturers and service providers across 70 countries. The aim of the CGF is to provide a platform for knowledge exchange and initiatives

supply the retailer, while, some retailers have developed their own standards. The influence of retailers on sustainability standards is likely to increase.

Sodexo is a large multi-national food services and facilities management company based in Issy-les-Moulineaux, France. Certification schemes required of suppliers differ based on country of origin, for example Sodexo uses the Red Tractor certification in the UK (Sodexo, 2013). Sodexo also actively supports LEAF certification (Drummond, 2013). In France, many suppliers are ISO 14001 certified. In the United States, Sodexo uses Food Alliance certified suppliers and United Natural Foods which is certified organic under the National Organic Standard (Unfi, 2013, Sodexo, 2013). Sodexo currently uses Rainforest Alliance and Fair Trade Coffee, though it is not a requirement for suppliers as only 21% of coffee and 42% of tea used by the company are certified by one of these standards. Sodexo is currently working towards sourcing “local seasonal or sustainably grown or raised products” in all of the countries it operates in by 2015 (Sodexo, 2013).

The Co-operative Group is a large consumers’ cooperative based in the UK. The Cooperative Group’s Ethical Operating plan includes elements of on farm sustainability for suppliers. These include banning certain pesticides, shifting to sustainable sources of soy, and sourcing animal products from sources with high levels of animal welfare. The Cooperative Group supports animal welfare schemes such as the Royal Society for the Prevention of Cruelty to Animals (RSPCA) Freedom Food Scheme for premium products as well as setting their own standards for animal welfare. All UK meat and poultry products must meet Red Tractor Farm Assurance Scheme Standards (or equivalent) (Co-operative, 2013). The Cooperative Group uses the Assured Foods Schemes (Red Tractor) for most products, but also uses additional schemes for premium and non-UK products. These include Danish Bacon, Freedom Foods, Organic Standards such as the Soil Association, and LEAF-Linking Environment and Farming (Co-operative, 2013a).

Major retailers in Germany have implemented a number of quality and sustainability assurance schemes and require these from their suppliers. *REWE* is seen as one of the most progressive retailers when it comes to sustainability in Germany’s retail sector. GlobalG.A.P. certifications are required for fruit and vegetable suppliers to REWE (REWE, 2013). Additionally, the following certification schemes are offered: BIO, Naturland organic food), FAIRTRADE (coffee, tea and chocolate), KAT (Association for Controlled Alternative Animal Husbandry), Rainforest Alliance, QS (Quality Scheme for Food) and the REWE developed standard Pro Planet. Edeka, Germany’s largest food retail corporation, partners with WWF (World Wildlife Fund), in the areas of fish, soy and palm oil procurement.

Unilever developed the ‘Sustainable Living Plan’, which addresses social, economic and environmental sustainability issues across the value chain. Unilever’s CEO Paul Polman is the self-identified driver behind the sustainability living plan (The Guardian, 2011). Unilever intends to source 50 percent of its

around the areas: emerging trends; sustainability; safety & health; operational excellence; and knowledge sharing & people development. (<http://www.theconsumergoodsforum.com/about.aspx>)

- ✓ *Canadian Agricultural Sustainability Dialogue*: A number of food companies participated in the Canadian Agricultural Sustainability Dialogue. “The Dialogue” was a national multi-stakeholder initiative, that included retail and consumer products company interests, designed to develop a sustainability approach that builds on existing sustainability programs that provides benefits to key stakeholders along the crop supply chain in Canada. The EFP has been discussed in the Dialogue (Loose, 2013).

agricultural inputs sustainably by 2015 and 100 percent by 2020. As a result of this initiative, suppliers to Unilever have to fill out a sustainability questionnaire, which asks about production practices.

The SAI is a global food industry initiative and a non-profit organization, which was created in 2002 by Nestlé, Unilever and Danone. The platform is spearheaded by the food industry (40 members, 10 affiliates) and has developed Principles and Practices for sustainable agriculture for many primary sectors, including fruits and vegetables. These Principles and Practices were developed through stakeholder roundtables which included input from producers. SAI aims to taking into consideration a number of different “valuable initiatives and concepts”. For example features from both organic and integrated farming if they contribute to sustainable agriculture. The SAI platform is still in development and provides a set of practices and procedures that improve sustainability at the farm level. Sustainability performance assessment is currently being pilot tested (to be published in 2014). SAI principles are already impacting the sustainability standards of processors and manufacturers.

2.5 OBSERVATIONS

There are many programs and initiatives observed in Germany and the UK that guide sustainability. The increasing focus of the CAP on greening/cross-compliance measures of farm programs is an important facilitator of this, but retailer/processor initiatives and sourcing requirements appear to be the bigger influence. To a large extent, this combined with other factors have led farmers toward organic certification; although this has not met organic targets and has seen recent declines. Farm sustainability initiatives outside of organic have experienced challenges through low rates of adoption, as farmers see adoption as onerous and expensive with little added value.

Observed initiatives range in the extent to which they are prescriptive regarding farm practices, and most target environmental sustainability. To a large extent, the observed initiatives include a certification element. However there is little evidence of follow-up measurement to indicate the impact of these initiatives on the three pillars of sustainability.

3 CANADIAN INITIATIVES

Major commodity groups in Canada are aware of sustainability issues. The application of sustainable farming practices is at different stages across sectors of the agriculture industry. The following section provides a brief overview of some of the work being done in Canada on the issue of sustainability.

3.1 “MADE IN CANADA” PROGRAMS

3.1.1 CANADAGAP

CanadaGAP is a Canadian food safety certification program for operations that produce, pack, and store fresh fruits and vegetables. The program began as the *On-Farm Food Safety Guidelines* produced by the Canadian Horticultural Council (CHC) in 2000 and developed, with funding received from AAFC in the context of the Canadian Government Food Safety Recognition Program, into CanadaGAP in 2008.

According to Heather Gale, executive director of CanadaGAP, at the time the food safety program development started, there was a clear market demand for food safety certification. The CHC worked closely with packers, processors and major retailers to establish a national standard. CanadaGAP has received some questions regarding additional sustainability certification, but no definite market pull has

been identified. However, sustainability requests are appearing in a similar pattern to food safety requests about 15 years ago. So far, for most buyers sustainability issues move still in the realms of “nice to have” instead of “must have”. As long as there is no widespread request from program users and their customers to include environmental, social and economic sustainability issues into CanadaGAP, it will remain, for now, focused on food safety.

3.1.2 WINE COUNCIL OF ONTARIO AND GRAPE GROWERS OF ONTARIO

Ontario’s grape growers are responding to sustainability requests from consumers. The Wine Council of Ontario (WCO) released “Sustainable Winemaking Ontario: An Environmental Charter for the Wine Industry” in 2007. The program won a Minister’s Award for Environmental Excellence from the Ministry of Environment in 2011. The goals of Sustainable Winemaking Ontario are to:

- improve the environmental performance of the wine industry in Ontario
- continually improve the quality of wine growing and winemaking in an environmentally responsive manner
- provide a way to address consumer and resident questions in relation to the environment and the wine industry
- add value to the wine industry in Ontario

The Wine Council of Ontario provides extensive literature on best practices under Sustainable Winemaking Ontario (Giesbrecht, 2008). The Wine Council of Ontario (WCO) and the Grape Growers of Ontario (GGO) are currently in the process of finalizing a sustainability certification program combining the Sustainable Winemaking Ontario with a viticulture component.

By developing this sustainability certification program, the Wine Council and the Grape Growers of Ontario are responding to requests that wineries have received in recent years from consumers and the Liquor Control Board of Ontario (LCBO) for sustainably produced wine. In 2007, the WCO supported a study from Ryerson University, which found that there is a potential for sustainability eco-labeling in Ontario’s wine industry. A survey conducted with 401 Ontario wine consumers found that, while most consumers did not buy eco-labeled wine, 90 percent of the respondents indicated that they would be willing to do so and pay a premium of an average of \$0.51/bottle. Furthermore, consumers also indicated that they would like to receive additional information about the certification online (Berghoef and Dodds, 2011).

The program is expected to be launched in November 2013. It consists of an online voluntary self-assessment questionnaire, which is based on a scoring system. The questions are weighted; some requirements that have to be fulfilled have a greater weight attached to them. The questions are based on the Ontario Environmental Farm Plan, and existing sustainability certification programs from Oregon, British Columbia and California.

Besides environmental sustainability, the online survey tool focusses on social and economic sustainability. For social responsibility, the assessment asks questions about skills development opportunities, treatment of workers, community relations and light technologies to minimize light pollution. For the economic pillar, questions focus on planning and preparation, such as preparation of a business plan, farm succession, a reviewed demand for different grapes varieties and if financial health is assessed on a regular basis.

For each of the issues, additional links are provided within the questionnaires that help farmers to gain further information. The pass mark is 70 percent. At the end of the questionnaire growers and wineries have the option to indicate if they would like to have an audit conducted by an independent third party for certification.

3.1.3 ENVIRONMENTAL FARM PLAN

The EFP is an educational process and tool, which helps farmers assess areas at risk from agriculturally sourced nutrients on their farms and set priorities to take action (OSCIA, 2013). Initial policies for the Ontario EFP program were developed in 1992 by the Ontario Farm Environmental Coalition, which consisted of four lead agencies: the Ontario Federation of Agriculture, Christian Farmers Federation of Ontario, Ontario Farm Animal Council and Agricultural Groups Concerned About Resources and the Environment (AGCare). Recently, funding for the EFP program has been provided through federal-provincial funding agreements including the Agricultural Policy Framework (2005-2009), Growing Forward (2009-2013) and now through Growing Forward 2 (2013-2018). EFP has been delivered locally by the Ontario Soil and Crop Improvement Association (OSCIA) in partnership with the Ontario Ministry of Agriculture Food (OMAF).

The EFP has achieved success in creating education and awareness of agricultural environmental issues, and material success in on-farm environmental improvements and remediation in Ontario. In recent research conducted by the George Morris Centre (Schmidt *et al.* 2013), producers indicated a willingness to share parts of the EFP that would be relevant to their downstream customers. Manufacturers and retailers could then request specific information from producers and this information could be extracted from their existing EFP and provided to customers in their desired format through an addendum. However, additional work is needed to investigate this option further, including a pilot project.

3.1.4 PULSE CANADA

Pulse Canada has been active in examining the role of pulse crops in improving sustainability in the Canadian agri-food system. To that end, Pulse Canada has been involved in funding three major scoping papers on sustainability in agriculture. The 2010 paper “Measuring What Matters” (Anstey, 2010) brings together the viewpoints of members of the agri-food supply chain as well as government, scientists and non-governmental organizations (NGOs) on the importance of agricultural sustainability. It also describes some of the issues associated with measuring sustainability.

The second paper “Measuring Sustainability” (Pulse Canada, 2011) builds on the previous work and looks at the priorities of the food industry for measuring sustainability in primary agriculture. The 2011 paper, “Applications of Sustainable Agriculture Metrics to Selected Western Canadian Field Crops” (Serecon Management Consulting Inc., 2011), measures Western Canadian wheat, oats, peas, flax, canola and lentils using similar methods similar to those used by the Keystone Alliance (Field To Market, 2012 v2) for measuring U.S. field crops.

In addition, Pulse Canada aims to help consumers and producers understand environmental impacts of farming practices by maintaining a “Science Library” on their website listing relevant papers on topics such as energy use in food production, optimizing nitrogen fixation by legumes, greenhouse gases and water and soil conservation.

3.1.5 GRAINS ROUNDTABLE – SUSTAINABILITY WORKING GROUP

The Grains Roundtable is an Agriculture and Agri-food Canada Roundtable that brings together members of the grain supply chain with the objective of improving competitiveness and profitability of the Canadian grains industry. The issues identified for the Roundtable cross grain commodity lines and impact most links of the grain value chain, are national in scope, and benefit from a partnership approach.

The Sustainability Working Group (SWG) was established in 2012 by the members of the Grains Roundtable to better understand the potential impacts of market driven sustainability requirements on the Canadian agriculture value chain and undertake activities aimed at positioning the industry to better respond to barriers that could negatively impact the competitiveness of the sector and/or capitalize on new market opportunities. The SWG commissioned a confidential report entitled “Inventory of Reports and Research Related to Sustainability”. It included a literature review and discussions of current trends and analysis of the future directions of the marketplace over the next 5 – 10 year timeframe to determine whether industry is adequately positioned to demonstrate compliance and capture value from sustainability requirements (Gillespie, 2013).

3.1.6 GRAIN FARMERS OF ONTARIO

The Grain Farmers of Ontario (GF) take part in a steering committee to form a Canadian roundtable on sustainable crop production. The objectives of this roundtable are varied. However, one is to help create value for all stakeholders of the industry value chain by providing a forum for broad stakeholder involvement in sustainability initiatives and development. The goal of the steering committee is to have the roundtable inaugurated by 2014.

The GFO also initiated and leads the development of the National Interpretation (NI) for the Round Table on Responsible Soy (RTRS) certification for Canadian soy producers. This initiative is intended to retain existing European markets that are transitioning to require RTRS certification. This involves gaining consensus with industry, trade, producer, and environmental organizations through a National Technical Group. In addition, GFO partners with Pulse Canada and others to develop a nation-wide field print calculator, which aims to provide metrics and assessments of the environmental sustainability of farm activities at the field-level (Betts, 2013).

3.1.7 DAIRY FARMERS OF CANADA “NATIONAL STRATEGY FOR SUSTAINABLE DEVELOPMENT”

The Dairy Farmers of Canada (DFC) introduced “A National Strategy for Sustainable Development” in 2010. Using three categories of focus: climate change; management of natural resources; and socio-economic performance; the following strategic directives were introduced (DFC, 2010):

- Reduce greenhouse gas emissions from dairy farms in Canada
- Promote the efficient and sustainable management of natural resources on Canadian dairy farms
- Benchmark the socio-economic performance of Canadian dairy farms

In 2011, DFC provided an update on their activities under the strategy. In 2011, they began pilot testing a Greenhouse Gas Calculator, to provide a benchmark for farms to track their progress in reducing emissions over time. They funded 13 sustainability focused research projects. The socio-economic plank of the strategy is based on maintaining the supply management system for dairy products in Canada.

The Dairy Farmers of Canada are also active in the Global Dairy Agenda for Action, which focuses on dairy industry sustainability at the international level.

3.1.8 GLOBAL ROUNDTABLE FOR SUSTAINABLE BEEF

The Canadian Cattlemen's Association joined the Global Roundtable for Sustainable Beef (GRSB) in 2012. Membership in the GRSB includes producer groups, processors, retailers and environmental and sustainability organizations. The GRSB developed out of a 2010 Global Conference on Sustainable Beef and is based in Switzerland. The objectives of the global beef value chain are (GRSB, 2013):

- identifying, evaluating and enabling increased adoption of current leading production and supply chain practices, policy and technology
- supporting action-oriented, regional and local multi-stakeholder initiatives focused on producing measurable outcomes, ensuring local adaptation
- addressing high-priority issues related to sustainability by sharing locally relevant and science-based information and support pilot projects to demonstrate those
- providing a forum and opportunities for constructive engagement, information exchange and technical problem solving
- connecting a network of local, regional and global leaders in the beef industry with a common vision and mission and gives stakeholders an equal opportunity through member ownership of the roundtable
- promoting the adoption of leading employment and economic development practices

3.2 OBSERVATIONS

Canadian sustainability initiatives have thus far been voluntary responses to marketplace demands or proactive anticipation of future market demands. There has not been an agricultural policy cross-compliance tradition as in Europe, and where cross-compliance is observed in reference to the EFP, it is voluntary. Instead, sustainability considerations in Canada are developing in a similar manner that food safety developed as a consideration 15 years ago, which resulted in a national umbrella standard for fruit and vegetable growers (CanadaGAP). To date, most of the work in Canada appears to have focused on sustainability measures rather than certification.

4 SUSTAINABILITY CERTIFICATIONS

An environmental scan of existing sustainability programs, particularly those that result in certification, which cover horticultural products was conducted, and combinations of schemes that are commodity-specific and whole-farm in nature were reviewed. A number of the schemes that are whole farm in scope have specific standards for horticultural products, recognizing that horticultural production is different from other commodities. A selection of these was reviewed in depth below using a consistent template. Table 4-1 provides an overview of these programs. The EFP is listed in a column with a different color, because the program does not offer certification by an independent third party and does not address any aspect of social and economic sustainability.

Programs that do have specific measurable standards often take a compliance approach by providing producers with a checklist of procedures that must be followed. This approach then provides indication of directional change, under the assumption that if the guidelines are followed, sustainability will improve. Very few of the certifications and standards offer specific measurements to indicate the quantity of change that occurs. Some of the standards examined looked purely at environmental measures to improve sustainability, while other took a more triple bottom line approach, considering environmental, economic and social factors. Many of the programs examined use ISO 14001 as a base.

Several programs included a list of certified farms on their website. However, in most cases the uptake of the program is not obvious. As mentioned above, retailers may require the certification by a specific program. For example, fruit and vegetables growers that deliver to Tesco in the UK need to be certified by Tesco's Nurture program. There is only limited literature available on this topic. For example, Dennis (2010) asked greenhouse and nursery plant growers in the United States (1000 surveys were distributed and 120 returned) about their uptake of sustainability practices and found that none of the producers surveyed were certified sustainable. Nevertheless, one fourth of the respondents indicated that they were interested in some form of sustainability certification.

Programs are shifting to certify products along the supply chain. For example, the Red Tractor standard requires suppliers and producers to be certified and SIP is introducing standards for wine making processes. As environmental sustainability becomes more common, many programs are including elements of social and economic sustainability. In addition, most of these programs are industry rather than policy driven; policy driven programs can be more subject to political will. For example, the ending of grants caused Food Alliance to be discontinued, but a change in financial structure allowed them to reestablish operations as of August 2013.

Most certifications allow producers to use logos either to identify that the farms are compliant or that the product is certified. Producers who undergo certification do so with the expectation that having the logo on their products will increase revenue. When the certification is allowed to be displayed on the product or at the farm gate, a picture of the logo is included in the program templates. There is an increasing globalization of standards; even schemes that start off covering specific geographic regions develop flexible standards for conditions of other regions. Most of the programs are financed through membership and auditing fees, but some are based on charitable donations (for example LEAF).

Table 4-1 Active Sustainability Certification Programs

	LEAF	Red Tractor	DLG certificate	Global GAP	Canada GAP	LocalFood Plus	MPS	Freshcare	Protected Harvest	EFP
Environmental Sustainability	✓	✓	✓	✓		✓	✓	✓	✓	✓
Social Sustainability		✓	✓	✓	✓	✓	✓	✓		
Economic Sustainability			✓	✓	✓	✓	✓	✓		
Covers horticulture	✓		✓	✓	✓	✓	✓	✓	✓	✓
Additional cert./program required	Global GAP		Global GAP			EFP				
3 rd Party certified	✓	✓	✓	✓	✓	✓		✓	✓	
Whole Farm Sustainability	✓	✓	✓	✓		✓	✓	✓		✓
Single cert. of commodities			✓	✓	✓		✓	✓	✓	
Use of sust. indicators			✓							
Check off list/ point system	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Required/ preferred by some retailers	✓	✓		✓	✓	✓	✓	✓		
Web portal with supplier info	✓	✓	✓							
Recognition	36 countries	UK	Germany	Intl.	Canada	Canada	55 countries	Australia	United States	Canada

	Certified Greenhouse	TESCO	SIP	Food Alliance
Environmental Sustainability	✓	✓	✓	✓
Social Sustainability	✓	✓	✓	✓
Economic Sustainability	✓	✓	✓	✓
Covers horticulture	Greenhouse	✓	Wine	✓
Additional cert./program required	GFSIS			
3 rd Party certified	✓	✓	✓	✓
Considers entire Farm aspects	✓		✓	✓
Single cert. of commodities	✓	✓	✓	✓
Use of sust. indicators				
Check off list/questionnaire	✓	✓	✓	✓
Required by some retailers		TESCO		
Webportal with supplier info	✓			✓
Recognition	Intl.	UK	California	US, Canada, Mexico

5 PRODUCER CONSULTATIONS

Focus groups were held to discuss sustainability measures with farmers and other stakeholders in four different Ontario locations: St. Catharines, Leamington, London and Simcoe. Participating producers grew grapes, greenhouse vegetables, processing/field vegetables, nuts and/or apples. In each case, the focus groups lasted about two hours. The discussion was introduced with a short presentation about sustainability issues and the following questions guided the discussion:

- Are you currently being asked for information on sustainability in products you sell? What is being requested?
- What are the challenges of sustainability certifications, and how could these challenges be addressed?
- How important is it to incorporate social and economic sustainability in addition to environmental sustainability?
- What would be the benefits of a “made in Canada” sustainability certification program?
- Are there existing tools that could be used for sustainability certification?

The following section summarizes the focus group discussions.

5.1 SUSTAINABILITY REQUESTS

Producers see that sustainability (environmental and social) is increasingly used in retailers’ and processors’ promotional materials and Corporate Social Responsibility (CSR) reports, and as a consequence, it is starting to be requested from producers. This creates pressure for a number of producers, as different issues are identified across their customer base. In some cases it is difficult to satisfy all of the requests/sustainability protocols.

The extent of sustainability demands depends on the proximity to the customer and the number of customers. For example, for Ontario wineries, the LCBO is the downstream purchaser. If the LCBO demands wine that has a sustainability certification, the industry has a strong incentive to provide it.

Requests also differ across commodities. The horticultural industry has a high labour demand, which is partially covered by foreign workers. This is also an area of sustainability that garners a lot of interest from the general public. For example, in the greenhouse industry, customer requests for production-level information generally target working conditions (hours worked, comfort mats for workers) and wages and to a lesser extent environmental sustainability.

Participants indicated that in tender fruits, for most producers, CanadaGAP certification was observed as sufficient to fulfill most customer requests concerning sustainability. For ginseng growers, no customer requests have been observed so far, most questions revolve about organic production.

The most common certification programs for fruit and vegetable growers in Ontario are CanadaGAP and GlobalG.A.P. For fruit and vegetable exports to Europe, growers’ facilities have to be GlobalG.A.P. certified. This certification program encompasses areas of the three pillars of sustainability. CanadaGAP, on the other hand, mainly focuses on food safety and quality assurance. A number of participants were apple growers exporting to the UK, with Tesco being one of the major customers, and thus have to be Tesco’s Nurture certified in addition to GlobalG.A.P. certified. When no other certification is in place,

such as GlobalG.A.P., environmental sustainability requests primarily focus on pesticide and herbicide use, as mainly spray records are requested. The main requests are still focused on food safety and quality.

5.2 CHALLENGES OF CERTIFICATION

The “cost of certification” is the biggest issue for growers. This cost is twofold, as there are out of pocket costs of the certification itself (“audit fees”) and the operating costs of fulfilling the requirements of the paperwork that comes along with it. The ongoing documentation requirements (as seen in the case of food safety documentation requirements) are especially difficult for smaller farm operations to handle.

In many cases, producers felt that auditors have a lack of understanding of their specific industry. In addition, there is a lack of qualified certification bodies that are able to certify a number of different standards and schemes at the same time. This means that different auditors must be brought in for each certification program, which increases the auditing costs. Every audit costs not only money, but in some cases the opportunity cost of time and effort to comply and go through separate audits is considerable (especially for smaller producers).

There is a fear that sustainability programs in Canada set the bar higher and higher, which in turn increases the expectation of downstream customers. Some were concerned that having an audit-based system will likely lead to failing grades for some, if for no other reason than to justify the audit. In addition, imports from other countries are not faced with the same requirements, but at the end are competing with Canadian product, putting Canadian producers at a competitive disadvantage.

There were some risks perceived in sharing information from sustainability certifications with downstream customers, notably that disclosure would result in an escalation in the future demand for sustainability issues, which in turn could create a demand to have higher levels of liability insurance, and make it more difficult for producers to access financing.

5.3 THE THREE PILLARS OF SUSTAINABILITY

Most growers felt that they had a good grasp on what environmental sustainability entails. All participating producers had gone through at least one version of the EFP in the past. However, many noted an increase in the request for information on their social sustainability.

Economic sustainability, however, was more difficult for producers to synchronize with reality. It was mentioned that consumers, in theory, would like to ensure the viability of the farmers who produce their food, especially when it comes to local food. However, in reality, the price of food is still the major concern of shoppers, and the economic situation of farmers was thought to rank much lower in purchase decision making. In addition, retailers and intermediaries are resistant to price increases. When changes in production practices are demanded, or certifications requested, these serve as a way to access a specific market, but most of the time this does not increase the price of the product for the farmer.

Overall, it was expressed that there is a misalignment between the three pillars of sustainability; in some cases, it is difficult to keep a balance of environmental and social sustainability and not influence economic sustainability negatively. For example, an increase in mechanization in horticultural production may negatively influence social sustainability, as the number of employees will decrease. An increase in wage may score high on social sustainability, but may decrease economic sustainability. In

particular, it was expressed that economic sustainability does not play a tangible role for customers further down the supply chain.

5.4 “MADE IN CANADA” SUSTAINABILITY CERTIFICATION

For some commodities, such as wine grapes, and nuts, a government endorsed certification program was seen as beneficial and some growers/processors have seen increased interest from their customers. However, even if a program had a “Made in Canada” approach, it would still have to adhere to international rules and customer requests, as producers are exporting to international markets. Nevertheless, some cautioned against such a program, as for some export markets (i.e. the US), the Canadian origin of a product does not add any benefit.

5.5 EXISTING TOOLS TO EVALUATE SUSTAINABILITY

Some see a sustainability certification as an opportunity to present the positive side of the agricultural sector. The “positive news” may help with the perception of the industry. Indeed, in some cases, products identified with a sustainability attribute will serve a niche market for first movers.

The Environmental Farm Plan and CanadaGAP for horticultural producers were discussed as potential platforms upon which to assess all three pillars of sustainability. The following points were highlighted:

- Programs such as GlobalG.A.P. and CanadaGAP are updated on an annual basis; this is not currently the case with the EFP
- Building upon CanadaGAP to evaluate social and economic sustainability (as with GlobalG.A.P.) could provide an alternative for fresh fruit/vegetable growers
- The establishment of CanadaGAP, which cut across a myriad of provincial and commodity boundaries, should be reviewed for insights on establishing sustainability standards/metrics
- Questions in the EFP assessment should pertain to all three sustainability pillars.
- A sustainability certification should be internationally recognized.
- If the EFP should move on to become a tool to prove sustainability, it should be certified by a third party auditor.

6 REGULATIONS AND SUSTAINABILITY CERTIFICATIONS

Farm products sold in Ontario, including horticultural products, are subject to a range of regulations that allow for the establishment of product standards, or prescribe standards directly. These relate to the intrinsic nature of the farm product in relation to the food product produced from it. Such standards have been adopted over time to more transparently relate the value of the farm product to the food product, to promote quality in farm products, and to facilitate the standardization necessary for anonymous transactions and liquidity for the price discovery process in markets.

These standards are set out in the following regulations:

Ontario Farm Products Marketing Act (FPMA)

This act provides for the Ontario Farm Products Marketing Commission as an oversight body that delegates authority to commodity marketing boards. Among the authorities delegated to marketing boards are the establishment of product classes, varieties, grades and standards, the

prohibition on sale of certain classes, varieties, and grades, and the licensing of producers and/or purchasers of product. The FPMA also designated the standards for some farm products directly (for examples, it defines “fowl” as a domestic hen more than 19 weeks of age). The FPMA thus, provides extensive authority to establish standards for farm products.

Under the authority of the FPMA, marketing boards file marketing plans that can include regulations on product standards and minimum prices. For example, the Ontario Tender Fruit Producers’ Marketing Board establishes a fee that applies to processing for sour cherries, a grading system (score) for cherries, and minimum prices that apply under the grading system. The GGO establish minimum prices for wine grapes according to varieties, based on a schedule that relates to sugar levels (brix) contained in grapes. The Ontario Processing Vegetable Growers establish pricing agreements with processors for green peas that relates pricing to a tenderometer reading and the timing of harvest.

Farm Products Grades and Sales Act (FPGSA)

This act provides the authority for the Ontario government to establish grades for farm products, the authorities of graders and inspectors, the sanitary conditions under which inspection and grading occurs, and the facilities and equipment applied in connection with grading and inspection.

Farm Products Containers Act (FPCA)

This act establishes the authority for the Ontario Fruit and Vegetable Growers Association to collect levies on certain sized containers, and to provide exemptions to levy for other sizes of containers.

In current regulation the producer segment of the farm to retail supply chain has not been subject to public standards that relate to sustainability, as existing standards generally relate to product quality or end-use value. Sustainability standards are the subject of individual contracts with customers that request them. As such, they represent an additional set of farm product standards to which producers are subject.

In addition, sustainability standards also present an interesting dilemma for producers in terms of liability from non-delivery (due to crop damage from pests or weather, for example). If a crop loss or impairment occurs, the producer can deliver what he or she has produced which contains the desired sustainability attributes, but then retain the liability for the lost volume that is not delivered. Conversely, the producer can fill their volume obligation using product that does not contain the sustainability attributes, but then retains the liability for the missing attributes. This is unlike most intrinsic farm product attributes, which apply widely and thus offer easier recourse with which to meet obligations under such circumstances.

7 CONCLUSION - TOWARDS A SUSTAINABILITY CERTIFICATION

The purpose of this project was to understand the trends in sustainability certification and anticipated future sustainability trends in Canada and selected European markets, with a focus on horticultural

production. This was informed by a focused review of European experience (Germany and the UK), Canadian sustainability initiatives, broader horticultural initiatives, and producer consultations.

While the European experience appears to differ from that in Canada, specifically in terms of the agricultural policy backdrop, it is in many ways instructive of anticipated developments. First, sustainability initiatives have been driven by retailers and processors as part of corporate social responsibility and are now an element of supplier compliance. The compliance with these measures can be costly, and the benefit is primarily in retained market access to the proponent processors or retailers, rather than price premiums for farm products. As such, processor adoption has been relatively low, and is met with caution. Sustainability programs are rolled out with a certification element; it is not evident that follow up measures have been employed.

More generally, the experience with sustainability initiatives in horticulture provides many insights. While initiatives have typically been developed specific to a given geography and to a given link in the supply chain, they tend to expand across geographies and supply chain links. Many of the sustainability initiatives link directly to product marketing through the use of program logo's on products. Most initiatives involve a third-party audit, and the elements of sustainability are scored, weighted and reviewed to provide an assessment. Follow up to determine what occurred as a result of initiatives is generally absent.

The focus groups revealed that a small group of producers sees an advantage of filling the sustainability "niche". However, producers are concerned by the costs of certification system and, given the lack of a strong market demand, the usefulness of these programs. The number of different certification programs producers have to comply with is a big concern as well. In addition, a lack of certified auditors that understand the sector is an ongoing issue in the industry. Furthermore, sustainability standards may also present an issue in terms of liability from non-delivery (due to crop damage from pests or weather, for example).

Given where Ontario horticulture is today, it appears that there is still an opportunity to be proactive on sustainability. The main concerns of producers are compliance costs and the possibility that stakeholders demand a number of different sustainability requirements. The principal means of mitigating this is to build upon existing platforms that producers have already incorporated. These may exist in the form of the EFP and CanadaGAP.

7.1 RECOMMENDATIONS

Given these observations, a pilot for a sustainability scheme should be adapted or formulated that meets the following requirements:

- Focus on environmental, social and economic sustainability components
- Ensure that retailer and manufacturer requirements are met (including their reporting requirements)
- Added value should be retrieved from the process of certification. For example: new market access created or existing access retained, improvement of overall production parameters (saving inputs, reducing costs etc.)
- Ensure a cost-effective design of the certification, including data collection. As of now, the majority of certifications rely on questionnaire based certifications (check points or score cards)

- A check list that is audited in combination with another certification, such as food safety, should be targeted. A number of sustainability programs that focus on environmental and/or social sustainability require additional certification for food quality and assurance
- Auditor costs should consider the size of farm and/or numbers of commodities covered.
- Follow up to understand what environmental, social, and/or economic benefits have resulted

Ontario's horticultural sector would provide a unique case for a pilot project, as it is the leading Canadian province in fruit and vegetable production: over 45 percent of Canadian farm cash receipts for fruits and vegetables are from Ontario production. The project would warrant the participation of producers, retailers, manufacturers and auditors.

The sustainable sourcing of agricultural products has become important for retailers and beverage and food manufacturers. Sustainability programs are also being viewed by retailers as a competitive advantage, source of innovation and differentiation and as a tool to improve business efficiencies. As a consequence, farmers will need to turn their attention to on farm sustainability in order to maintain market position. Through a proactive pilot that explores how existing platforms can be used, with follow up, an opportunity exists for producers to take leadership in framing the forthcoming issues relating to sustainability, and compliance with standards.

8 OVERVIEW OF PROGRAMS

Description – provides basic background information on the program, who is responsible for scheme, and how the scheme was developed.

Focus on Sustainability – Identifies which elements of the triple bottom line (Environmental, Social, Economic) are included in the sustainability scheme.

Objectives – provides the objectives, mission and vision of the initiative as available in public documents.

Scope - describes products covered by the scheme and who the scheme applies to.

Geography – describes which countries the scheme operates in.

Funding- describes how the scheme is funded, and where available the fees charged for membership and services

Participation – identifies whether the program is voluntary or mandatory, and where available if the scheme is a procurement requirement for processors or retailers.

Details – provides basic details of membership and requirements for participation

Indicators – lists categories of indicators of sustainability used in the scheme

Logo – the logo of the scheme that participants are able to use to indicate that they meet sustainability (if applicable)

Third Party Certification – identifies schemes that require third party audits for certification

Website/Contact Information – provides address, telephone and website information for the scheme where more detailed information is available

References - documents and other materials consulted in the creation of summaries.

8.1 LINKING ENVIRONMENT AND FARMING (LEAF)

Linking Environment and Farming is the UK group that administers the LEAF Marque program. LEAF was developed in the 1990s, and evaluates whole farm sustainability. The program LEAF Marque is a subsidiary of LEAF and is a complement to other on farm sustainability programs, for example GlobalG.A.P. Producers must be certified under one of these schemes in addition to LEAF.

Standards are developed by a technical committee that consists of members of environmental groups, government agencies, academics, certification agencies, growers and retailers.

LEAF provides self-assessment tools and an integrated farm management handbook to help producers improve management and prioritize decisions to improve environmental sustainability. LEAF also provides a supply chain directory for retailers/wholesalers to determine which farms have active LEAF certification.

LEAF is widely used in the UK, with 20% of horticulture operations achieving LEAF certification. Products that are produced on certified farms are eligible to use the LEAF Marque logo in-store.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	

Overview

Objectives	“LEAF (Linking Environment And Farming) promotes sustainable food and farming. We help farmers produce good food, with care and to high environmental standards, identified in-store by the LEAF Marque logo” (LEAF).
Scope	<ul style="list-style-type: none"> • All agriculture and horticulture stakeholders can be covered under LEAF. • The certification covers all agricultural and horticulture products.
Geography	The standard is used in 46 countries, in all regions of the world. While the standard is in use in Mexico and the United States it is not yet used in Canada.
Funding	<p>LEAF is a registered charity and accepts donations to help fund operations.</p> <p>Members pay annual fees:</p> <ul style="list-style-type: none"> • Individual farmer members <ul style="list-style-type: none"> ○ Farms up to 121 ha (300 acres): £72.00 (about \$115 CDN).

	<ul style="list-style-type: none"> ○ Farms 121 -405 ha (300 -1, 000 acres): £144.00. ○ Farms over 405 ha (1, 000 acres): £216.00. ● Corporate Members <ul style="list-style-type: none"> ○ Less than 50 employees: £696.00 (about \$1,090 CDN). ○ 50-100 employees: £1, 032.00. ○ 100-200 employees: £2, 070.00. ○ 200+ employees negotiable: £2, 400.00 min (about \$3,770 CDN). ● Colleges: £210.00 (about \$330 CDN). ● Advisers and consultants: £72.00. ● Friends of LEAF: £23.50 <p>Audit costs are the responsibility of the producer.</p>		
Participation	Required for fruit and vegetable growers delivering to Waitrose, Voluntary		
Details	<ul style="list-style-type: none"> ● The program involves annual third party audits. ● Farms must meet requirements for all Critical Fail Points in order to obtain certification. <ul style="list-style-type: none"> ○ In case of non-compliance members have 3 months to conform and re-inspect ● Inspections can be done jointly with audits for other programs, every 6 to 18 months. ● To maintain traceability farmers must include their LEAF Marque certificate number on shipments. ● Non-compliance after the initial assessment must be rectified within 28 days of inspection. 		
Indicators	<p>The LEAF Marque assessment includes indicators in the following categories:</p> <ul style="list-style-type: none"> ● Organization and Planning ● Soil management and Fertility ● Crop health and protection ● Pollution control and by-product management ● Animal husbandry ● Energy efficiency ● Water management ● Landscape and nature conservation ● Community engagement 		
Logo		Third Party Certification	✓

Website/Contact Info

Stoneleigh Park
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References

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8.2 RED TRACTOR ASSURED FRESH PRODUCE

The Assured Food Standards (AFS) is a UK based, supply chain certification scheme, consisting of pre-farm (farm input), farm, post farm certification. The assured fresh produce scheme applies to vegetable products. Ownership is shared by a number of U.K. organizations including the National Farmers’ Union, the Ulster Farmers’ Union, the Agriculture and Horticulture Levy Board, Dairy U.K. and the British Retail Consortium. Participants are able to use the trademarked Red Tractor logo. The website offers retailers and distributors access to the database of participants for each commodity group. The standards apply to food safety, animal welfare and environmental protection.

AFS manages and approves third party evaluators to ensure that standards are being met. AFS will also rely on existing certification schemes in some sectors (will accept other certification as proof of sustainability for some products) or for specific parts of the scheme (for example BRC certified producers can forgo most of the assessment for harvesting and storage).

Each sector has its own standards manual, but the standards were harmonized in 2010 to bring the core standards in line across the various sectors. Within the produce scheme there are also specific protocols for each crop covered under the scheme.

Red Tractor Assurance is fully approved under GlobalG.A.P., which means that participants also meet GlobalG.A.P. standards.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	

Overview

Objectives	<ul style="list-style-type: none"> To maintain, develop and promote Assurance standards within the fresh produce industry. To provide consumers and retailers with confidence about product quality attributes including food safety and environmental protection.
Scope	Covers livestock (beef, lamb, pigs, poultry), produce, crops, livestock transportation and livestock markets
Geography	U.K.
Funding	Producers pay membership and assessment fees
Participation	Voluntary
Details	<ul style="list-style-type: none"> Several certification bodies manage membership, make assessments and certify farms. These bodies are approved by the board of AFS from the United Kingdom Accreditation Service. Producers are issued a certification packet at initial contact. Certification bodies are the regular point of

	<p>contact for producers.</p> <ul style="list-style-type: none"> • Assessors visit farms to ensure that standards are met. If standards are not met assessors issue a “Notice to Remedy”. Producers can then submit proof that these issues have been resolved prior to certification. • Membership is renewed every 12 months and re-assessments are made annually for produce. • Producers are notified of updates to standards and given time limits in which to meet new requirements. Producers are responsible for notifying certification bodies of any material changes to operations. • Online “scheme checkers” allow customers to determine which farms are certified under the scheme. • Producers are able to use the scheme logo on promotional materials to indicate that they are certified. • In order to use the logo on food packaging or at point of sale, members must have a Red Tractor Assurance packing certificate.
<p>Indicators</p>	<p>Red Tractor Assured Fresh Produce uses a checklist compliance approach in the following areas:</p> <ul style="list-style-type: none"> • Seed, nursery stock and rootstock • Choice of variety or rootstock and plant health certification • Site and soil management • Environmental impact/conservation and sustainability • Environmental protection and contamination control • Staff and contractors • Irrigation • Temporary crop structures • Harvest and storage • Vermin control • Produce handling and packing • Residues and contaminants • Traceability and integrity • Health and safety and worker welfare • Genetically Modified Organism • Internal Audit • Energy Efficiency • Documents and Procedures

Logo		Third Party Certification	✓
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Website/Contact Info

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 Kings Building, 4th Floor
 16 Smith Square
 London SW1P 3JJ
 Phone 020.7630.3320
 Website: www.assuredfood.co.uk

References

- Red Tractor Assurance, “Fresh Produce Standards”:
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http://assurance.redtractor.org.uk/eblock/services/resources.ashx/000/637/699/RT_Fresh_Produce_Ch_ecklist_2011-12.pdf (accessed May 27, 2013).

8.3 DLG CERTIFICATE (SUSTAINABLE AGRICULTURE – FIT FOR THE FUTURE)

The German Agricultural Society (DLG – Deutsche Landwirtschafts Gesellschaft) developed the sustainability certification system “Sustainable Agriculture – Fit for the Future” together with the German environmental foundation (Deutsche Bundesstiftung Umwelt (BDU)), the Technical University Munich-Weihenstephan, Martin Luther University Halle-Wittenberg and the Institute for Sustainable Agriculture (Institut für Nachhaltige Landwirtschaft e.V).

The program has been in place since 2008 and certifies environmental, social and economic sustainability on German and Austrian farms. GlobalG.A.P. certification is accepted to fulfill food safety requirements. The audit takes the past three years of farm data into consideration. Specific indicators are investigated. Every indicator is assessed on a scale from 0 to 1, where 1 is the best possible outcome. If any of the indicators does not reach the threshold of 0.75, the farm cannot be certified. Indicators are assessed against specific benchmarking values. These benchmarks come from the German Ministry of Food, Agriculture and Consumer protection’s farm accountancy data network, which allows benchmarking for all regions against farms in the network. In addition a program called REPRO is used, which calculates environmental sustainability indicators based on individual farm data.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	<p>The objective of the program is “to propagate sustainable practices along the agri-food value chain with the objectives of:</p> <ul style="list-style-type: none"> • Protection of soil, water, air and biodiversity • Improvement of climate impacts and energy efficiency • Optimum fertilization and plant protection • Strengthening of cost effectiveness and competitiveness • Advanced training for farm managers and farm staff • Food safety and hygiene.”
Scope	Field crops, livestock and horticulture
Geography	Germany, Austria
Funding	Some government funding (administration and development) and certification fees. Different levels of certification are available. Fees range from certification per crop base price of 500€ (about 676.45 CDN) plus a charge per crop) to the

	highest level of certification for an 850 hectare crop operation at 4,380€.
Participation	Voluntary
Details	<p>The audit takes the past three years of farm data into consideration (internal factors such as acreage index, crop rotation, annual financial statements and external factors such as weather and soil conditions).</p> <p>Environmental data are put in a computer model called REPRO (Reproduction of Soil Fertility). REPRO uses farm data and site information about matter cycles (C, N, P, K), organic soil matter, energy efficiency, erosion, soil structure and soil compaction. These values (indicators and farm financial data) are then transformed into index numbers. Every indicator is assessed on a scale from 0 to 1, where 1 is the best possible outcome. The threshold is 0.75. If any of the indicators does not reach the threshold, the farm cannot be certified. For example, if farm labor is paid under 75% of that standard wage, the indicator threshold is not met. If farm labor is paid over or equal to 10% more than standard wage the highest value (1) is given for this indicator.</p> <p>The auditor discusses the outcome of the calculation with the producer and potential changes to production are recommended. The producers can then apply in the following year. The program can also certify horticultural farms. Certification is valid for three years.</p>
Indicators	<p>Selection of indicators:</p> <p>Environmental indicators:</p> <ul style="list-style-type: none"> • N balance • P balance • Biodiversity • Energy use • Herbicide use • Soil compaction • Soil erosion • Greenhouse gases <p>Economic indicators:</p> <ul style="list-style-type: none"> • Farm income • Profit • Investments • Value added <p>Social Indicators:</p> <ul style="list-style-type: none"> • Wages • Working hours • Vacation time • Continuing education

	<ul style="list-style-type: none"> • Worker safety • Employee participation in decision making <p>If not certified GlobalG.A.P., then additional indicators are investigated. For example: food safety (HACCP or other documentation), storage of herbicides and pesticides, waste handling etc.</p>		
Logo		Third Party Certification	✓

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References

Nachhaltige Landwirtschaft DLG Zertifikat: <http://www.nachhaltige-landwirtschaft.info/index.html>
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8.4 GLOBALG.A.P.

GlobalG.A.P. began in 1997 as EurepGAP; an initiative of seventeen European retailers that were part of the Euro-Retailer Produce Working Group (including British Safeway, Tesco and Dutch Albert Heijn). The initiative was a response to consumer demands in the areas of product safety, the environment, and the health, safety, and welfare of workers and animals. The retailers worked together to harmonize their standards and develop an independent certification system for Good Agricultural Practices (GAP). The program expanded internationally in 1997. As a result the name was changed to GlobalG.A.P in 2007, with the intention of becoming the world’s leading GAP (Good Agricultural Practices) standard.

GlobalG.A.P. is presided over by an elected Board of representatives from the producer and retailer industries. The Board is headed by an independent chairman. The certification program is developed and defined by Stakeholder Committees, three Technical Committees and the Certification Body Committee. There is also local level support for the certification committees. The work of the Board and all of the committees is supported by the GlobalG.A.P. Secretariat. This function is carried out by FoodPlus GmbH, a not-for-profit limited company based in Cologne, Germany.

The GlobalG.A.P. certification is administered by third-party certifiers to producers who have successfully implemented the GlobalG.A.P. standard. The certification program is accompanied by training opportunities that support producers, retailers, certification bodies, trainers, farm assurers, auditors and inspectors. GlobalG.A.P. farm assurers are also available as on-site consultants to help producers achieve certification.

GlobalG.A.P. also produces Localg.a.p, a standard that is specifically designed as a cost-effective solution for emerging markets that may not be able to achieve GLOBALG.A.P. certification. Localg.a.p. helps producers receive recognition, and helps retailers support their local and regional producers.

GlobalG.A.P. is a standard that many other certification programs use as a base. For example in DLG, GlobalG.A.P. replaces some of the indicators if producers are already GlobalG.A.P. certified.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	<p>“Globally connecting farmers and brand owners in the production and marketing of safe food to achieve:</p> <ul style="list-style-type: none"> • A universal standard • Safe and sustainable food for everyone, everywhere • Safe production methods • Responsible use of resources • Welfare of workers and animals • Protection of scarce resources • Easier Certification and wider markets for producers • Reliable sourcing and processing for retailers • Valuable reassurance for consumers” (Global GAP)
Scope	Covers fruits and vegetables, flowers and ornamentals, combinable crops, green coffee, tea, livestock, and aquaculture.
Geography	International – GlobalG.A.P. standards are recognized in over 100 countries worldwide
Funding	<p>Documentation is available free of charge. Producer Registration Fee and the Certificate License Fee apply to certification.</p> <ul style="list-style-type: none"> • As of January 2011, GlobalG.A.P. Producer Registration Fees are calculated according to the production surface of certified crops. Any surface that is harvested more than once during an annual certification cycle is registered as a further harvest and the production surface charged doubles. • For example: <ul style="list-style-type: none"> ○ A covered crop producer with less than 0.5 hectares under production must pay 5€ (approximately \$7 CDN), ○ A covered crop producer with 5-10 hectares under production must pay 50€ (\$70 CDN), ○ A non-covered crop producer with less than 0.5 hectares under production must pay 2€, ○ A non-covered crop producer with 5-15 hectares under production must pay 15€. • Only the Producer Registration Fee must be paid by the producer. <p>The Certificate License Fee applies to each issued certificate:</p> <ul style="list-style-type: none"> • Ranges from 25-130€ (approximately \$34-\$175 CDN), • The Certificate License is to be paid by the certification body however it is likely that this cost is passed onto the producer. <p>Local certification bodies charge differing rates for certification.</p>
Participation	Participation in the program is voluntary, however GlobalG.A.P. is the most widely accepted GAP standard requested by retailers and food service buyers worldwide. Some of GlobalG.A.P.’s retail and

	food service members include: Wal-Mart, McDonalds, Tesco and Sysco.		
Details	<ul style="list-style-type: none"> • Participants download and review the GlobalG.A.P. Standard and Checklists (either <i>The Fruit and Vegetable Standard</i> or <i>The Flower and Ornamental Standard</i> in this case) available on the GlobalG.A.P. website, • They then contact local certification bodies in order to fill out a registration application, • Thereafter self-assessment is encouraged, and all checklist items that are not complied with are to be corrected, • A GlobalG.A.P. inspector then conducts an on-site inspection, • A certificate is issued to participants who have successfully complied with the GlobalG.A.P. standards. 		
Indicators	<p><i>The Fruit & Vegetable Standard</i> covers:</p> <ul style="list-style-type: none"> • Soil management • Substrates • Pre-harvest controls for plant protection product application • Organic fertilizer application • Pre-harvest check • Harvesting • Final produce packing at point of harvest • Produce handling covering hygiene • Sanitary facilities • Packing and storage areas • Quality control • Pest control • Post-harvest washing • Post-harvest treatment <p><i>The Flowers and Ornamentals Standard</i> covers:</p> <ul style="list-style-type: none"> • Propagation material • Soil and substrate management • Fertilizer use • Plant protection products • Harvesting • Post-harvest treatments 		
Logo		Third Party Certification	✓

Website/Contact Info

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References

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CBI Market Information Database, “International Management System; EUREPGAP of European food retailers (agriculture)” CBI Ministry of Foreign Affairs of the Netherlands:
<http://www.phdec.org.pk/download/EU-GAP-Requirement.pdf> (Accessed June 1, 2013).

8.5 LOCAL FOOD PLUS

Local Food Plus (LFP) certifies farms and processors for environmentally and socially sustainable practices. LFP began in 2005 as a project linking local, sustainable food producers in Ontario with University of Toronto food services with funding from the Metcalf Foundation. In 2009 LFP obtained funding from the World Wildlife Fund to pilot the program in other Provinces; certifying producers in B.C., Atlantic Canada and the Prairie Provinces. LFP is a local, sustainable certification system and has certified over 200 farmers and processors in Canada. It has also partnered with over 100 retailers, restaurants, caterers, distributors, and institutions. A few examples include: CNE Toronto, Town of Markham, Fresh Start Foods and the University of Toronto.

Local Food Plus builds on the elements of the Ontario EFP and requires that farmers have or are going to have an EFP in place in the upcoming year.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	LFP's certification is designed to assist in wholesale improvement of the entire food system, from farm to table.
Scope	The Certification program is available for all farmers and food processors. LFP's standards are not developed with specific crops in mind.
Geography	Canada
Funding	Certification is paid by program participants. However the grant and donation funding LFP receives is used to help pay for certification costs. Grants and donations also fund LFP's educational activities. The three year certification fee is \$600.
Participation	Voluntary
Details	<p>Certification is a four step process:</p> <ol style="list-style-type: none"> 1. Prepare information for inspectors (LFP assists in the preparation) 2. Independent inspectors trained in organic inspection and LFP standards inspect the operation. Inspectors send their reports directly from farms and processing facilities for external review. 3. The external reviewer makes the final decision regarding certification. 4. The farm or processing operation is re-certified annually, with an on-site inspection every three years. Regular spot

	<p>checks are also performed.</p> <p>Certification Eligibility is based on a points system.</p> <ul style="list-style-type: none"> • An LFP standard typically contains up to 1200 points. Farmers must accumulate 75% of the available base points from their practices for eligibility. • Being produced 'local' (within provincial boundaries) is mandatory. • Farmers must receive at least 50% of available points in every area where points are applicable. • Bonus points are also available for practices that may not be achievable for many growers. There is no penalty for not using bonus point practices. • Not all practices are applicable to every operation, but there is sufficient flexibility in the standards to allow farmers to accumulate the necessary points. • Growers must keep detailed records of all farming activities to verify that approved practices and systems have been used. 		
Indicators	<p>Participants will obtain "Certified Local Sustainable" certification if they:</p> <ul style="list-style-type: none"> • Employ sustainable production systems that reduce or eliminate synthetic pesticides and fertilizers; avoid the use of hormones, antibiotics, and genetic engineering; and conserve soil and water. • Provide safe and fair working conditions for on-farm labour. • Provide healthy and humane care for livestock. • Protect and enhance wildlife habitat and biodiversity on working farm landscapes. • Reduce on-farm energy consumption and greenhouse gas emissions. 		
Logo		Third Party Certification	✓

Website/Contact Info

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 220 – 401 Richmond St. W
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References

Local Food Plus, “LFP General Standards for Farmers and Ranchers August 2009” Local Food Plus: <http://www.localfoodplus.ca/wordpress/wp-content/uploads/2010/03/LFP-GENERAL-STANDARDS-FOR-FARMERS-AND-RANCHERS-August-2009.pdf> (Accessed May 29, 2013).

Local Food Plus, “Local Food Plus”: <http://www.localfoodplus.ca/> (Accessed May 29, 2013).

8.6 MORE PROFITABLE SUSTAINABILITY (MPS)

MPS manages and develops certificates for the horticultural sector. In 1993 MPS’ predecessor, “*Milieu Project Sierteelt*” was an environmental project in Bloemenveiling Hall, Netherlands. Since, it has grown into an internationally recognized certification body. MPS operates in 55 countries and approximately 4,000 growers are participating.

A working group that consists of growers, information officials and researchers has developed the current MPS crop-specific standards and certification system. MPS strives to improve the image of the floriculture sector generally.

In January 2013, the Fair Flowers Fair Plants label merged with MPS. The organizations had similar goals and the Fair Flowers Fair Plants label felt that it could benefit from MPS’ marketing skills and strong market presence.

MPS administers a number of different certification schemes: MPS-ABC; MPS-GAP; MPS Quality. The variety in certification schemes allows flexibility for participants to achieve the level of certification that works best for their operation.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	MPS strives to create a better image for the international horticultural sector. It does this by incorporating sustainability and quality into production methods. MPS’ certification system requires participants to be sustainable, and to implement corporate social responsibility.
Scope	Covers flowers, plants, vegetables and fruit.
Geography	International – recognized in 55 countries, including Canada
Funding	Prices vary by country however the overall scheme remains the same: <ul style="list-style-type: none"> • The cost for participating in the MPS ABC certification consists of a basic fee + a fee per hectare

	<ul style="list-style-type: none"> • New participants are also charged an extra fee <ul style="list-style-type: none"> ○ For example in Denmark the basic fee is of 649€ (approximately \$870CDN), and the price per hectare increases in 80€ (\$110CDN) increments. A new participant is charged a 50€ (\$67CDN) administrative fee.
Participation	Voluntary
Details	<p><u>The MPS-ABC Certificate:</u> demonstrates to what extent the operations are environmentally friendly. Four different levels of MPS-ABC certification can be realized: MPS-A, MPS-B, MPS-C and MSP-Participant (MSP-A being the highest).The points range from 0 to 100.</p> <p>The points are calculated by comparing the total usage of crop protection agents, energy, fertilizers, waste and water of the evaluated company to companies with similarly-sized operations. Companies with the lowest resource usage are awarded the highest numerical value.</p> <p>A registrant’s data must be submitted to MPS and MPS verifies the information with help from outside administrations (the municipality verifies water usage for example)</p> <p>MPS-ACTRES is an accompanying monitoring tool allowing producers to calculate and register the use of crop protection agents, fertilizers, energy, water and lighting.</p> <ul style="list-style-type: none"> • Audits are conducted quarterly. <p><u>The MPS-GAP Certificate:</u> All producers of floricultural products who comply with MPS A, B, or C may then apply for MPS-GAP certification. For the MPS-GAP Certification to be awarded, at least 95% of the items (including the compulsory control points) must be complied with. If more than 5% of items are not complied with then they must be implemented within a period of no more than 36 months</p> <p><u>The MPS-Quality Certificate:</u> Before an audit is applied for, the applicant must have been working in accordance with the requirements of MPS-Quality for at least three months. The participant must also have carried out internal audits, a customer satisfaction survey, and a supplier evaluation before the certification audit takes place, all of which should be carried out in accordance with the certification standard. If, during the audit, it is observed that one or more of the requirements have not been met, the audit will not proceed.</p>
Indicators	<p><u>The MPS-ABC Certification</u> evaluates four different categories: crop protection, fertilisers, energy, water and waste. Points are collected for each subject. These points are added up and result in four qualifications:</p> <ul style="list-style-type: none"> • Qualification A: between 70 and 110 point

	<ul style="list-style-type: none"> • Qualification B: between 55 and 69.9 points • Qualification C: between 10 and 54.9 points • Qualification 'participant': between 0 and 9.9 points <p>The level registered must be maintained for a period of thirteen months.</p> <p><u>The MPS-GAP Certification</u> evaluates:</p> <ul style="list-style-type: none"> • Land/plot use • Substrate • Parental material • Qualification of employees and advisors • Waste • Storage locations • Application, use and storage of pesticides, fertilizers, energy and water • Energy • Maintenance (on equipment, buildings etc.) • Health, safety and hygiene for employees • Development of policy plans • Registration of complaints • GMO's • Integrated pest management <p><u>The MPS-Quality Certification</u> evaluates:</p> <ul style="list-style-type: none"> • Management process (is there a plan in place for improvements?) • Support process <ul style="list-style-type: none"> ○ document management ○ customer satisfaction ○ dealing with complaints • Primary Process <ul style="list-style-type: none"> ○ Purchasing ○ Harvesting ○ Storage ○ Sales ○ Delivery 		
<p>Logo</p>		<p>Third Party Certification</p>	<p>✓</p>

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8.7 FRESHCARE

Freshcare is Australia’s largest national on-farm assurance program. It is an industry-owned not-for-profit organization that provides environmental, food safety and quality certification to the Australian fresh produce industry.

Retailers in Australia implemented ‘Approved Supplier Programs’. Freshcare was developed to harmonize the requirements of the many ‘Approved Supplier Programs’. They also added third-party certification which had not been a requirement for all approved suppliers. 5,000 Australian growers are now members of the program.

Freshcare’s primary certifications are through the Food Safety and Quality Program and the Environmental Code of Practice. The Food Safety and Quality Program was developed to provide benefits to suppliers and customers by establishing quality and food safety management programs that permeate throughout the supply chain. The Environmental Code of Practice is designed to be an ‘implement-ready’ tool that would help growers achieve environmental objectives consistent with those required by the ISO 14001 environmental management system. The auditable industry standard links horticultural production and on-farm activities to care for the environment.

Freshcare Ltd. is the program’s administrative body. It is owned by nineteen industry bodies. It is governed by a selection of individuals from those industry bodies who make up the Board of Directors. There is also a technical steering committee that oversees future code development.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	<ul style="list-style-type: none"> • Freshcare’s on-farm assurance program is established and maintained to service the Australian fresh produce industry. • The Freshcare Codes describe the practices required to assure that fresh produce is safe to eat, has been prepared with respect to customer specifications and legislative requirements; and has been grown with care for the environment
Scope	Freshcare applies to growers, grower-packers, wholesalers, and processors of fresh produce. There are also special certifications for grapes and wineries.
Geography	Australia
Funding	Program costs are paid by participants. Annual costs include the cost of the audit (typically between \$450.00-\$650.00AUS)

	<p>and the annual Freshcare Certification Fee of \$77.00AUS (the Australian dollar being roughly par with the Canadian dollar). There may also be additional costs if any additional testing (ie: soil, water quality, pesticide) is required. The required training program may cost between \$500 and \$900.</p>
Participation	Voluntary but may be required by retailers.
Details	<p>To achieve the Freshcare Food Safety and Quality Certification participants must:</p> <ul style="list-style-type: none"> • Take part in a Freshcare Food Safety and Quality training course • Implement the practices taught at training and those described in the Freshcare Food Safety and Quality Code of Practice and workbook • Contact a Freshcare approved Certification Body to schedule an audit. • Complete an initial audit and resolve any issues raised. <p>To achieve the Freshcare Environmental Certification participants must:</p> <ul style="list-style-type: none"> • Take part in a Freshcare Environmental Workshop. • Implement the practices taught at training and those described in the Freshcare Environmental Code of Practice and Workbook. • Maintain records of monitoring and management as required in the Code for verification of implementation on farm. • Contact a Freshcare approved Certification Body to schedule an audit. • Complete the initial audit and resolve any issues raised. <p>Certification to either program is valid for 13 months from date of audit. Participants then have access to the logo for packaging or promotional materials. Annual audits are required.</p>
Indicators	<p>The elements of the Food Safety and Quality Code of Practice are divided into two sections:</p> <ul style="list-style-type: none"> • Management <ul style="list-style-type: none"> ○ Scope and Commitment ○ Documentation ○ Training ○ Internal Audit and Corrective Action ○ Customer Requirements • Food Safety and Quality <ul style="list-style-type: none"> ○ Hazard analysis ○ Growing site ○ Planting material ○ Chemicals ○ Fertiliser and soil additives

	<ul style="list-style-type: none"> ○ Water ○ Allergens ○ Facilities, equipment, containers, materials and vehicles ○ Animals and pests ○ People ○ Product identification ○ Suppliers ● The Environmental Code of Practice includes the following elements: <ul style="list-style-type: none"> ○ Water, land, and soil management ○ Chemical usage ○ Fertilizer and soil additives ○ Biodiversity ○ Waste, air and energy management ● Both processes outline specific practices that correspond to each element. They must both be maintained. 			
Logo	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="462 835 673 972" style="text-align: center;">  </td> <td data-bbox="673 835 950 972" style="text-align: center;">Third Party Certification</td> <td data-bbox="950 835 1240 972" style="text-align: center;">✓</td> </tr> </table>		Third Party Certification	✓
	Third Party Certification	✓		

Website/Contact Info

Freshcare Ltd.
PO Box 247
Sydney Markets
NSW 2129
Phone: 1300 853 508
Website: <http://www.freshcare.com.au/home>

References

Freshcare Ltd. Website: <http://www.freshcare.com.au/home> (Accessed May 28, 2013).
Food Standards “*Supporting Document 3: Review of Food Safety Systems in Australian Horticulture*”
Food Standards Australia New Zealand:
<http://www.foodstandards.gov.au/code/proposals/documents/P1015%20Horticulture%20PPPS%201CF%20SD3%20FS%20systems.pdf> (Accessed May 28, 2013).

8.8 PROTECTED HARVEST

Protected Harvest is an independent not-for-profit organization that sets standards and provides certification for sustainably-grown food. Protected Harvest was founded in 2001, by an alliance of Wisconsin Potato and Vegetable Growers, World Wildlife Fund and the University of Wisconsin. Other goals include: the improvement of soil, water, and air quality and reduction of chemical inputs. Certification is completed by third party auditors on an annual basis. Products that are certified under Protected Harvest are sold under a number of different labels, these include “Lodi Rules” (wine grapes), “Healthy Grown (Wisconsin Potatoes), “Zeal” (California stone fruit). Certification for all of these brands is managed by Protected Harvest.

Since 2008, Protected Harvest’s daily operations have been managed by SureHarvest – a management and information systems firm specializing in sustainable agriculture. The standards themselves are developed and approved by the Sustainability Council; representing environmental organizations, agricultural specialists, scientists and marketing experts. The standards are flexible, to reflect regional soil conditions and environmental considerations of specific crops. The board of directors is made up of representatives of environmental organizations, technical specialists, scientists and marketing boards.

Focus on Sustainability Issues

Environmental	Social	Economic
✓		

Overview

Objectives	“Protected Harvest creates sustainable agricultural practices that are necessary for farmers to pursue sustainability and produce high quality, affordable food products for consumers to buy.” (Protected Harvest)
Scope	Program certifies potatoes, wine grapes, stone fruit (nectarines, peaches and plums), mushrooms, citrus and mandarins, strawberries, tomatoes and dairy.
Geography	United States
Funding	<p>Program costs are paid by participants. Applicants pay an administrative fee to Protected Harvest that also covers the cost of site inspection and associated travel expenses. Rates are determined according to location, crop, and acreage.</p> <ul style="list-style-type: none"> • Ex. 2011 Lodi Sustainable Winegrowing Certification fees: <ul style="list-style-type: none"> ○ Base Grower Certification Fee: \$1,785 (the fee for renewing growers is \$1,105) ○ Grower Incremental Assessment Fee: \$1-\$3/acre (depending on region)
Participation	Voluntary and not required by major retailers.
Details	<u>Standard Details:</u>

	<p>Each crop and region-specific standard is divided into three parts:</p> <ul style="list-style-type: none"> • Production <ul style="list-style-type: none"> ○ A point system is used to evaluate production practices in nine management categories ○ A minimum number of points must be achieved in each category to qualify. • Toxicity Score <ul style="list-style-type: none"> ○ In order to qualify for certification, growers must stay below an established toxicity level/acre. Highly toxic chemicals are prohibited. • Chain-of-Custody <ul style="list-style-type: none"> ○ Protected Harvest certified producers must document their chain-of-custody. ○ Each packer/handler of the crop must submit to a chain-of-custody audit that follows the crop from field to retail. <p><u>Certification Details:</u> There are three steps to becoming certified:</p> <ol style="list-style-type: none"> a. Submitting an application b. Conducting a self-assessment c. Performing a third-party audit and on-site inspection 		
Indicators	<p>The indicators of the Protected Harvest certification are as follows:</p> <ul style="list-style-type: none"> • Production: <ul style="list-style-type: none"> ○ Field scouting ○ Information sources ○ Pest management decisions ○ Field management decisions ○ Weed management ○ Insect management ○ Disease management ○ Soil and water quality ○ Storage management. • Toxicity: evaluating the use of chemicals in the growing process. Some chemicals are prohibited. • Chain-of-Custody: <ul style="list-style-type: none"> ○ How procedures for handling Protected Harvest crops are communicated to staff ○ What documented employee training methods are used ○ Which written tracking mechanisms are used ○ How segregation between certified and non-certified products is achieved ○ Assessing product tracking abilities. 		
Logo		Third Party Certification	✓

Website/Contact Info

Protected Harvest Program
2901 Park Avenue, Suite A2
Soquel CA 95073
Website: www.protectedharvest.org

References

Daniel Sonke, "Brief History of Sustainable Certifications & the Protected Harvest Program", 2008 Sustainable Ag Expo. November 13-14, 2008. <http://www.vineyardteam.org/files/resources/Sonke.pdf>

Protected Harvest, "Frequently-asked Questions". http://www.protectedharvest.org/?page_id=276 (Accessed: June 3, 2013).

Protected Harvest, "*Protected Harvest Certification Manual: Lodi Rules for Sustainable Winegrowing, 2011*" Protected Harvest: <http://protectedharvest.org/wordpress/wp-content/uploads/2011/01/2011-Lodi-Rules-Certification-Manual.pdf> (Accessed: May 30, 2013).

Protected Harvest, "*Protected Harvest Website*": www.protectedharvest.org (Accessed: May 30, 2013).

Protected Harvest, "*Standards for Citrus*," Protected Harvest: <http://protectedharvest.org/wordpress/wp-content/uploads/2009/08/Protected-Harvest-CA-Citrus-Standard-2009.pdf> (Accessed: May 30, 2013).

Protected Harvest, "*Standards for Wisconsin Potatoes*," Protected Harvest: http://protectedharvest.org/wordpress/wp-content/uploads/2009/08/Healthy-Grown-Potato-Standard_01_09.pdf (Accessed: May 30, 2013).

SureHarvest, "*SureHarvest Website*": <http://www.sureharvest.com/> (Accessed: May 30, 2013).

8.9 CANADAGAP CERTIFICATION PROGRAM

CanadaGAP is a national food safety certification program for operations that produce, pack, and store fresh fruits and vegetables. The program began as the *On-Farm Food Safety Guidelines* produced by the Canadian Horticultural Council (CHC) in 2000. Various updates to the program have been made since that time. Eventually the original On-Farm Food Safety Guidelines developed into the two manuals that are in use today: *The CanadaGAP Food Safety Manual for Fresh Fruits and Vegetables* and *The CanadaGAP Food Safety Manual for Greenhouse Product*. These manuals are based on the Hazard Analysis and Critical Control Points (HACCP) program which helps identify where production hazards may occur. The manuals were developed with the funding and support of Agriculture and Agri-Food Canada, and are continuously revised with input from producers, packers, industry representatives and food safety experts to ensure that they are realistic and based on published, peer-reviewed science.

In 2008 the CanadaGAP certification program was launched by CHC. The certification process certifies producers implementing a food safety program that corresponds with manual practices.

As of November 2012, CanadaGAP is no longer affiliated with CHC and is now an independently operated program under CanAgPlus, a not-for-profit corporation. CanAgPlus owns, publishes and maintains the CanadaGAP manuals and administers the certification program. In 2013 CanadaGAP and the Repacking and Wholesale Food Safety Program are scheduled to merge in order to create a single standard.

Focus on Sustainability Issues

Environmental	Social	Economic

*The CanadaGAP Certification program is primarily a food safety program.

Overview

Objectives	CanadaGAP is designed to help implement effective food safety procedures for fresh fruit and vegetable operations.
Scope	<p>The CanadaGAP manuals cover the production, packing, and storage of horticultural products.</p> <ul style="list-style-type: none"> The <i>Food Safety Manual for Fresh Fruits and Vegetables</i> covers: potatoes, leafy vegetables (including head vegetables, leaf of root crops, fresh leafy herbs and petioles) and cruciferae, small fruit, tree and vine fruit, and combined fruit (asparagus, sweet corn, legumes, bulb and root vegetables, fruiting vegetables).

	<ul style="list-style-type: none"> The <i>Food Safety Manual for Greenhouse Product</i> covers: tomatoes, cucumbers, peppers, leafy greens (including microgreens), eggplant, fresh herbs and edible flowers.
Geography	Canada and U.S.
Funding	<p>The manuals are freely available. Certification programs are funded by program participants. There are six certification options, associated fees are as follows:</p> <ul style="list-style-type: none"> Option A1 (Individual Supplier 4-year audit schedule): \$500 + Tax + \$50 Canadian Horticultural Council Fee, Option A2 (Individual Supplier 4-year audit schedule): \$500 + Tax + \$50 Canadian Horticultural Council Fee, Option A3 (Group Certification 4-year audit schedule): \$2,500 + Tax for 25 group members + \$50 Canadian Horticultural Council Fee/group member (Add \$500 + Tax for each additional 25 group members), Option B (Group Certification annual audit schedule): \$2,500 + Tax for 25 group members + \$50 Canadian Horticultural Council Fee/group member (Add \$500 + Tax for each additional 25 group members), Option C (Individual Supplier annual audit schedule): \$250 + Tax + \$50 Canadian Horticultural Council Fee, Option D (Repacking and Wholesale Annual Audit): \$750 + Tax. <p>Initial funding for the development of the program was provided by AAFC.</p>
Participation	Voluntary, market-driven
Details	<p><i>The Food Safety Manual for Fresh Fruits and Vegetables</i> and <i>The Food Safety Manual for Greenhouse Products</i> are designed for companies implementing good agricultural practices and who are maintaining effective food safety programs. The manuals are based on the seven principles of the HACCP program. Participants are required to read the manual, adhere to its guidelines, and keep records as required.</p> <p>Certification is a determination by a qualified auditor that the supplier is meeting the standards set out in the manual and that a food safety program is being continuously maintained.</p> <ul style="list-style-type: none"> After reviewing the commodity-specific manual, the participant may enroll by downloading an enrolment form. A third party auditor will then visit the operation of the participant, interview operators and staff, and assess the organization's conformity to the CanadaGAP Audit Checklist. <ul style="list-style-type: none"> The operator is assigned a score for each aspect of the Audit Checklist to be weighed against a maximum obtainable score.

	<ul style="list-style-type: none"> Those operators who pass the audit receive the certification. <p>Processes, and not products, are eligible to be certified.</p>			
Indicators	<p>The Audit Checklist is comprised of 21 broad categories:</p> <ul style="list-style-type: none"> On-Farm Food Safety Review Commodity Starter Products Premises Equipment Agronomic Inputs <ul style="list-style-type: none"> Commercial Fertilizers, Pulp Sludge and Soil Amendments Manure, Compost Tea and Other By-Products Mulch and Row Cover Materials Agricultural Chemicals Agricultural Water Cleaning and Maintenance Materials Waste Management Personal Hygiene Facilities Employee Training Visitor Policy Water (for Fluming and Cleaning) and Ice Pest Program for Buildings Packaging Materials Growing and Harvesting Sorting, Grading, Packing and Storage Storage of Product Transportation Identification and Traceability Deviations and Crisis Management 			
Logo	<table border="1"> <tr> <td></td> <td>Third Party Certification</td> <td>✓</td> </tr> </table>		Third Party Certification	✓
	Third Party Certification	✓		

Website/Contact Info

CanadaGAP Program
245 Stafford Road West, Suite 312
Ottawa, ON Canada K2H 9E8
Phone: (613) 829-4711
Fax: (613) 829-9379
www.canadagap.ca

References

CanadaGAP, “CanadaGAP Food Safety Manual for Fresh Fruits and Vegetables,” CanAgPlus: <http://www.canadagap.ca/uploads/file/English/Manuals/Version%206.1%20Updates/Fruits%20and%20Vegetables/CORRECTED%20Fruit%20and%20Vegetable%20Manual%206.1%202013.pdf> (Accessed May 27, 2013).

CanadaGAP, “CanadaGAP Food Safety Manual for Greenhouse Product,” CanAgPlus: <http://www.canadagap.ca/uploads/file/English/Manuals/Version%206.1%20Updates/Greenhouse/Greenhouse%20Manual%206.1%202013.pdf> (Accessed: May 27, 2013).

CanadaGAP, “Enrolment Form,” CanAgPlus: <http://www.canadagap.ca/becoming-certified/getting-started/> (Accessed: May 27, 2013)

CanadaGAP, “Audit Checklist,” CanAgPlus: <http://www.canadagap.ca/tools/audit-checklist> (Accessed: May 27, 2013).

International Trade Center “CanadaGAP” International Trade Center: http://search.standardsmap.org/assets/media/CanadaGAP/English/AtAGlance_EN.pdf (Accessed: May 31, 2013).

8.10 SIP CERTIFIED

Sustainability in Practice (SIP) is a sustainability certification for California wine grape growers. In 1996, a California wine grape grower group, Central Coast Vineyard Team, developed a self-assessment using a whole-farm, integrated approach to vineyard management. In 2003, the grower group decided to move from self-assessment to third-party certification. In 2008, SIP Certification was launched. Initially SIP covered only the vineyards. Wines made from grapes that were from certified Vineyards were eligible to use the SIP logo. There are currently 156 wineries in California that use SIP certified grapes. Over 900,000 cases of wine have been SIP certified. In 2012, the Central Coast Vineyard Team began developing certification for the wine making process.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	<ul style="list-style-type: none"> • “The SIP seal authenticates that the winegrower has passed our rigorous certification process for sustainable agriculture and business practices and is dedicated to: <ul style="list-style-type: none"> ○ Preserving and protecting the natural environment ○ Treating the employees and community with
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	<ul style="list-style-type: none"> ○ care ○ Using sound business practices that recognize the impact of today's actions on the future" (Sustainability in Practice)
Scope	SIP Certification applies to Californian grape growers, wines and vineyards.
Geography	SIP Certification is available to growers and wines throughout California.
Funding	<p>Program costs are paid by participants.</p> <p><u>Vineyard Certification:</u></p> <ul style="list-style-type: none"> ● One time application fee: \$500 for members, \$1000 for non-members ● Audit fees – charged by the hour and are paid directly to the auditor. Audits usually last between 8-15 hours in the first year and 2-4 hours thereafter. Estimated fees range from \$50-\$100/hour ● Certification fees – paid on an annual basis and charged per acre <ul style="list-style-type: none"> ○ 0 – 49: \$20/acre ○ 50-99: \$15/acre ○ 100-249: \$12/acre ○ 250-499: \$10/acre ○ 500-999: \$9/acre ○ 1000-2,499: \$8/acre ○ 2,500-4,999: \$6/acre ○ 5,000+: \$5/acre <p><u>Wine Certification:</u></p> <ul style="list-style-type: none"> ● Audit fees – charged by the hour and are paid directly to the auditor. Audits usually last between 1-4 hours and estimated fees range from \$50-\$150/hour ● Certification fees – charged annually and on a per case basis. <ul style="list-style-type: none"> ○ 0-7,499: \$0.16/case ○ 7,500-24,999: \$0.12/case ○ 25,000-49,999: \$0.10/case ○ 50,000-99,999 : \$0.08/case ○ 100,000-249,999: \$0.07/case <p>Program Development:</p> <ul style="list-style-type: none"> ● The Central Coast Vineyard team is recognized through awards and grants by: <ul style="list-style-type: none"> ○ US Environmental Protection Agency ○ California Department of Food & Agriculture ○ University of California ○ CA Department of Pesticide Regulation ○ Regional Water Quality Control Board ○ SLO Community Foundation

	<ul style="list-style-type: none"> ○ SLO Air Pollution Control Board
Participation	Voluntary and not required by retailers.
Details	<p>Certification is granted on an annual basis. All first year applicants must undergo a complete records and on-site audit.</p> <ul style="list-style-type: none"> ● The certification standard is based on a point system and includes: <ul style="list-style-type: none"> ○ Requirements: practices which must be completed. <ul style="list-style-type: none"> ▪ This includes the prohibition of materials included in the Prohibition Materials List. ○ Management Enhancements: practices that build on the Requirements. Growers must earn half of these points based on additional, non-required, (but suggested) management strategies. These allow each grower to document their existing sustainable farming practices and find areas for improvement. ● A grower must achieve at least 75% of the available points to be eligible for SIP Certification. <p>Renewal growers (in the 2nd and 3rd year) undergo a mixture of records and onsite inspections based on a random selection. (However all renewal applicants must still submit pesticide use records annually.)</p> <ul style="list-style-type: none"> ● Renewal growers may also receive a random on-site inspection at any time during the season. <p>In Year 4 the process begins again, with growers going through the complete first year audit. Farmers are also required to document a farm plan which includes: documentation, reporting, and written examples of practices.</p>
Indicators	<p>The standard has ten chapters:</p> <ul style="list-style-type: none"> ● Conservation and enhancement of biological diversity ● Water resources and conservation ● Soil Conservation and Water Quality ● Energy conservation and efficiency ● Continuing education ● Air quality ● Social equity ● Pest management ● Product Assurance and Business Sustainability ● Vineyard Acquisition/Establishment and Management <p>There is also a prohibited materials list which participants</p>

	must adhere to.		
Logo		Third Party Certification	✓

Website/Contact Info

Sustainability in Practice (SIP) Certification Program
5915 El Camino Real
Atascadero, CA 93422
Phone: 805.466.2288
Website: www.sipcertified.org

References

SIP Vineyard Certification Program, “Standards 2013” SIP Vineyard Certification Program: http://www.sipcertified.org/wp-content/uploads/2012/04/SIP_Vineyard_Standards_201312.pdf (Accessed: May 30, 2013).

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PRWeb., “Wineries to Receive SIP Sustainability Seal of Approval”: <http://www.prweb.com/releases/2012/3/prweb9270924.htm> (Accessed: June 3, 2013).

Vineyard Team, “History”, <http://www.vineyardteam.org/about/index.php> (Accessed: June 3, 2013).

8.11 TESCO’S NURTURE

The Nurture Standard was launched by Tesco, a major UK retailer in 1992.

According to Tesco, it was the first supermarket to establish best farming practices for fruits and vegetables in the United Kingdom. The Nurture scheme has evolved and it now includes 15,000 growers in 70 countries around the world. A technical advisory committee is responsible for the development of the standard. This committee consists of members from the Tesco Technical Team, suppliers, growers, independent technical experts and members of the scheme manager CMI Plc (which provides auditing services the program). The Tesco technical team is available to advise growers on how to continue to improve their standards

NSF-CMi Certification operates as the registrar for the scheme on behalf of Tesco and manages the grower registration and certification process. Additionally, there is an inventory of auditors from approved international certification bodies who are also able to complete audits as sub-contractors. These certification bodies must, at a minimum, be GLOBALG.A.P. accredited.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	<p>Nurture works to develop and improve its standards to ensure that it continues to meet and exceed consumer expectations on quality and environmental standards. Nurture also works to:</p> <ul style="list-style-type: none"> • “Ensure we can trace all our products back to source. • Grow and select the highest quality fruit and vegetables available. • Demonstrate a commitment to protecting wildlife and landscape conservation. • Encourage sustainable farming practices, such as use of energy, natural resources and recycling. • Rational use of artificial pesticides, fertilisers and manures, championing the use of natural methods, such as solar radiation of soils to eradicate pests. • Ensure all the staff is treated in an responsible manner.” (Tesco)
Scope	The Nurture standard applies to farmers growing fruit, vegetable, and salad products that are destined for Tesco UK retailers
Geography	International
Funding	As a private retailer, program funding information is not publically available.
Participation	Mandatory in order to supply Tesco retailers.
Details	<p>The Nurture standard is consistent throughout the world and consists of three levels – Gold, Silver and Bronze. The requirements of the program are as follows*:</p> <ol style="list-style-type: none"> 1. Apply for Certification - A grower must complete and submit an application form providing the details of the site and operation. The accreditation body helps the grower register with NSF (the official registrar). 2. Complete an Audit Request Form- Audits must be authorized by NSF, so growers must submit an audit request form. Once completed growers receive the TESCO Nurture Standard Guidelines. 3. On-site Audit – an on-site audit of the operation is then initiated to ensure compliance with the TESCO Nurture Standard.

	<p>4. Submission of Audit Findings – audit findings are compiled into a site report and then submitted. The report will include any non-conformity found. Any corrective action required must be completed prior to the certification being approved.</p> <p>5. The Tesco Nurture Certification is issued upon providing proof of resolution for any non-conformity.</p> <p>6. An annual audit is required to maintain certification status.</p> <p style="padding-left: 40px;">a. Included in the annual assessment is ensuring that the supplier conforms to ethical and worker welfare standards.</p> <p>* These requirements are those specified by the certification body SCS Global. Exact requirements may differ depending on the certification partner.</p>			
Indicators	<p>Tesco standards include:</p> <ul style="list-style-type: none"> • Use of pesticides • Use of fertilizers • Prevention of harmful effects on the environment • Protection of health • Efficient use of energy, water, and other natural resources • Recycling of materials • Conservation of the natural environment at the production site 			
Logo	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="492 1167 673 1312" style="text-align: center;">  </td> <td data-bbox="673 1167 950 1312" style="text-align: center;"> Third Party Certification </td> <td data-bbox="950 1167 1226 1312" style="text-align: center;"> ✓ </td> </tr> </table>		Third Party Certification	✓
	Third Party Certification	✓		

Website/Contact Info

NSF International
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Long Hanborough, Oxford
OX29 8 SJ
Email: TNuk@nsf.org
Phone +44 (0)1993 885 600
Website: <http://www.tesco.com/nurture/>

References

Tesco, Nurture Website: <http://www.tesco.com/nurture/> (Accessed: May 30th 2013).

Tesco, "Nurture and its Values": <http://www.tesco.com/nurture/?page=nurturevalues>

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TUVRheinland "*Tesco Nurture Certification (Tesco Nature's Choice)*" TUV Rheinland: http://www.tuv.com/en/corporate/business_customers/management_system/food_and_animal_feed/tesco_nurture_certification/tesco_nurture.html (Accessed: May 30 2013).

8.12 FOOD ALLIANCE

Food Alliance began in 1993 as a joint project between Oregon State and Washington State University and the Washington Department of Agriculture. The Food Alliance was incorporated in 1998. It is an independent not-for-profit organization with support from industry, government and academia. The Food Alliance developed standards and implemented a third-party certification program for sustainable agricultural and food handling practices for farms, ranches, food processors and distributors in North America. Its members are comprised mostly of small to medium-sized family-owned businesses. Its focus was on animal welfare, labor, and the environment and its standards commit to continual improvement.

In February 2013, Food Alliance had to cease operations and discontinue their certification services. The decision came as a result of cuts to State grant funding on which the organization was financially dependent. No new applications were accepted although current participants were able to continue using the certification on their product packaging.

In August 2013, the Food Alliance started operating again. They maintain their 501C3 (charitable organization that provides education) status, but no longer rely on grant funding. The program is now financed through certification fees.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	<p>Food Alliance administered its standards and certification programs in accordance with the following guiding principles:</p> <ul style="list-style-type: none"> • “Protect, enhance, conserve soil resources, water resources and biodiversity, • Conserve energy, reduce and recycle waste, • Reduce use of pesticides and other toxic materials, • Support safe and fair working conditions, • Ensure healthy and humane treatment of animals with no growth-hormones or non-therapeutic antibiotics, • Guarantee product integrity, no genetic engineering or artificial ingredients, • Maintain transparent and sustainable ‘chain of custody’, • Continually improve practices” (Food Alliance)
Scope	<p>It includes a wide range of agricultural products including: fruits, vegetables, mushrooms, grains, legumes, livestock, eggs, dairy, shellfish, nursery and greenhouse products (including woody ornamentals, annuals, perennials, flowers and foliage plants), and</p>

	<p>prepared food products made with Food Alliance Certified ingredients.</p> <p>The program is equipped to certify produce, farms, ranches, processors, distributors and packers.</p>
Geography	<p>The program is based out of Portland, Oregon. But there are over 330 certified farms in the United States, Canada, and Mexico. Certified products can also be found across North America.</p>
Funding	<p>Food Alliance is a not-for-profit organization. It relied on grant funding in the beginning and now on certification fees.</p> <p>Certification fees are paid by participants. The rates depended on who was making and benefiting from certification claims. Licensing fees are based on revenues 4/10 of a percent on the first \$150,000, 2/10 of a percent on the second and 1/10 on revenue above \$300,000.</p>
Participation	<p>Voluntary – Food Alliance is not a requirement for major retailers. However, Food Alliance certification is recognized by companies, groups and agencies such as Bon Appétit Management Company, Sysco Corporation, Walmart Supplier Sustainability Index, Health Care Without Harm, the American Medical Association and the US Humane Society.</p>
Details	<p>There are five different certification options – crops and crop production, livestock and livestock production, farmed shellfish production, nursery and greenhouse production, and certification for food handling operators.</p> <p>Participation is voluntary. If a producer wishes to be certified these are the certification steps:</p> <ul style="list-style-type: none"> • An application, available on Food Alliance’s online website, must be completed. • After Food Alliance has reviewed the application the document is forwarded to an independent inspector who schedules a site inspection. The inspector tours the operation, interview managers and key staff, and reviews relevant records to evaluate performance. • After the site visit, an inspection report is submitted by the inspector to Food Alliance. • Food Alliance then makes the final certification decision and informs the producer. • For farmers and ranchers the certification is valid for three years. For processors and distributors, the validation term is one year. However, Food Alliance retains the right to conduct unscheduled audits on participants. Participants also have an obligation to update their certification documents if any substantial change to their operation should occur. <p>Food Alliance also requires supply-chain verification to ensure that certification is not invalidated at any point in the supply chain by being co-mingled with non-certified products or processed under</p>

	conditions which are inconsistent with certification.
Indicators	<p>Food Alliance’s standards cover five areas:</p> <ul style="list-style-type: none"> • Soil and water conservation, including nutrient management: <ul style="list-style-type: none"> ○ Soil conservation ○ Soil quality ○ Plant and animal productivity ○ Soil-related nutrients and fertility ○ Defined use and water management strategies ○ Reduction and recycling methods for water ○ Water quality protection • Integrated pest, disease and weed management and pesticide risk reduction: <ul style="list-style-type: none"> ○ List of prohibited chemicals ○ Organic natural inputs ○ Equipment and training on chemical use ○ Storage/waste/disposal of chemicals ○ Management of chemicals ○ Weed control • Wildlife habitat and biodiversity & animal welfare: <ul style="list-style-type: none"> ○ Buffer zones, GMO usage, habitat & ecosystem ○ Animal treatment, breeding and feeding. • Safe and fair working conditions: <ul style="list-style-type: none"> ○ Conditions of work ○ Conditions of employment ○ Empowerment of workers • Operational Efficiency <ul style="list-style-type: none"> ○ Continuing education for operational efficiency ○ Reuse and recycle ○ Energy efficiency ○ Low-impact packaging <p>Each of the four areas (above) is assessed on a scoring system. Points are given for performance of each evaluation criteria. Points awarded range from 1-4.</p> <ul style="list-style-type: none"> • 1 point: Meets legal requirements, or, in the absence of law, minimum expectations • 2 points: Common practice or industry standard • 3 points: Progressive management with demonstrated environmental stewardship and social responsibility • 4 points: Visionary management with exceptional effort to meet, and achievement of, social and environmental goals <p>Applicants must maintain an average of 3 points within each of the 5 areas in order to be certified. If the score is not high enough the applicants will be given one year to implement the necessary changes.</p> <p>There is also fixed evaluation criteria which must be met prior to</p>

	certification: <ul style="list-style-type: none"> • No prohibited chemicals • No GMO material • A commitment to continual improvement 		
Logo		Third Party Certification	✓

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References

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8.13 CERTIFIED GREENHOUSE

Certified Greenhouse Farmers (CGF) is a trade association of vegetable farmers who certify greenhouse-grown vegetable products. The organization is made up of growers throughout North America, and there are also committees representing the growers from specific countries. The standards are uniform for all growers, regardless of the operation’s location.

The objective of the certification process is to produce safe and quality vegetables in a sustainable manner. Quality is defined as fresh, consistent taste and texture, and superior appearance and color.

Those wishing to become certified must meet a published standard of greenhouse growing. The certification program is independently audited by SCS Global Services in order to protect the integrity of the process.

After certification members receive a membership certificate and enter into a royalty agreement with CGF. This allows producers to use the CGF seal and CGF in turn lists the member on their website and in marketing materials.

Focus on Sustainability Issues

Environmental	Social	Economic
✓	✓	✓

Overview

Objectives	“CGF has developed their greenhouse growing process in order to produce ‘the best of the best’ in consistent produce quality, food safety and sustainable practices.” (Certified Greenhouse Farmers)
Scope	CGF certification applies to greenhouse growers that produce vegetables including, but not limited to, tomatoes, cucumbers, bell peppers, eggplant, lettuces and endive.
Geography	Members are found in California, Nevada, Maine, Texas, British Columbia and Ontario. Members supply vegetables to supermarkets around the world.
Funding	<ul style="list-style-type: none"> • CGF is funded by royalty payments of \$500 per acre on qualifying operations. • Certification is separate and paid for by the growers - the cost is variable, from \$600 to \$1800, depending upon the scope and size of the greenhouse operation.
Participation	Voluntary
Details	Members who wish to obtain CGF certification must first meet the CGF definition of a greenhouse:

	<ul style="list-style-type: none"> • Grow in a fully enclosed, permanent structure with impermeable glass or plastic. • Use computerized irrigation and climate control to ensure vegetable quality. • Grow in a soilless medium with hydroponic methods that protect against soil-borne contaminants. • Have Integrated Pest Management systems that minimize the need for pesticides. <p>Additionally, members must undergo a Global Food Safety Initiative-benchmarked audit, with any noncompliance issues resolved.</p> <p>After the preliminary requirements are met farmers are certified against CGF’s greenhouse growing standard and must provide a production plan that describes all aspects of their operation including: water, recycling, waste management, pest management plans, and external environmental concerns.</p> <p>The standard system is two-tiered. Producers must achieve 90% conformity with Tier 1 requirements to be certified. If farmers can obtain 80% of Tier 2 requirements they will receive a “Sustainability Excellence” certification.</p> <p>Information is benchmarked, allowing growers to continuously improve performance.</p>
Indicators	<p>The indicators for the CGF standards include:</p> <ul style="list-style-type: none"> • Structural and environmental controls. <ul style="list-style-type: none"> ○ members must meet certain structural requirements and have computerized systems for water delivery and temperature maintenance • Water resource management <ul style="list-style-type: none"> ○ members must inform CGF about their water consumption practices, and the practices in place to monitor and conserve water with emphasis on wise water use and efficient irrigation systems. Water quality, wastewater treatment and reuse are also evaluated • Irrigated Pest Management procedures <ul style="list-style-type: none"> ○ members must demonstrate their use of Integrated Pest Management (IPM) programs, detailing how they monitor for, report, and treat pests, with emphasis on using biological, mechanical or cultural controls whenever possible • Plant nutrition management <ul style="list-style-type: none"> ○ Farmers must grow in a soilless medium and must also develop a system to assess plant

	<p>nutrition and keep detailed records of any applied nutritional products</p> <ul style="list-style-type: none"> • Ecosystem management <ul style="list-style-type: none"> ○ standard evaluates how farmers preserve the integrity of local environments that surround their greenhouse operations (i.e. preventing soil erosion and preserving natural habitats). • Integrated waste management <ul style="list-style-type: none"> ○ farmer’s integrated waste management procedures will also be monitored. 		
Logo		Third Party Certification	✓

Website/Contact Info

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Website: <http://www.certifiedgreenhouse.com/>

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Certified Greenhouse Farmers Website: <http://www.certifiedgreenhouse.com/> (Accessed: May 30,

8.14 ENVIRONMENTAL FARM PLAN

The EFP is an educational process and tool, which helps farmers assess areas at risk from agriculturally sourced nutrients on their farms and set priorities to take action.

Initial policies for the Ontario EFP program were developed in 1992 by the Ontario Farm Environmental Coalition, which consisted of four lead agencies: the Ontario Federation of Agriculture, Christian Farmers Federation of Ontario, Ontario Farm Animal Council and Agricultural Groups Concerned About Resources and the Environment (AGCare). Recently, funding for the EFP program has been provided through federal-provincial funding agreements including the Agricultural Policy Framework (2005-2009), Growing Forward (2009-2013) and now through Growing Forward 2 (2013-2018). The EFP has been delivered locally by the Ontario Soil and Crop Improvement Association (OSCIA) in partnership with the Ontario Ministry of Agriculture Food (OMAF). The introduction of the EFP in Ontario has led to the adoption of EFP programs in other provinces as well.

Focus on Sustainability Issues

Environmental	Social	Economic
✓		

Overview

Objectives	To help farmers assess areas at risk from agriculturally sourced nutrients on their farms and set priorities to take action.
Scope	Whole farm sustainability assessment
Geography	Canada (provincial programs and funding differ)
Funding	Government Funding (Growing Forward 2)
Participation	Voluntary
Details	EFP consists of a number of steps that participants undertake (Figure 12). For example, producers attend an introductory workshop, where farmers are encouraged to identify environmental strengths and potential areas of concern and develop an action plan for dealing with potential risks (OSCIA, 2012).
Indicators	Soil and Site Evaluation Water Wells Pesticide Storage and Handling Fertilizer Storage and Handling Storage of Petroleum Products Disposal of farm wastes Treatment of household water On-Farm Storage of Livestock Manure and other Prescribed

	Materials Livestock Yards and Outdoor Confinement Areas Use and Management of Manure and Other Organic Materials Horticultural Production Field Crop Management Silage Storage Milking Centre Wash water Water and Energy Efficiency Soil Management Nutrient Management Stream, Ditch and Flood Plain Management Wetlands and Wildlife Ponds Pest Management Woodlands and Wildlife		
Logo		Third Party Certification	

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References

Canada – Ontario Environmental Farm Plan :
http://www.ontariosoilcrop.org/en/programs/canada_ontario_environmental_farm_plan_efp.htm
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