

Sustainable (Liquid) Eggs on Campus

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University of British Columbia

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UBC Social Ecological Economic Development Studies (SEEDS) Student Report

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Scenario 3, Group 3
University of British Columbia
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Executive Summary

UBC Student Housing and Hospitality Services (SHHS) Purchasing Manager, Victoria Wakefield, is concerned with the lack of 3rd-party certification for local producers of specialty liquid eggs. Victoria's main concern is having confidence that the brands she purchases are consistent with UBC's sustainability goals, as UBC has no standard for egg purchasing. She has also identified finding certified organic eggs as a challenge based on UBC's sustainability goals. Victoria has assigned us, the 2nd generation research team tackling this Sustainable Eggs on Campus project, to seek out viable sustainable, local, free range/organic liquid egg products that can meet the demands of UBC Student Housing and Hospitality Services, which includes UBC Food Services.

A secondary task for us was to clarify how the certification of such products is implemented and regulated. Through our contact at the Vancouver Humane Society, Leanne McConnachie, we were able to connect with Steve Easterbrook, owner of Rabbit River Farms. We were invited by Steve to tour his BCSPCA certified organic egg farm to gain a producer's perspective on the egg industry. By conducting literature reviews and interviews with industry experts, we did a thorough assessment of the

local egg industry from which we were able to gather a much deeper insight on the inner workings of egg marketing than any of us had anticipated at the outset of this project. The BC Egg Marketing board manages the quota allocations for producers on the province. It is this marketing board's lack of transparency and ability to respond to consumer demand that really hinders UBC from reliably sourcing sustainably and ethically produced egg products. Using diverse avenues of research, we were able to access a varied range of experts to verify objective facts, some of whom included certification board employees, predecessors of our research project, and chefs. The advantages of our methodology contributed to our thorough industry overview, and this helped greatly for finding the most recommendable liquid egg options for Victoria Wakefield.

Our results showed that we could not fully satisfy UBC SHHS/Food Service's high volume demands for liquid eggs by sourcing exclusively certified organic and local liquid eggs, so we recommended a compromised cage-free procurement option instead. Due to market conditions, the procurement of 100% local (defined as being produced within 150km) organic and free range liquid eggs is not feasible. However a "mostly" local cage-free whole liquid egg product from Vanderpol's Eggs is available for purchase. From our investigation we discovered that during times of specialty liquid egg shortages, given the supply managed nature of BC egg industry, Vanderpol's often meets demand of this product by sourcing cheaper specialty eggs from The USA.

While this practice is not ideal within UBC's sustainability paradigm it can help shape BC's egg industry by showing the need to expand local quota allocations to cage free and organic producers in the province if the egg industry seeks to satisfy the local demand for these specialty eggs. It is also possible to source cage free pre-scrambled eggs and hard boiled eggs from Vanderpol's. A secondary recommendation is to review where other non shelled egg products are used by UBC SHHS and to minimize or eliminate the use of these by creating more vegan baked goods, for example. This last recommendation should be analyzed in more depth by future groups helping Victoria Wakefield to make UBC SHHS a leader in purchasing sustainably and ethically-produced goods.

Introduction

UBC aspires to be leader in sustainability for higher education institutions. One vital part of this vision is the UBC Food System. Victoria Wakefield, purchasing manager for UBC Housing and Hospitality Services manages the large amounts of food required by the university students, faculty, staff and community, and has asked for help find more local and sustainably-produced eggs to be served by UBC Food Services.

Recently there has been a local movement towards more humanely produced specialty eggs, strongly supported by the Vancouver Humane Society. Victoria has

been an advocate for this goal which also reflects the province-wide trend towards consumption of cage-free specialty eggs. It has been reported that 22 to 30% of eggs consumed in BC are from cage-free hens, compared to 5% in the rest of Canada (Arnason, 2013).

Increased consumer awareness is a major factor in BC's leadership as Canada's top consumer of cage-free eggs (McConnachie, personal communication, February 27, 2014; Arnason, 2013), even when the BC Egg Marketing Board only allocated 15.7% of BC's egg production quota for non caged eggs in 2013 (BCEMB, 2014). This discrepancy between supply and demand of specialty eggs in the province and the complexity of certifications processes results in the pooling of specialty eggs sourced from the United States together with BC specialty eggs, when local liquid egg supply shortages arise. This influences Victoria's lack of confidence regarding purchases of cage-free liquid whole eggs.

During the first round of research last year, the first group of Sustainable Eggs on Campus recommended sources of whole shelled eggs that met Victoria's expectations, but questions about organic and cage-free certifications and the sourcing of liquid whole eggs remained unanswered. As the 2nd generation of this research project, our research questions were focused on (1) sourcing cage-free options and organic liquid eggs that meet UBC's sustainability goals, as well as (2) performing a primary assessment of organic, free-range and free-run certifications

standards including the parties involved in the enforcement and regulation of such product labels.

Methods

As we started our initial literature review, one immediate recurring finding was the exclusive, private climate of the supply-managed egg industry, walling off “outsiders” like ourselves from “insider” information. As such, we struggled to find relevant literature to answer many of the questions that would bring us closer to achieving our specific research goals. In particular, public data was not available for (1) pricing quotes, (2) verifying the certification status of individual contracted producer farms, or (3) confirming whether pooling or segregation of different egg categories (conventional vs. specialty, and BC vs. United States imports) was occurring at liquid cracking facilities.

After discovering that most of our questions could not be answered by means of thorough literature review alone, and especially once we got in touch with Leanne McConnachie who greatly informed us about the inner structure of the egg industry; we soon learned that to access the information resources needed for this project

would require professional personal communications with different “expert” contacts who were willing to speak with us.

Expert Contacts

Victoria Wakefield - SHHS Purchasing Manager

Leanne McConnachie – Director of Farm Animal Programs, VHS

Steve Easterbrook - Rabbit River Farms Founder

Henry Meerstra- Vanderpol’s Eggs Sales Manager

Teresa Porter – Project Predecessor

Meghan Collins - BC SPCA Certified Program Administrator

Ryan Bissell - AMS Executive Chef

Victoria Wakefield is the purchasing manager for UBC Food Services and Student Hospitality and Housing Services (SHHS). She was our main project stakeholder with whom we consulted to clarify our research goals. We initiated contact with her via email on Jan. 27 to schedule an in-person interview for Feb. 5. After meeting with Victoria, our research scope was refocused on sourcing sustainable liquid eggs. The main interview questions we had prepared were: (1) Which, between climate action plan goals and economic costs take a higher priority for egg purchasing choices? (2) What does UBC Food Services/SHHS want to portray to public with egg purchases? (3) Do full life-cycle ecological footprint metrics take priority over animal welfare? Victoria also provided us documents which introduced us to the formal distinctions between conventional and specialty egg production.

Leanne McConnachie from the Vancouver Humane Society was introduced to us by Vicky as a contact to connect with different egg industry representatives. Throughout our project Leanne provided extremely vital information and support as our most frequent contact.

Leanne would regularly provided us with new contacts and references to further our research. Through Leanne, we were introduced to Steve Easterbrook of Rabbit River farms.

email contact: Feb. 7, 9, 12, 13, 17, 20, 24; Mar 3, 5, 26, 27; Apr. 1
in-person meeting Feb.27 at Agora Cafe, and Mar. 12 at Rabbit River
Farms

Steve Easterbrook, owner and founder of Rabbit River Farms, invited us on an on-site visit to his 6000-flock BCSPCA certified organic egg farm on Mar.12. As the first pioneer of certified organic eggs in Canada (started 1993), Steve possessed an exceedingly rare insider's perspective on the quota-based egg industry. Steve was glad to answer our questions about certification, 3rd-party audits, and the segregation of specialty eggs in the grading, processing, and packaging of both whole-shelled and liquid whole eggs.

Henry Meerstra, Vanderpol's Eggs Sales Manager, was contacted by phone on Mar.28. Vanderpol's Eggs is the biggest liquid egg producer in BC. Henry provided us with some wholesale prices, gave us his personal view on the differentiation of specialty eggs, and explained Vanderpol's specialty liquid egg options.

Teresa Porter, co-author of last year's LFS450 Sustainable Eggs on Campus report, introduced us to Henry Meerstra. Teresa also joined us on our on-site visit of Rabbit River Farms (Mar.12) to provide a comprehensively comparative perspective based on her observations from the non-organic egg facilities she toured last year for last year's research. Her willingness to discuss the strengths and limitations of last year's research provided valuable input that informed the design of our research scope and methodology.

Meghan Collins, the BC SPCA certified program administrator was contacted by phone on Mar.24. Meghan was introduced by Leanne as a contact to inquire if sufficient quantities of BC SPCA certified supply of eggs will be available for UBC purchasing. Meghan oversees the new BC SPCA-certified applications from newly registered producers. March and April are the busiest months for new certified BC SPCA registrations, which increase every year.

Ryan Bissel, AMS executive chef, was recommended by Brent Mansfield for us to contact. Initially we intended to contact Ryan to ask for his views on 'vegan' egg replacement alternatives, and the possibility of increasing shelled egg purchases while reducing liquid egg purchases. Ryan has access to the database of all AMS ingredient purchases, and is in charge of procurement decisions. After hearing that AMS has been exclusively purchasing cage-free liquid eggs from Vanderpol's since Ryan was hired in September 2013, we decided to inquire about the wholesale prices AMS pays for its institutional procurement of Vanderpol's cage-free liquid eggs. This enquiry would provide a specific economic cost to associate with our recommended liquid egg source for UBC Food Services/SHHS. We emailed Ryan on Mar.24. to schedule an in-person meeting which occurred on Mar.26.

Findings and Outcomes

INDUSTRY ANALYSIS

i) SUPPLY MANAGEMENT AND THE QUOTA SYSTEM OVERVIEW

In order to begin our research on liquid egg options, it was necessary that our group first begin with the understanding of the industry in which egg producers, distributors and purchasers are working within. Eggs are produced under supply management in Canada, along with dairy, chicken, turkey and broiler hatching eggs (EFC, 2013). Supply managed means the markets are regulated with fixed prices on domestically provided products, high tariffs on imports, and quotas on production. Farmers' production is regulated to meet consumer demands and industry needs, thereby reducing potential fluctuations in market prices for both producers and consumers (BCEMB, 2014). Supply management works well for conventional producers, however is not designed for the scale and budget of small scale or niche market farmers that are producing specialty items, such as organic products. A report by the Metcalf Foundation explains the difference: "supply management does not work as well for those who engage in non-conventional forms of farming and for new farmers. Non-conventional farmers depend on their ability to differentiate themselves in the market, and they do their own marketing to let customers know about what they do differently. They do not benefit from economies of scale to the same degree, and they cannot justify the market price for quota given the production methods they use" (2010, p.6). Furthermore, it is argued that the aspects of supply management that are successful within conventional farming are actively constraining the production and marketing of such differentiated products (Metcalf Foundation, 2010).

By investigating the nature of supply management for the BC egg industry, it became apparent to our group that the mission of sourcing organic, free range, or free run liquid eggs for UBC is directly impacted by the structure of supply management and the quota system.

The increasingly pertinent issue within the egg industry is the distinction between conventional and specialty egg quota, and the allocation of each within BC. 'Specialty' egg quota includes everything that is non-conventional, including free run, free range, and organic egg products. There is a limited supply of specialty egg quota that is distributed by the BCEMB and it is very difficult for potential new entrants to the market to obtain quota at all (Kimmitt, C., 2010). The price of conventional quota versus specialty quota is the same, however the scarcity of specialty quota, high demand, and the high costs associated with organic production increase the value of specialty quota. In the BCEMB 2013 annual report, out of the total egg production 84.3% were conventional and 15.7% specialty (BCEMB, 2014). However this does not include specialty egg products that were sold farm-direct, at farmers markets, through Community Shared Agriculture (CSA) programs and also specialty stores such as Capers and Choices, which are excluded from retail sales data and which would increase the estimated total specialty egg production beyond 21% (Shore, R. 2010). This reflects the reported 22-35% demand by British Columbians for specialty egg products that cannot be currently met by the BCEMB quota allocation,

and furthermore the 69% of British Columbians that support a legislated ban on caged-egg production (McConnachie, personal communication, February 27, 2014).

It has been argued by many that the BCEMB has not adequately responded to the increasing demand in specialty eggs by consumers and also the request from producers to be able to profit from this demand, stifling any progressive and innovative changes from occurring in the BC egg industry by non-conventional producers (McConnachie, personal communication, February 27, 2014; Shore, R., 2010). The BCEMB has been increasing the quota for specialty eggs at the same rate as the increase in quota for conventional, just 2 - 4% annually which is not reflecting the BC consumer demand (Shore, R., 2010). Steve Easterbrook of Rabbit River Farm reports how “[2-4% is] not anywhere near the local demand... [Rabbit River Farm’s] growth is in excess of 25% annually” (Shore, R., 2010). Our research has brought attention to the fact that the product we are attempting to source for UBC is in extreme scarcity, which is a consequence of governing provincial bodies. The implications of our findings regarding supply management, the quota system and distribution by the BCEMB is threefold:

- i. Non-conventional producers are being prevented from producing specialty eggs, despite a strong interest in increasing production and purchasing more quota;
- ii. Specialty eggs are kept in a short supply, which is problematic for producers and also large purchasers such as UBC;
- iii. The high pricing of specialty eggs keeps the consumer demand by the general public lower than reported through ideological surveys.

ii) LIQUID EGGS

Throughout our research conducted during the industry analysis, we discovered a lack of distinction between types of egg products, outside of conventional and specialty. However the scope of our project is to assess the most sustainable options for liquid egg products, adding a new dimension to our industry analysis. The first challenge identified through our research is the inherently problematic nature of liquid eggs; liquid eggs are the defective whole eggs that do not successfully pass through the grading station and therefore lose market value (McConnachie, February 27, 2014). That liquid eggs are produced from defective eggs means that quota is not allocated to liquid egg production and that farmers do not produce eggs specifically for the purpose of being broken. There is a significant loss in profits when both conventional and specialty eggs are sent to the breaking pool, which is a disincentive for farmers to allocate eggs for liquid production (Easterbrook, S., personal communication, March 12, 2014). The implications this has for our goal of sourcing sustainable liquid egg options is that, as previously discussed, the high value associated with specialty eggs results in a much higher disincentive to send these eggs to the breaking pool and therefore creates a shortage of specialty liquid eggs (Easterbrook, S., personal communication, March 12, 2014). Leanne McConnachie reiterates this, stating “there is a huge gap in supply of liquid cage-free egg in BC right now because almost all of the cage-free shell egg can be sold, and they get more

money for a whole egg than liquid, so no one wants to convert a good egg into liquid. Only the rejects go to liquid right now” (personal communication, March 27, 2014).

These findings show how the structure of the egg industry challenges, yet again, our goal of sourcing sustainable, specialty liquid eggs. The high cost associated with specialty quota and the increased costs of specialty egg production means that once a specialty egg is broken for liquid eggs, it is likely that the farmer actually loses money per egg (McConnachie, personal communication, March 27, 2014). This is especially true for organic eggs, where there are high associated production costs such as organic feed and the annual fees paid to 3rd-party certifiers for organic certification (Easterbrook, S., personal communication, March 12, 2014). In communicating with egg producers, this disparity was proven true through the absolute absence of liquid organic egg production at this current time. Henry Meerstra of Vanderpol’s Eggs reported that organic liquid eggs are non-existent in the market right now, and cannot be relied upon as a consistent product for large-scale purchasers (personal communication, March 28, 2014). Free run and free range eggs are the only specialty eggs that are likely to be broken and packaged as liquid eggs, and even so have such a low profit compared to whole shell eggs that this is always undesirable for egg producers. This process explains why the majority of liquid eggs are produced from the lowest grade conventional egg, as it reduces the profit loss for egg producers (McConnachie, personal communication, March 27, 2014).

The segregation of reject eggs is a subjective process conducted by grading facilities, which within Canada and BC has experienced a recent consolidation of ownership (McConnachie, personal communication, February 27, 2014). Our research exposed how grading facilities have added another layer of bureaucratic challenges to the egg industry, whereby egg producers are subject to the scrutiny of a select few grading facilities who can under-grade their product indiscriminately (McConnachie, personal communication, February 27, 2014). The BCEMB relies upon grading facilities to segregate eggs based on size and appearance, and the influence of this grading process further compromises the product of non-conventional farmers who under the quota system can potentially have high quality specialty eggs be assigned to the breaking pool for bureaucratic reasons.

iii) SOURCING LOCAL

Within our project description, our stakeholder had identified the characteristic of 'local' to be of high importance for UBC's values and purchasing choices. This led to a deeper analysis of the liquid egg industry to learn about how locality is considered and assured. Sourcing *local* liquid eggs ended up being a major challenge to our group, based again on the nature of the quota system and the breaking facility in which liquid eggs are pooled. Liquid eggs, just like milk within the dairy quota system, are pooled together by the BCEMB regardless of the area in which

they were produced (McConnachie, personal communication, February 27, 2014). The liquid eggs are then branded and packaged in contributing egg producers cartons, indiscriminate of the product inside of the carton (McConnachie, personal communication, February 27, 2014). This restricts consumers from being assured of the source of their liquid egg product, concerning both regional area and farm origin, making the assurance of a local product nearly impossible within any definition of 'local'.

When considering specialty eggs, sourcing local becomes an even larger concern due to the scarcity of the product in general and in liquid form. Because specialty eggs are scarcer than conventional, eggs are sourced from further and further distances to pool together enough liquid product to meet demand (McConnachie, personal communication, February 27, 2014). Often, US eggs are imported in order to fill the shortage of local product and meet consumer demand, for both conventional and specialty eggs. This is a direct consequence of the quota system, where regardless of the capacity for local production the restricted access to quota prevents egg producers from reaching their full potential, keeping specialty products in a short supply that can be filled with US imports when necessary. Egg producers are often compliant with this trend, as even with the 167% tariff on US egg imports BC producers are still able to make a profit selling US imports due to the cheap price of US egg production (McConnachie, personal communication, February

27, 2014). US imported eggs are pooled in the same facility as BC produced eggs (and out of province eggs for that matter), making the sourcing of 100% local cage-free liquid eggs virtually impossible, despite the producer branding that the product is packaged in. It is in this way that supply management undermines the capacity for liquid egg products to maintain local integrity, regardless of being conventional or specialty products, and furthermore prevents our group from fully realizing the idealized goal of sourcing specialty liquid eggs that are guaranteed to be 100% BC-produced.

iv) OTHER EGG OPTIONS

During our industry analysis, we were able to research additional egg options outside of the liquid egg scope. In our initial consultation with Victoria Wakefield, she expressed a high level of concern for the pre-fabricated omelettes served in residence buildings such as Totem Residence at UBC (personal communication, February 5th, 2014). Similar heat and serve egg products are common within residence cafeterias, such as hard boiled eggs and pre-scrambled eggs. These products are typically produced with conventional eggs, as similar to the liquid egg industry, the egg loses value upon being broken or added to a pre-fabricated egg item and therefore specialty eggs are not desirable for this production (Meerstra, H., personal communication, March 28, 2014).

However within our research, our group was able to source free run pre-scrambled and hard boiled egg options by Vanderpol's Eggs, packaged frozen and ready for the heat and serve process. Henry Meerstra of Vanderpol's Eggs spoke of the inability for most producers to create an organic pre-scrambled egg option, as organic milk and other ingredients required would make the cost of production higher than the return for these egg products (personal communication, March 28, 2014). However the free run pre-scrambled and hard boiled egg options are a significant improvement from conventionally produced prefabricated omelettes currently being served in Totem Residence at UBC, and will be further discussed in the recommendation section.

v) CERTIFICATION

Within our industry analysis, certification was a common recurring aspect of concern which added to the complexity of the egg industry. Although comparing the certification standards for different 3rd-party certifiers was not within the scope of our research, it was necessary to mention the relevance of certification within the specialty liquid egg production process. During our initial correspondence, Victoria Wakefield identified 3rd-party certification as a primary concern due to the accountability of UBC for purchasing decisions (personal communication, February 5, 2014). For organic certification, there are rigorous standards that need to be

complied with and on-site inspections by various 3rd-party certifiers which are regulated under the Certified Organic Associations of British Columbia (COABC). Free range and free run egg production however do not have a standard that requires inspection, although such standards are currently being compiled by the BCEMB (McConnachie, personal communication, March 26, 2014). Currently free range and free run producers are not audited or verified by a third-party inspectors, although they adhere to guidelines set out by the Canadian Agri-Foods Research Council and auditing is run internally by the BCEMB (Carthew et al., 2013). Therefore, organic egg production has the most highly assured standards, where free range and free run are third party certified but not necessarily or frequently audited by such certifiers.

Within the scope of our research, certification was a concern for the liquid egg production process at the breaking facility. At individual breaking facilities, the certification process needs to occur again to assure that each specialty egg product and conventional egg product are differentiated from one another during pooling and that there is no cross-contamination of products (Meerstra, H., personal communication, March 28, 2014). At Vanderpol's Eggs, liquid egg segregation is certified by Pacific Agricultural Certification Society (PACS), inspecting that the production lines are washed between egg products and egg products remain labelled at all times (Meerstra, H., personal communication, March 28, 2014). In reference to our recommendations, this secondary certification process is significant to assure that

Victoria Wakefield has confidence in the free run certification of Vanderpol's Eggs' free run liquid egg products.

In respect to the larger egg industry, it is worth noting that an absence of a single, unifying standard for organic, free range and free run products; or a single, recognizable 3rd-party certifier to be held accountable creates a problematic marketing scheme for the public. Consumers are often confused by the multiple certifications and certifiers that appear in branding and packaging, which contributes to a lower demand for specialty egg products (McConnachie, L., personal communication, February 27, 2014). 'BC Specialty Eggs', for example, is not a certifiable term but a marketing term created by the BCEMB to differentiate conventional from non-conventional eggs, however misleading this may appear concerning its 3rd-party accountability. Leanne McConnachie of the Vancouver Humane Society has recently developed a colour-coded marketing scheme that informs consumers of the basic differences in organic, free range and free run eggs in an easily communicable language, currently being piloted within stores such as Save On Foods and IGA Marketplace in BC (McConnachie, L., personal communication, February 27, 2014). As a high priority of our stakeholder, the multiple certification steps that occur within liquid egg production provides assurance that the switch from conventional to specialty liquid eggs will be an accountable and sustainable option for UBC.

Discussion

Supply Management

The quota system was meant to protect farmers by preventing market prices from falling too low. However, that mechanism is now turning into a cartel, protecting those who entered the industry early and creating barriers for newcomers to enter. As a consequence, organic farmers are forced to buy quota if they wish to expand their flock sizes beyond 99 hens (“Egg Industry”, 2011). Though the small scale producers without quota can operate and make revenue, they struggle to break even (“Egg Fight”, 2013). Farmers who wish to reap the benefits of the supply-managed marketing (required for supermarket distribution) are required to buy quota for laying hens which can reach upwards of \$250/hen (“Egg Fight”, 2013). However, because new farmers have little funds to begin with, it can be difficult to purchase quota, not to mention finding a farmer willing to sell quota. Local farmers in B.C. therefore do not have the options to grow into a larger producer to supply to UBC. This only limits the available options of procurement choices for BC specialty liquid eggs that are locally produced.

Certification

The largest worry that Victoria Wakefield has is finding a producer for liquid eggs she can trust. She wants to be confident that she is buying a product that is certified by a reliable 3rd-party certifier. The certification allows Vicki to hold more scrutiny and accountability over producers because they give her the ability to audit and confirm the legitimacy of each certification.

Sustainability Indicators

Although the “Triple Bottom Line and Life Cycle Assessments for Eggs” report from 2013 stated that the environmental impact of organic production is higher than that of free run eggs, they did not compare the off-site and on-site effects of both farming systems. “I would think destroying a forest to grow fertilized soy and corn and [to] truck that in to feed to caged birds has a greater impact than allowing the hens into the pasture to eat the natural grasses and insects” (McConnachie, personal communication, Feb 13, 2014). As Wood et al. (2006) demonstrates, most of the environmental impacts of conventional egg farming occurs off-site. Their study results show that energy and water use, energy related emissions, and GHG emissions is five times higher for conventional farming and happen off-site. Overall, Wood et al. (2006) concluded that organic farming can possibly reduce the total water, energy, and GHG emissions.

Economic Considerations

The raw comparisons of pricing data we gathered, from which the following metrics were derived, is provided in the Appendix A section of this document. Given the information that Vicki provided, UBC currently pays \$3.05 per kg for 20kg cases, and \$3.10 per kg for 12 kg of conventional liquid whole eggs. These liquid eggs are made with conventionally produced eggs that are distributed by GFS and sourced from Manitoba (Kolle et al, 2013).

Henry Meerstra of Vanderpol's Eggs in Abbotsford presented us with a viable solution for local liquid eggs. Vanderpol's currently charges \$3.05 per kg, \$4.08 per kg, and \$7.92 per kg for conventional, free run, and organic liquid eggs, respectively (Meerstra, personal communication, March 31, 2014). Meerstra states that these prices don't include the 10-15% mark-up that GFS charges for their distribution service when reselling Vanderpol's products to UBC (Meerstra, personal communication, March 31, 2014). Meerstra also favours the Canadian distributor, Centennial Food Services, and mentioned that between GFS and Centennial, Centennial gets first priority whenever there is a shortage of specialty eggs. A price comparison will show that Vanderpol's offers conventional eggs for the same price, \$3.05 per kg.

Feasibility Assessment

Although UBC sustainability initiatives may be leaning towards serving more

organic products, as they have done with organic coffee, the feasibility of attaining an organic liquid egg product is low, and may not be the best financial option. As mentioned above, the barriers that new, non-conventional egg farmers face are great and prevent entry into the market. As a result, there are limited expansion opportunities for organic producers of eggs to contribute to the local supply, which maintains a high price difference between organic and conventional eggs. While demand continues to grow, prices will continue to remain high or grow. While Vanderpol's does offer an organic liquid egg product that is available for UBC to purchase, that product is often too limited to satisfy UBC's high volume demands, or is expensive when it is available.

The non-conventional sector is growing rapidly but it is still a minority within the BC market. The continued growth has strong potential to impact both the supply and thus prices for organic eggs. Premium prices on organic eggs will likely remain high as production struggles to catch up with increasing consumer demand (Greene et al, 2006). This presents UBC an opportunity to change market trends. Being a large purchaser of liquid eggs, UBC can pressure the BC Egg Marketing Board to allow easier entry for new specialty egg farmers, and to assign more specialty egg quota within BC. This will increase supply and decrease price of organic liquid egg products.

Quantifying Supply and Demand

Based on a projected 6% annual growth of the 8532 kg of liquid egg purchased by UBC SHHS last year (refer to Appendix A), it is estimated that UBC SHHS will purchase 9044 kg next year. Based on an average of 20 medium eggs required to produce 1 kg of liquid egg, and given that an average brown hen lays ~300 eggs per year, it was calculated that a mere flock of 1000 laying hens is all that's required to produce enough liquid egg to supply the volumes required by UBC SHHS (McConnachie and Easterbrook, personal communication, April 1, 2014).

$$1000 \text{ hens} \times 0.82 \text{ eggs/day/hen} \times 365 \text{ days} \times 0.05\text{kg/egg} = \sim 15,000 \text{ kg a year}$$

This calculation provides a producer's point of view of how much is needed to produce the required amount. The estimate is the start of a feasibility assessment for an ideal scenario in which the UBC Farm considers local egg production dedicated to supplying the liquid egg quantity demanded by UBC.

Stakeholder Recommendations

As mentioned before, the supply managed egg industry in BC and the nature of liquid egg production are the main obstacles for UBC to source free-range and/or

organic whole liquid eggs. The shortage of specialty eggs quota allocations is what makes local sourcing of these preferred liquid eggs so challenging.

Throughout our research we have learned much about the egg industry and how the supply management has pros and cons for both producers and consumers. Sadly for us, this type of supply regulation has a negative impact for UBC's sourcing of liquid eggs. Therefore, after much discussion on where the values of UBC Student Housing and Hospitality Services lie, UBC's definition of 'local' and considering the priority that theoretically should be given to products from BC, Vanderpol's free run liquid whole eggs are recommended as the best option at the moment for this product. It is the closest breaker facility and they are able to supply UBC's demand with cage-free/free run liquid whole eggs. Even taking into account Vanderpol's liquid whole eggs can contain a fraction of imported eggs from the United States, it is the best purchasing decision at the moment. The most important step to take is to stop purchasing conventional liquid whole eggs. Our main point, reinforced by Leanne, is that by making this purchasing decision there is a statement being made to the BC Egg marketing board. UBC SHHS must use their power and influence as one of the biggest purchasers in BC to shift more quota allocations to specialty eggs by showing no interest in supporting conventional egg productions. To help this transition is a slow process and UBC would have to compromise some of its values by partially buying imported eggs. Nonetheless is a necessary step to take if the ideal sustainable food

system envisioned is to be achieved in the future. The industry has to notice there is a higher demand for specialty eggs than what they allow producers to make.

In addition, communication between Victoria and Leanne must remain open given changes such as the new BC Specialty Egg Producers Association (BCSEPA) and upcoming Free-run and Free-range certification in B.C. are a developing story in the industry.

Another recommendation for UBC SHHS and UBCFSP on the next assessment of egg products is to look into the specific differences and origins of different egg products purchased by UBC SHHS. We understand given what we have found about the industry these products would be even harder to source from sustainable and ethically produced sources. These include egg scrambled mix, liquid egg whites and liquid egg yolk products and the still used heat and serve omelettes. However, Henry Meerstra mentioned Vanderpol's does have a free-run pre-scrambled and hard boiled eggs so a change towards these products could be of importance as well. Regardless, we recommend a revision of where and for what purposes other of these egg products are used and which changes can be applied to reduce their consumption until BC's supply can deliver products that meet UBC's desired standards. One very strong recommendation from Leanne on this topic is to try as much as possible to use egg alternatives whenever possible, for example in baking recipes. Changes in menu items could be advertised for vegan and/or health conscious consumers, for example.

Scenario Evaluation

To the next student team, monitor and evaluate the impact of our recommendations. Firstly, to question if our recommendation to buy whole liquid eggs from Vanderpol's was implemented; if not, why not. If yes, is there any feedback on the outcome of such decision? Secondly, to assess if the reduction of egg consumption on campus provides a viable solution to phase out the use of processed egg products from conventional sources. Thirdly, it would be very good to follow up on the changes the BC egg industry is undergoing in regards to free-run and free-range certifications, and how this changes can potentially influence UBC's sourcing of eggs in a positive manner.

Upon performing a literature review, finding information was very difficult and not very successful. Some of the data we have were obtained through non-peer reviewed articles and personal communications with stakeholders. Choosing different methods of data collection such as reaching out to as many farmers would lead to a better result. Contacting Vicki Wakefield and Leanne McConnachie should be one of the first things to be done. To the teaching team, it would have been best to inform future groups that the egg industry is very protective over their information and transparency is not easy to find. Since there are time constraints, wanting to visit

every facility along on the egg production chain is impossible. You will have to be aware that within a years time, policy, market trends, and certification standards will change, so the information presented in this report may not be usable.

Short reflection

We feel confident our recommendations are within the realm of realistic and will have a positive impact on the UBC Food System. It was eye opening for us to see how regulated the egg industry is and how many bureaucratic challenges interfere with the expansion of specialty egg production in BC. At the same time it was inspiring to meet people like Steve Easterbrook and Leanne McConnachie who are great advocates of discontinuing the use of cages and improving the life quality of egg-laying chickens. To know there are people championing sustainable values for decades even when the resulting changes are slow, and to see they have no plans to stop until the Egg Marketing Board becomes a transparent and reliable institution that reflects the values that every community should demand from their food producers, was the best learning outcome we could have wished for.

MEDIA RELEASE:



(research team visiting Rabbit River Farms on March 12, 2014)

Egg consumers in BC have been Canada's early adopters of superior alternatives to conventional methods of egg production. BC Specialty Eggs consists of all the cage-free methods of egg production that consider improved sustainability and animal welfare as objectives. The goal of our study was to explore the available local procurement options for liquid whole eggs for UBC Food Services and Student Hospitality and Housing Services (SHHS). Throughout the course of our research, we endeavoured to assess whether viable alternatives exist to replace the non-local, conventionally-produced liquid eggs currently being sourced by UBC Food

Services/SHHS through the contracted distributor, Gordon Food Services. The research conducted by our team addressed questions of how specialty liquid eggs are certified, whether different specialty egg types are segregated at liquid egg breaking/processing pools, and whether there exists a sufficient supply of locally-produced (within 150km) cage-free liquid egg to satisfy the large volume demands of UBC. The investigative research methods we applied to this project provided us many opportunities to network directly with the production/supply side of a highly convoluted and occulted supply-managed industry.

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We would also like to thank Steve Easterbrook for inviting us on a tour of Rabbit River Farm's BCSPCA-certified operation, and for sharing his fascinating story and insight gained from decades of experience as a local and Canadian pioneer of specialty cage-free and organically produced eggs.

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