

BC Chicken Marketing Board Pricing Review Decision

March 4, 2022

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BC Chicken Marketing Board

Pricing Review Decision

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Final Decision – Long Term Pricing Formula for Mainstream Chicken

Preamble

The British Columbia Chicken Marketing Board (the “Chicken Board”) has given serious consideration to the “preliminary comments” provided by the BC Farm Industry Review Board (the “BCFIRB”) Chicken Pricing Review Supervisory Panel (the “Review Panel”) letter of January 14, 2022 regarding the “Long-Term Chicken Pricing Supervisory Review – Draft Recommendations”. It is critical that these questions are answered in support of the Chicken Board’s objectives as the first instance regulator of the BC chicken industry.

Failure to Fulfill the goals and outcomes in the Terms of Reference

The Chicken Board believes that its decision described more fully below is in keeping with the Terms of Reference. The BC long term formula proposed has been well established with its application in Ontario. The elements of the grower cost component are consistent with what has been used in BC with the current linkage model and other provincial pricing models (e.g. Manitoba and Nova Scotia). This provides a good solid platform for BC to implement a made in BC live chicken pricing formula. The process outlined in the decision will result in a formula that is in keeping with sound marketing policy and balances the interests of growers and processors in BC.

The process described that will include all stakeholders is fundamental to achieving a successful outcome; the specific measures used will be confirmed through an on farm survey and result in a verifiable cost-based pricing system for conclusively determining reasonable return to growers and processor competitiveness in Canadian markets. The Chicken Board will be looking to receive further data from both processors and growers that will contribute to the developing the measures and trends in competitiveness and returns. The Chicken Board will also continue to source independent data and information.

In addition, through ongoing cooperation between the Chicken Board and the BC Broiler Hatching Egg Commission (the “Commission”), this will ensure that an appropriate, holistic and ongoing pricing relationship between the chicken and hatching egg sectors. This will supersede the existing linkage with its limited application to hatching egg producers and broiler growers which was mandated by the British Columbia Marketing Board (now BCFIRB) and created without processor input.

The Appropriateness of a Price Linkage Agreement

The Chicken Board and the Commission have worked collaboratively through the review process on ensuring the key issues between the two sectors have been identified, examined and concluded. The resulting “understanding” on balancing the production and financial interests of the chicken and hatching egg sectors is provided as a separate joint submission by the Chicken Board and the Commission.

No Details of a Grower-Cost Based Formula

The Review Panel expressed that the Chicken Board decision “does not contain a long-term pricing approach for broiler chicken, beyond an aspirational concept and potential work plan”. The Chicken Board decision is more than an “aspirational concept”, rather it identifies the critical success factors required to put in place a live price formula for mainstream chicken that enables a reasonable return to an efficient grower (cost-recovery) that takes into account the need for processor competitiveness in Canadian markets. The active participation of all stakeholders in a timely manner is critical to achieving the desired outcome.

The Chicken Board draft decision provides specific timelines for each of the defined deliverables. The Chicken Board has elaborated on the defined deliverables along with specific timelines and expected outcomes to guide the final formula development. The Chicken Board must have the full assurance that its authority as first instance regulator is affirmed for this process to succeed. To the extent that further clarification and fine-tuning of the process and expectations are required, the Chicken Board is prepared to address any such issues arising now or as required.

Using the Current Interim Pricing Formula for another two years.

The BC chicken industry has faced extraordinary feed costs starting in the summer of 2021 and more recently the Chicken Board has attempted to address this through its requests for BCFIRB prior approval of an amendment to the current formula for quota periods A-174 and A-175. Prior to quota period A-169, the current formula worked well in balancing the interests of BC growers and processors. The changes brought forth to the Ontario Farm Gate Minimum Live Price formula in quota period A-169 (April 2021) have significantly altered the basis of the current BC live price formula. The changes have pointed to the significant differences in grower cost in BC and Ontario. The changes have only served to further fracture the divide between BC growers and processors and reinforce the need for BC to establish its own grower cost-base.

Despite the two converging issues, the current formula with the proposed amendments is necessary to maintain the system of orderly marketing and restore the balance of interests of BC growers and processors. The processors have worked with their customer base using the current formula for the better part of 5 years. On July 8, 2021, the Review Panel asked the Primary Poultry Processors Association (the “PPPABC”) to “provide a SAFETI-based rationale that clearly demonstrates how one or more of the current pricing structures are resulting in industry instability. This rationale must include a definition of industry instability together with measurable or substantiated objective

evidence and/or data on how this instability is being experienced by the processors.” The Review Panel, in the August 20, 2021 decision stated “BCFIRB was not given any measurable or substantiated objective evidence or data of industry instability during this process”.

The Chicken Board has determined that in the event that prior-approval by the Review Panel of the quota period A-175 mainstream pricing formula is not granted, the Chicken Board would continue to utilize the current formula during the transition period. In other words, there would be no shift in Ontario weight class to be used in the BC formula during the interim. This determination is based on the corn/wheat feed dynamics are adversely affecting the system of orderly marketing in BC.

The Chicken Board is of the view that the current issues surrounding the current formula can continue to be managed while the grower cost-based data is assembled and a new long-term formula is established. This will match the outcomes achieved by the Commission for pricing in the hatching egg sector. It must be stressed again that both boards are of a complete understanding that the future success of the industry, including with respect to pricing, requires an ongoing commitment of the two first instance regulators to work together on pricing issues.

Evaluation of the Long-Term Pricing Formula Development Process

Whether it was reasonable to expect that the Review process would yield an agreement by all parties on a long-term live price formula for broiler chicken in BC can be debated. It certainly would be the preference of the Chicken Board but bridging the divisions in the chicken sector in the current circumstances (as outlined above) and approaches employed to date has been difficult.

Following receipt of the BCFIRB Appeal Panel decision (May 2019) and prior to the onset of the Supervisory Review, the Chicken Board engaged two of the principle stakeholders PPPABC and the British Columbia Chicken Growers (the “Chicken Growers”) in a process with the expected outcome of definitions and measures of reasonable return to growers and processor competitiveness in Canadian markets as well as recommendations on a long-term pricing formula. This process is referred to as the Pricing Working Group (the “PWG”).

Both the PPPABC and Chicken Growers were skeptical and expressed reservations as to the value of the process and the ability of the process to yield the desired outcomes. While limited progress was made, it became clear to the Chicken Board once the Supervisory Review was initiated that the parties were no longer committed to working collectively to achieve the desired outcomes. This is based on the May 25, 2020, PPPABC letter to the Chicken Board which states “We need a formula that improves our competitive position relative to Central Canada”. Given the growers have an entrenched position as well, we see little value in carrying on with the Pricing Working Group. Adding the BCBHEC and the BC hatcheries into the mix will only bring additional parties to the table that will negatively impact processor competitiveness.”

The Chicken Board has been involved in price disputes with the PPPABC and Chicken Growers for decades and based on the current review process and past experience, the positions of the two parties have not changed, nor their willingness to accept the positions put forth by either party. The PPPABC position of “needing” a fixed price differential over Ontario in order to “improve” their competitiveness in the Canadian market and the Chicken Growers position of “needing” to fully cover production costs continued to be expressed over the course of the current review.

The Chicken Board’s approach to the current review was to secure the input from the industry; assess and give due consideration to the input received; and attempt to generate new ideas to secure an agreeable option to recommend (without prejudice sessions). No new ideas were put forward by either the PPPABC or Chicken Growers through the without prejudice sessions, leaving the Chicken Board to conclude that an option that would garner the support of all parties was not possible. This left the Chicken Board in the position of making a decision on the best path forward for the chicken industry in BC based on sound marketing policy.

The Chicken Board as first instance regulator is not only required to assess the input of the PPPABC and Chicken Growers, but the interests of all BC chicken industry stakeholders. This includes the broiler hatching egg producers, broiler growers, the Commission, hatcheries and non-PPPABC processors. The Commission as the other first instance regulator in the BC chicken industry shares this view. The success of the BC chicken industry is dependent on all segments of the industry working collaboratively and realizing a “reasonable” return. It has become abundantly clear to the Chicken Board that there is wide divergence among chicken industry stakeholders as to what constitutes a “reasonable return” to each sector. The Chicken Board is well aware that all sectors of the supply chain must remain viable and sustainable in order to achieve the goal of orderly marketing: chicken available to BC consumers.

The Chicken Board decision below is intended to address industry disputes and concerns around BC live chicken pricing deficiencies, such as engaging stakeholders at the outset of discussions on grower costs to identify and agree on the key cost elements making up the grower cost component; data sampling requirements (statistically sound sample size); and methodology. It will also include robust dialogue to establish measures of processor competitiveness. It will also provide the forum to come to consensus on the analysis required to measure the impact and effect of the proposed formula on both growers and processors (benchmarks). The current review has enabled the Chicken Board to identify the key issues and design a process to address prior to implementing a long-term pricing formula for mainstream chicken. A successful outcome is dependent on the active participation by all stakeholders.

Long-Term Pricing Formula Decision

The Chicken Board recognizes the importance to the viability and sustainability of the industry in expediting the implementation of the long term pricing formula. With the active participation and cooperation of all industry stakeholders the Chicken Board's intent is to minimize the timeline for implementation.

In light of the experiences of long standing (30 years) differences of opinions between the growers and processors, the Chicken Board has developed the following steps and timeframes for each step. All stakeholders will be invited to actively participate, provide input, both quantitative and qualitative, preferably but not exclusively through the Pricing and Production Advisory Committee (the "PPAC"). At each deadline if agreement between the stakeholders is not achieved, the Chicken Board will exercise its authority as first instance regulator to weigh the input and information provided in accordance with sound marketing policy and SAFETI principles to make the necessary decisions and move onto the next step.

The Chicken Board has given due consideration and weighed the input received throughout the review and have determined that establishing a British Columbia cost-based approach is long overdue. The evidence provided by all parties point to the complexities and non-comparability of Ontario data such that British Columbia can no longer rely on Ontario or other provincial cost data as a proxy for British Columbia costs. The information and analysis received also point clearly that the current BC broiler COP is outdated with costs not reflective of current production (i.e. feed conversion ratio; labour and capital costs). It is on this basis that the Chicken Board has determined the pricing formula for mainstream chicken in British Columbia in the future needs to be set using a BC Cost Recovery model with appropriate considerations to account for BC processor competitiveness in the Canadian market.

Description

In accordance with sound marketing policy, the BC Cost Recovery model for live bird pricing will establish the costs an efficient grower must recover to operate a median sized farm in BC. The model will be similar to the Chicken Farmers of Ontario Farm-Gate Minimum Live Price Formula with the exception of:

- The process by which the formula is established
- The inclusion of processor competitiveness factors
- Transparent and verifiable grower costs and processor competitiveness factors

The Formula

BC Live Price =
Grower Cost Component + Feed Cost + Chick Cost + Levy + Catching Cost

Grower Cost Component (GCC)

A reputable, independent third party (e.g. Serecon conducted the cost of production ("COP") model work for the Commission) will survey mainstream broiler growers to collect and assemble data to determine farm costs that will be included in the Grower

Cost Component of the model. The model will be subjected to an independent third party review (i.e. MNP performed the role for the Commission).

The following farm cost elements make up the Grower Cost Component:

Operational

- Energy
- Repair and Maintenance
- Property Taxes and Insurance
- Office and Overhead
- Contract Services
- Labour – General and Management
- Working Capital Interest
- Farm Vehicles (operating and maintenance)
- Levies and Licence Fees
- Bedding
- Medications and Vaccines
- Catching

Capital Costs

- Return on Capital (land and equipment)
- Depreciation

Feed Cost Component (FCC)

The formula will include a BC Feed Cost that will be calculated using a feed conversion ratio (FCR) established through the grower survey multiplied by average feed costs for each quota pricing period using a BC feed cost model.

FCR will be calculated from farm survey data as follows:

- $FCR = \text{Total feed used} / \text{Total net weight of chicken shipped to the processing plant}$

Chick Cost Component (CCC)

The formula will include a BC Chick Cost that uses the chick costs generated through the Commission's COP, including vaccine costs and hatchery margin.

Considerations:

- Competitiveness benchmarks
 - Formula outcome measured against other provincial live prices and processor market share.
- Efficiency benchmarks:
 - FCR – updated every two periods
 - Model farm size
 - Average life of flock liveability
 - First week liveability

Model Updates

The capital cost components of the model would be reviewed annually. The remainder of the GCC data would be reviewed and updated every three years.

The Process

Upon receipt of the BCFIRB Review Panel affirmation of the Chicken Board decision, the Chicken Board will initiate the following process involving the following critical elements to finalize the details of the BC Cost Recovery model.

Engagement

A comprehensive stakeholder engagement with representation by the main stakeholders in the chicken value chain would be implemented by the Chicken Board using the PPAC with specified terms of reference. The terms of reference would include:

Purpose

- To make recommendations to the Chicken Board on
 - The Grower Cost Component, Feed Cost Component and Chick Cost Component of the BC Cost Recovery model; and
 - Processor competitiveness and reasonable returns to grower measures for pricing live mainstream chicken in British Columbia.

Participants

- Broiler Growers
- Processors
- Hatching Egg Producers
- Hatcheries
- Chicken Board
- BC Broiler Hatching Egg Commission

Deliverables

- 1) Identify qualified firms to submit proposals identifying the data and methodologies that could be applied to establish BC grower costs. The proposals would be expected to include:
 - a) The costs to grow broiler chicken in British Columbia, including but not limited to:
 - i) Approaches to collecting cost data and determining statistically sound sample size for survey, including regional considerations.
 - ii) Methodologies, including an assessment of the pros, cons and risks of the methodologies to be considered where farm data may not be available or appropriate to establish BC grower costs, i.e.
 - Labour

- Capital costs, i.e. return on capital, land, equipment, depreciation
- 2) Review and evaluate the proposals and recommend to the Chicken Board the qualified firm to collect the data and develop the methodologies to establish BC grower costs.
 - 3) Identify and recommend benchmarks for:
 - a) An efficient grower. i.e. average or median BC farm size
 - b) Processor Competitiveness, i.e. Ontario or Canadian Weighted Average Live Price, market share, etc.
 - 4) Qualified firms' delivery of the data generated for the grower costs from the farm surveys. The Committee to review the data and methodologies and evaluate the costs against key benchmarks. This could include the recommendation of guardrails that address reasonable return to growers and processor competitiveness in Canadian markets.
 - 5) Confirm the independent third party review of the BC Cost Recovery Model.

Timelines

The Committee would be struck as soon as the Review Panel has affirmed the Chicken Board's decision for a long-term pricing formula.

Review and Confirmation of Terms of Reference

The Committee would be given two weeks to review, recommend changes and confirm the terms of reference.

Deliverables

Deliverables 1

Within one week after confirming the terms of reference the Committee will establish a list of qualified firms to submit proposals addressing the requirements of the BC Cost Recovery Model for the Chicken Board.

Outcome:

- A list of qualified firms to be invited to submit proposals for the BC Cost Recovery Model.

A call for proposals from qualified firms identified by the Committee will be issued by the Chicken Board. Qualified firms to be provided three weeks for submission of proposals.

Outcome:

- Receipt of proposals on the BC Cost Recovery Model from qualified firms.

Total time from Terms of Reference Review to distribution of BC Cost Recovery Model proposals for Committee Review – eight weeks.

Deliverable 2

Within two weeks after receipt of proposals for a BC Cost Recovery Model, the Committee will recommend to the Chicken Board the firm(s) to be engaged to collect and assemble the data.

Outcomes:

- Qualified firm(s) engaged by the Chicken Board to undertake the data collection and compile the draft BC Cost Recovery Model within an agreed to timeline for completion.

Total time from Committee Review of the BC Cost Recovery Model proposals to selected firm engagement – two weeks.

Deliverable 3

Within two weeks of the Chicken Board engaging the qualified firms under Deliverable 2 the Committee will determine if additional data, information and/or analysis is required to make the requisite recommendations on benchmarks and recommend to the Board the qualified firms to undertake the data and information collection and analysis.

Within two weeks of receipt of the additional data, information and/or analysis, the Committee will recommend benchmarks to the Chicken Board. If no additional data, information and/or analysis is required, the Committee will have a total of four weeks to provide recommended benchmarks to the Chicken Board.

Outcomes:

- Additional data, information and analysis to support the recommended benchmarks.
- Recommended benchmarks for
 - An efficient grower; and
 - Processor competitiveness

Total time for Deliverable 3 to Committee recommendations on benchmarks – four to ten weeks, dependent on whether any additional data, information and analysis is required.

Deliverable 4

The data collection will be dependent on the timelines provided by the firms engaged based on the number of farms to be surveyed.

Within two weeks of the submission of the initial draft data and BC Cost Recovery Model, the Committee will

- Meet to consider and review the results.
- Provide recommendations to the Chicken Board for any follow-up work required.

- Recommend to the Chicken Board a list of qualified firms to undertake the independent 3rd party review of the Model.

Outcomes:

- A draft BC Cost Recovery Model.
- Recommended qualified firms to undertake the independent 3rd party review of the BC Cost Recovery Model.

Total time for the review of the draft BC Cost Recovery Model and identification of qualified firms for the independent 3rd party review – three weeks.

Deliverable 5

Within one week of the completion of Deliverable 4, the Chicken Board will engage an independent 3rd party to review the BC Cost Recovery Model.

The Committee will be provided the draft independent third party review of the BC Cost Recovery Model and will have two weeks to review and provide recommendations to the Chicken Board.

The Chicken Board will work with the independent third party and the firm developing the BC Cost Recovery Model to address any recommendations from the independent third party and Committee.

Outcomes:

- An independent third party review of the BC Cost Recovery Model
- A validated BC Cost Recovery Model

Total time for the completion of the independent 3rd party review from firm engagement to Committee review and recommendations – ten weeks.

BC Cost Recovery Model

Based on the description of the timelines associated with each of the five deliverables, the Chicken Board envisions that an optimistic projection for the development and implementation of the BC Cost Recovery Model is within 12 months from the time the process is initiated. This estimate is based on the Commission's recent experience in establishing the COP model for hatching egg producers. The estimate includes the required time for posting the proposed BC Cost Recovery Model for stakeholder review, consultation with industry stakeholders, Chicken Board consideration of input through the posting and consultation process.

Risks

There are a number of risks to be recognized in the fulfilment of the process within the projected timeline for implementation. First, the timelines required to complete the farm surveys and the reconciliation process with the independent third party review. These two elements will be undertaken by third parties and subject to their abilities to secure the information required from growers. Second, the timelines associated with arriving at

a recommended set of benchmarks for an efficient grower and processor competitiveness will be affected by the extent of additional data, information and analysis that is required to be conducted by third parties. The Chicken Board will assist the outside parties to the extent possible to secure grower participation in a timely manner that respects the project timelines established in service contracts.

Third, the willingness of the parties to actively engage in a timely manner is critical to completing the work in an expeditious manner. The Chicken Board expects stakeholders to meaningfully engage in the process and will be encouraged to provide input, both quantitative and qualitative, verifiable data.

Decision

The Chicken Board will make the final decision on the BC Cost Recovery Model taking into consideration the input and recommendations of the Committee as well as input received from a broader engagement of stakeholders. The Chicken Board will also seek the information from other provinces who are utilizing a cost-based approach to pricing as part of the process of verifying the rigour of the BC Cost Recovery Model.

The Chicken Board will give greater weight to verifiable data and information in its decision making process. In the event that no information is provided by stakeholders after the Chicken Board has requested and provided sufficient notice and time for input, the Chicken Board will make its decision based on the information available at the time a decision is required.

Background

Pricing mainstream live chicken in British Columbia has a long history of conflict between processors and growers. At the time of establishment of the British Columbia Broiler Board in 1961, price received by growers was a major point of contention. Over the ensuing decades the conflict over pricing would require intervention by the BC FIRB and its predecessor, the British Columbia Marketing Board. The more recent history, since the 2010 Supervisory Review is captured in Appendix 1.

BC Chicken Industry

The chicken industry in British Columbia is significant to the provincial economy through the contributions of hatching egg producers, hatcheries, broiler growers, chicken processors and further processors. Based on the Chicken Farmers of Canada 2019 Data Book, the British Columbia chicken industry contributed:

- \$524 million in farm cash receipts
- 14,353 total jobs
- \$1.1 billion to Canada's GDP
- \$243 million in tax contributions

Broiler Farms

In 2021, there were 312 licenced broiler farms in British Columbia, with 79 per cent of the farms located in the Fraser Valley, 17% in the interior and 4% on Vancouver Island. Of the 312 licenced broiler farms, 271 are mainstream broiler farms with the balance organic and specialty chicken farms. There are 58 new entrant growers included in the total.

Farm size and production:

The distribution of mainstream quota allocated by farm is variable within a broad range from smallest to largest (6,559 kg - 900,000 kg). The 15 largest farms (>300,000 kg) in BC account for just under 20% of the total broiler production and the 91 smallest farms (<50,000 kg) accounting for just over 8% of the total broiler production. Total provincial broiler production in 2021 was 188,317,825 kg estimate weight (unaudited), an increase of more 30 million kg in 10 years; an increase of greater than 20% over that period or a 2% annual growth rate.

Production of chicken occurs in three regions: the Lower Mainland, Vancouver Island and the Interior. The Lower Mainland has the most farms, 247 and 86.0% of the total provincial production. The Interior is next with 53 farms and 12.0% of the total provincial production, followed by Vancouver Island with 12 farms at just over 2.0 % of the total provincial production.

BC Processing Capacity

There are a total of 26 federal and provincial licenced processing facilities licenced by the Chicken Board. A number of the processing facilities are owned by the same parent company, i.e. the Pollon Group includes Colonial Farms Ltd (Armstrong), Hallmark

Poultry Processors Ltd. (Vancouver), Superior Poultry Processors Ltd. (Coquitlam) and United Poultry Company Ltd. (Vancouver); and Rosstown Natural Foods Ltd. (Aldergrove) also owns Island Farmhouse Poultry Ltd. (Duncan). The majority (88%) of chicken processing is located in the Lower Mainland and Fraser Valley.

BC Processor Growth

Since the Notifiable Avian Influenza outbreak in 2004 the major BC processors made major investments through new construction and acquisitions of existing processing and further processing facilities within and external to BC.

The 2010 Supervisory Review also supported the removal of assurance of supply to BC processors. The policy change has enabled the growth of smaller, regional and specialty based BC processors. Farm Fed and Wingtat Game Bird Packers were the first to expand operations. Rosstown Farms and Natural Foods since 2004 built Rosstown Natural Foods and Hatchery in Abbotsford; acquired Island Farmhouse Poultry on Vancouver Island. Farmcrest Foods in Salmon Arm expanded its quota holdings by a 5-fold increase to support new processing, hatchery, rendering and feed mill facilities.

The processing sector in BC is vertically integrated, with most processors owning hatchery operations along with primary and further processing facilities. All primary processors with the exception of Sofina Foods hold broiler quota in BC. Collectively BC processors hold greater than 20% of broiler quota in British Columbia; with greater than 4.5 million kg of quota acquired since 2004 (12% of quota holdings in 2014).

BC versus Ontario/Central Canada Processing

BC is the third largest province in broiler production in Canada, representing 14.7% of the national allocation compared with 33.6% in Ontario and 26.2% in Quebec. The increased volume of production in Central Canada affords central Canadian processors enhanced economies of scale.

The largest poultry companies in Canada include Maple Leaf Foods, Maple Lodge, Olymel, Sofina Foods and Exceldor all based out of Central Canada. Maple Leaf (Alberta), Sofina (Alberta and Saskatchewan) and Exceldor (Manitoba) have operations in western Canada. The top five processors control approximately 60% of the Canadian broiler market, also roughly aligning with provincial (Ontario and Quebec) broiler quota allocation. In comparison, the top 5 poultry companies in the United States as well control approximately 60% of the US broiler market.

There are structural differences in the processing sectors in Central Canada and BC. Central Canada makes extensive use of primary processors whose sole focus is to receive birds from the farm and produce chilled whole birds for distribution to secondary and further processors. The secondary processors focus on cut and wrap for the retail and food service sectors while further processors focus on ready to cook and serve products for retail and food service sectors. Some of the primary processing facilities are affiliated with secondary and further processors and provide the raw material at a

transfer cost or for a toll processing fee. Other non-affiliated secondary and further processors source the raw material from the primary processors through contracts and spot-market (wholesale) prices.

A full description of the BC chicken industry is contained in Appendix 2.

Principle-Based Regulation and Outcomes-Based Regulation

The Chicken Board decisions are in accordance with sound marketing policy and the application of principle-based regulation (PBR) and outcome-based decision making. This is achieved by applying SAFETI (Strategic Accountable, Fair, Effective, Transparent, Inclusive) principles as directed by FIRB. These initiatives support good governance in the regulated marketing sector. Board decisions contribute to maintain the system of orderly marketing.

Sound Marketing Policy Considerations

Sound marketing policy embodies the three pillars of supply management, production controls, pricing mechanisms and import controls. While production and import controls are important in the overall management of the chicken sector, the primary focus of this decision is on pricing.

As first instance regulator, the Chicken Board is responsible for establishing a minimum price for chicken produced in British Columbia. This minimum production price is based on production costs and market conditions. Maintaining a system of orderly marketing in the BC chicken industry requires the Chicken Board to take into consideration balancing of interests. The sound marketing policy intent is to provide efficient growers with a reasonable return that reflects BC production costs and provides Canadian consumers with a predictable and consistent supply of chicken at reasonable prices. The Board recognizes and takes into consideration British Columbia processor competitiveness in the Canadian market.

The Supply Management Context for Pricing

Pricing in the unregulated sector is driven by supply/demand interactions in the marketplace. Typically when supply is short, prices rise and when supply is in excess of market demand, prices fall; as such there is a direct volume interaction at play. This direct linkage of price with supply/volume has the effect of smoothing total revenue to the producer. Increases in price increase revenue, but is offset to some degree by the lower volume sold. On the other hand, the effect of lower or decreases in prices on total revenue is buffered by the increased volume that can be sold.

In supply management, revenue buffering cannot occur as price is formally separated from allocation. Increases or decreases in price increase and decrease revenue in direct proportion with allocation. Allocation established at a national level minimizes volatility in supply which in turn requires a robust basis for pricing to minimized volatility. (Reference: Live Chicken Pricing in BC: An Evaluation, Agri-Food Economic Systems, November 2020).

Chicken Board Pricing Initiative Prior to the Review

Following the release of the 2018 Live Price Formula Appeal Panel’s decision, the Chicken Board established a mediated process that involved the Growers Association and the PPPABC to recommend definitions of “processor competitiveness and reasonable return to growers” as well as recommend a long-term agreement for pricing of live mainstream chicken in BC, referred to as the Pricing Working Group (the “PWG”).

The PWG held a series of 9 mediated sessions. All parties signed an Agreement to Mediate which included Confidentiality clauses which covered terms of disclosure of “information disclosed, exchanged and created in the course of the mediation process ... shall remain confidential and without prejudice, except ... as consented to by all parties; or ... where otherwise discoverable.”

The mediator prepared a Report for the British Columbia Chicken Marketing Board and sought the agreement of the parties on the content of the report. On May 25, 2020, the PPPABC wrote to the Chicken Board reiterating concerns expressed prior to the outset of the PWG. The letter states “We need a formula that improves our competitive position relative to Central Canada. Given the growers have an entrenched position as well, we see little value in carrying on with the Pricing Working Group. Adding the BCBHEC and the BC hatcheries into the mix will only bring additional parties to the table that will negatively impact processor competitiveness.”

While the PWG process was terminated, the concepts developed for “processor competitiveness and reasonable return to growers” were advanced by both the Growers Association and PPPABC through the 2020 Supervisory Pricing Review.

Reasonable Return to an Efficient Grower

The definition of reasonable returns to growers agreed upon through the Pricing Review process is “A profit over fixed and variable costs that allows for sustainably maintaining or enhancing production growth”. The Chicken Board sought input from stakeholders on identifying quantitative measures for this policy objective through the Pricing Review process. Through analysis of the submission received through the Review and consideration of sound marketing policy, the Chicken Board concurs with the definition agreed by stakeholders in the Review Process with the need to elaborate with the inclusion “of an efficient grower operating a median sized farm in BC”.

How the Chicken Board would measure this definition is an important consideration in establishing a long-term pricing formula? Through the Review process, the Chicken Board sought, received and reviewed the input on this question.

BC Grower Returns

The PPPABC and the Growers Association put forward data and analysis on grower returns, but with very separate and distinct purposes in mind. The Growers Association shared two perspectives on grower returns:

- Illustrate the growing gap in BC grower margin compared with their counterparts in other provinces, particularly in Western Canada.
- Provide an indication of the amount of margin required to operate a going concern farm.

The PPPABC provided a Grower Return Model to illustrate how current pricing is enabling an existing grower to replace and finance new barns and have sufficient residual returns. The PPPABC also presented hypothetical analysis to illustrate how the current formula is providing growers with as good, if not better returns since the on-set of the Ontario Farm Gate Minimum Live Price formula in quota period A-129 and further improved since quota period A-169.

The Chicken Board has assessed and given due consideration to the submissions received. The Chicken Board does not support the concepts of grower returns presented by either the Chicken Growers or PPPABC. The submissions have helped inform the Chicken Board.

The Chicken Board believes as has been adopted in other provinces, most notably, Ontario and Manitoba, that a province specific cost-based approach is in keeping with sound marketing policy and addresses the unique nature of pricing required for the supply managed sector. Cost based approach has not only been adopted provincially in the chicken sector, but has been adopted nationally in the table egg and dairy sectors.

Measure of Reasonable Return

The measure of reasonable return to an efficient grower will be the percentage of recovery of costs to grow mainstream broiler chicken in BC, with the target being 100% cost recovery. This is not to say that the BC live price will be equal to the cost of production to grow mainstream broiler chicken as the Board must balance reasonable return to growers with maintaining processor competitiveness in Canadian markets.

The Chicken Board analyzed the distribution of quota amongst licenced growers in BC. As described in the Chicken industry section, quota distribution is significantly skewed with a large number of smaller growers producing receiving less than 10% of the quota allotted. As such, use of the mean or average size broiler allocation results in an under representation of the smaller farms. The Chicken Board supports the use of the median, the point at which there is 50% of the population higher and 50% lower.

Return to an Efficient Grower

The PPPABC has been critical of the use of cost of production in pricing, citing that it does not promote efficiency, rather only serves to pass on added cost to the processing sector. Sound marketing policy states “the intent is to provide ***efficient*** (emphasis added) growers with a reasonable return that reflects production costs”. It is the Chicken Board’s intent to identify areas where efficiency can be measured and applied within the BC Cost Recovery Model. In this manner, the Chicken Board’s approach is consistent

with the approach to cost of production pricing adopted by the Commission for hatching egg producers.

Cost of Feed

BC is a feed deficient province, dependent on the import of feed ingredients from outside the province. The higher cost of feed in BC as such is a function of transportation costs to bring in the feed ingredients. Feed is the largest cost factor in growing broiler chicken in BC, representing 50 to 60% of the total cost of production. Historically the higher feed cost in BC was mitigated through government policies and programs such as feed freight assistance and the Crow Rate benefit.

The Feed Cost Component is affected not only by the price of feed, but by the FCR. The FCR is the amount of feed required to grow a market weight broiler chicken. The lower the FCR, the less feed required to produce the end product and potentially lowers the cost of feed per kilogram of chicken grown. “Potentially” is dependent on the quality of feed ingredients used. Using higher quality feed ingredients may generate a higher price of feed and as such the same FCR with different ingredients may result in different feed cost to the grower. This is where it is necessary to establish a statistically sound sample size upon which to establish the FCR. The cost of feed and factors affecting feed costs is contained in Appendix 4.

The Chicken Board’s analysis of its current pricing formula have identified significant issues relating to the use of the Ontario Farm Gate Minimum Live Price as the basis for the BC live price. The PPPABC provided the Board with a February 23, 2022 letter, “Serecon Model is Inflating BC Feed Costs and Understating Grower Returns. The PPPABC “believes that actual feed costs are not being reflected in the current BC Live Price Formula”. The Chicken Board support the belief as being illustrative of why BC should not rely on Ontario to reflect BC grower costs.

Conducting the requisite farm surveys is the only way to provide the verifiable data to determine whether the PPPABC argument that the current BC FCR of 1.650 based on the 2018 Serecon Linkage COP is overstated. Further, the farm survey data will be able to verify whether the PPPABC statement that “The Estimated BC average FCR for broilers on conventional feed – 1.55”. The PPPABC has not provided the Chicken Board with any verifiable “industry” data to validate their “estimated” BC average.

Appendix 3 contains further assessment on reasonable returns conducted by the Chicken Board.

Grower Sustainability

The Chicken Board engaged its own third party analyst, Hugh Scolah (for reference, Resume included in Appendix A) to examine “BC Chicken Grower Sustainability” which included an analysis of the models submitted by the Growers Association and the PPPABC. The final draft report was submitted to the Chicken Board in November 2021 and is included as Appendix B of this submission.

The “BC Chicken Grower Sustainability” report (the “Grower Sustainability report”) involved the collection of regionally based new entrant grower data; voluntary grower data submitted; and utilized data provided by Art Friesen. The Grower Sustainability Report also provides a comparison of the data collected with the Serecon COP reported data. The Grower Sustainability Report also assessed the prospects for farm succession; prosperity through expansion; and the ability of farms to recover their costs. The key findings of the Grower Sustainability Report include:

- There is diversity in size and location of chicken growers in BC and they face different capital and operating costs.
- The prospects of growers are not uniform.
- The current approach to pricing provides reasonable returns on barns and equipment for the median grower in most regions when quota and land costs are excluded.
- All farms in the dataset except for some new entrant growers are recovering their costs, including depreciation, but serious consideration needs to be given to other policy options for improving the long-term sustainability of the industry.
- The positive picture from returns and cost recovery does not translate into a positive outlook for farm succession and prosperity.

The Chicken Board has concluded that attempting to base a live price in BC off of an aspirational gross profit return per kilogram benchmark for growers is not practical. It is controversial and complicated to attempt the analytics and metrics that would determine a pricing mechanism based on grower returns. It has driven the Chicken Board’s decision making towards the more sustainable, measurable and transparent method of pricing based on cost recovery which can be validated and monitored. Incorporating benchmarks to help add efficiencies to the model will make the process palatable for all parties involved. It is in keeping with the three pillars of supply management around supply and pricing controls.

Processor Competitiveness in the Canadian Market

Just as sound marketing policy intent is to provide efficient growers with a reasonable return that reflects production cost, sound marketing policy is also intended to provide Canadian consumers with a predictable and consistent supply of chicken at reasonable prices. The latter is achieved through the processing sector in BC under the broad policy objective of processor competitiveness in Canadian markets.

The definition of processor competitiveness in Canadian markets agreed upon through the Pricing Review process is “The ability to profitably and sustainably maintain or enhance market share”. The “agreement” on the definition included a caveat on the part of the PPPABC “in order to move the discussion forward”.

The Chicken Board attempted to secure through the Pricing Review process quantitative measures for this policy objective. The PPPABC provided a February 12, 2021 confidential submission “Processor Competitiveness”. Due to the sensitive and

proprietary nature of the data reported, the Processor Competitiveness Report has not been made public, however, the information contained in the report provide some insight into the competitiveness challenges facing BC processors. The Chicken Board asked the PPPABC some questions to improve clarity of understanding. The PPPABC response to the questions was provided in a March 8, 2021 letter which was not deemed confidential by the PPPABC.

To date, the PPPABC have not provided any specific indicators of processor competitiveness other than a “Private and Confidential” Processor Competitiveness Report that concludes “BC Processor costs are 30% higher than plants in Central Canada” with “Live Bird and Labour cost represent greater than 85% of BC processor cost” and “Live Bird and Labour represent 75% of the cost gap between BC processors and those in Central Canada.” The report goes on to suggest that “Live Bird is the largest cost item and the most transparent metric and is recommended by BC Processors as the best metric to be used to measure competitiveness with processors in Central Canada.”

The PPPABC further articulate in their February 24, 2022 letter “Process Concern – A-175 PPAC Meeting” makes reference to “the BCCBMB (sic) made it very clear, they do not accept that BC processors face a labour cost disadvantage relative to processors in Central Canada. This is in spite of the actual independent third-party evidence provided to the BCCMB that clearly shows the labour disadvantage.”

The Chicken Board appreciates the effort of the PPPABC to attempt to quantify cost competitive issues facing the BC processing sector versus Central Canada processors. The Chicken Board does not dispute the labour cost difference presented in the Processor Competitiveness Report. The Chicken Board does however question its applicability to BC processor competitiveness. The labour results presented come as no surprise. It is completely expected that Central Canada has a lower per unit labour cost based on the higher volume of chicken produced in Central Canada. Central Canada produces approximately 60% of the chicken in Canada versus 14% in BC. When the denominator is significantly higher in one formula, it will most definitely result in a quotient that is lower; hence a lower per unit labour cost in Central Canada compared to BC.

What the Processor Competitiveness Report does not compare is similar size plants in BC versus Central Canada as was illustrated in the BC Chicken Growers Association “Costs and Returns in BC Chicken Marketing” and “Comparative Costs and Returns in Chicken Processing – British Columbia versus Competing Regions in Canada” submissions. The Agri-Food Economic Systems October 2020 Report suggests that based on the same size model processing plant (300,000 birds/week or 15 million birds/year (2017 Comparative Costs and Returns Report)), processor costs and margins in BC are roughly the same as in Ontario. It is acknowledged that the margins in 2020 are down from the previous report period of 2015 to 2018, however, margins are down in all other provinces compared in the study.

The Chicken Board acknowledges the work and effort taken by the PPPABC in preparing their comparative analysis, however, it focusses solely on the cost elements and provides no insight or measure of the ability of BC processors to recoup higher BC live prices from the marketplace. Processors have acknowledged three types of contracts; BC live-price-based contracts, Western based live-price contracts, and fixed price contracts. The Chicken Board has not received any data or information to indicate the percentage of these contracts which would provide an indication of the ability of BC processors to recover higher BC live prices. An additional factor is product that is sold without any type of contract. An unknown percentage of sales by each processor would be at prices set daily or weekly depending on market conditions which are currently above the prices in the past three years (see table on page 21).

An increase in the BC live price which is supported by substantial feed cost increases would be appropriate for the marketplace. While the percentage makeup of contract type has not been provided by the PPPABC, both western and BC based pricing contracts are being kept artificially low by the BC live pricing guardrails. Fixed price contracts are always a mix of risk and reward established at the time of signing a contract, with increased profits or losses with any swing in prices. The Chicken Board does not guarantee a grower a profitable enterprise, much like the Board does not guarantee the success of processor contract arrangements like those undertaken in a fixed price contract. However, the Chicken Board does provide due considerations to all stakeholders.

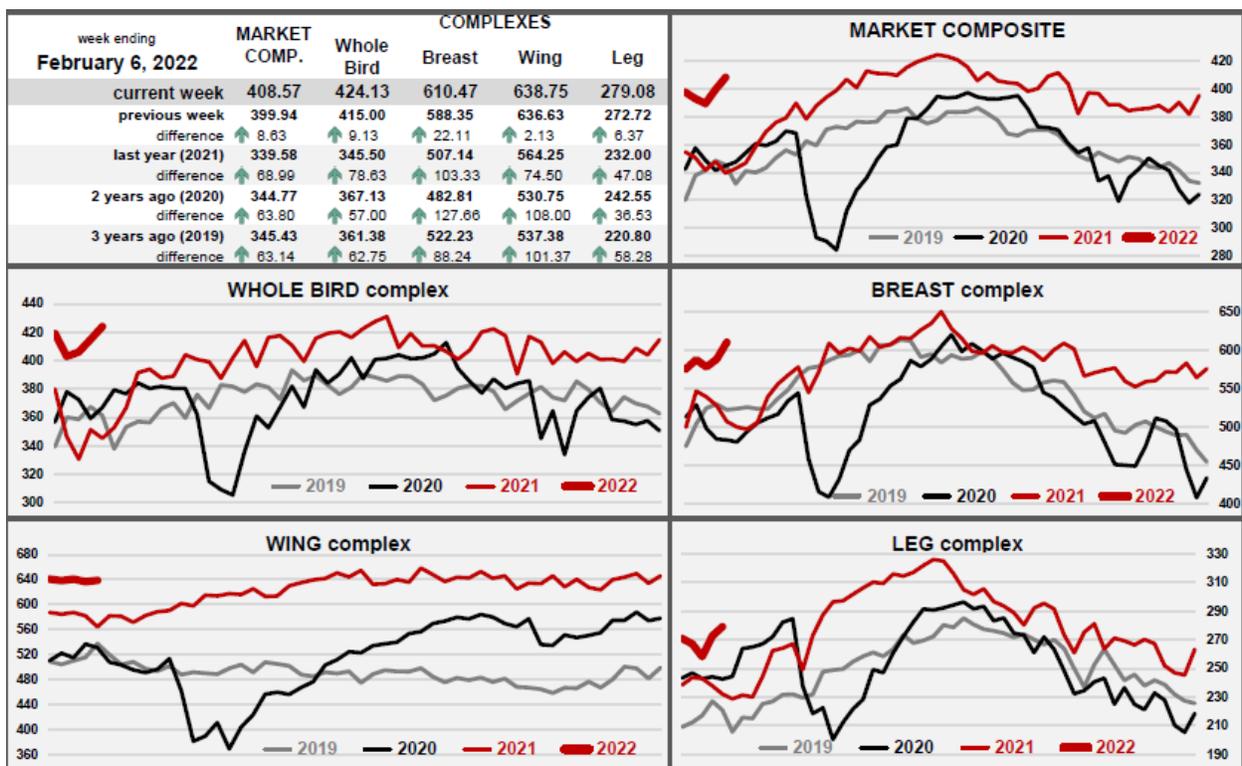
The PPPABC also have not provided evidence to support the notion that BC and prairie province live prices include the cost of catching which ranges from \$0.040/kg to \$0.045/kg and the impact that has on their ability to remain competitive. The significance of the \$0.04/kg catching cost in BC is that BC processors charge BC growers this cost for catching. It is important to note that catching price in BC, Alberta, Saskatchewan, and Manitoba is included in the posted live-prices of each of these provinces but is deducted in the same amount from a grower's final payment. This means that the final live price paid by the processors, in the case of BC, is \$0.04 less per kilogram than the posted price which is used to set the contract prices charged by processors to their customers. This is a direct benefit that contributes to BC processor margins in live price contracts. The lack of data or evidence from BC processors to address this issue makes it impossible for the Chicken Board to truly address the question of whether or not BC processors are competitive in Canadian markets.

As well, as proven in prior pricing appeals and affirmed in the Processor Competitiveness Report, premiums over and above the live price are paid by processors in Central Canada. While the Chicken Board is unable to secure verifiable data on the amount of premium is paid, the existence of the premiums in Central Canada serve to reduce the BC versus Ontario price difference if the Central Canada bonus exceeds \$0.02/kg (the premium paid to BC growers).

The PPPABC have objected to the Chicken Board correlating higher western retail chicken prices as being indicative of BC processor ability to pass on higher live costs. In

the absence of the PPPABC providing the Board with any wholesale price data to consider the Chicken Board has had to rely on the EMI data provided by the Canadian Poultry and Egg Processors Council on Canadian wholesale prices, along with Processor Gross Margins.

The PPPABC maintain that this data and information is not relevant to BC given that BC processors do not contribute to the data base while at the same time stating that they are in the business of competing on national contracts. The Chicken Board has reasonably assumed that EMI wholesale data provides the basis for national contract negotiations and as such is a relevant data source. The recent EMI data show strong wholesale prices, particularly during a low market period. Clearly, there is some recognition and response by the retail and wholesale market to higher live prices.



The PPPABC have provided more analysis of grower margins and information on defining a reasonable return to growers than they have on BC processor competitiveness. They point to BC grower margins being at a similar level to their experience prior to the on-set of the Ontario Farm Gate Minimum Live Price formula annual adjustments. What the PPPABC has focussed on is processor cost and avoided the need to provide the Chicken Board any measure of BC processor margins or competitiveness. It would seem to be quid pro quo to measure processor competitiveness through a margin analysis if it is appropriate to use margins to measure reasonable return to growers.

The PPPABC have continually asserted that there was an agreement at the Pricing Working Group that any increase in the Ontario COPF would be shared between BC growers and processors. The PPPABC have not provided any verifiable evidence to support this claim. The Chicken Board fails to see the rationale for BC Processors asserting the need to be entitled to share in the benefit of an Ontario Producer Margin increase as part of the BC live price formula.

The Chicken Board has provided further assessment of processor competitiveness in Appendix 5.

Fixed Differential Model

The PPPABC proposed a fixed price differential model of \$0.07/kg plus BC catching cost (\$0.04) over the Ontario 2.15 – 2.45 kg weight class (the posted Ontario Live Price) minus Ontario specific adjustments (i.e. Modular Loading Cost Recovery, Avian Influenza Insurance and Emergency Depopulation Charge Recover). The PPPABC have provided a retrospective analysis in support of the proposed fixed differential pricing model to demonstrate how it balances the benefits to all stakeholders.

The Chicken Board fully understands the concept of a fixed price differential and spent considerable time and effort to understand the analysis included with the proposal including a meeting with the Growers Association and the PPPABC in “without prejudice” discussions to examine the merits of the proposed model. The analysis is provides a simplistic portrayal of the impact and effect of a fixed price differential looking back in time. The ability to look back in time to measure the impact and effect of a change in the BC pricing formula to a fixed differential is more complex with the range of variables at play, including changes made to the Ontario Farm Gate Minimum Live Price formula in quota period A-169 and the annual adjustments introduced in quota period A-174 and A-175. The PPPABC analysis fails to show how the changes to the Ontario Farm Gate Minimum Live Price in quota period A-169 and beyond would have impacted the BC live price. The PPPABC’s failure to provide the fixed differential analysis for 2021 does not provide comfort that grower returns and processor competitiveness would continue in the long term.

The continuing wheat/corn feed cost gap that started in quota period A169 has not been taken into consideration in the analysis put forward by the PPPABC nor provided any assessment of the impact to BC growers. Applying the proposed fixed price differential at the posted Ontario Farm Gate Minimum Live Price (2.15 – 2.45 kg) would have in effect established the BC live price at \$0.1065/kg (\$0.07 (differential) + \$0.365 (catching)) over Ontario for quota periods A-169 – A-173 and \$0.11/kg (\$0.07 (differential) + \$0.4 (catching))over Ontario in quota period A-174, accounting for the increase in BC catching cost. Measured against the current BC live price with an upper guard rail of \$0.1245/kg and \$0.1280/kg for the corresponding quota periods, plus the \$0.02/kg reduction due to the change in weight class, BC growers would have lost a further \$0.038/kg in addition to the increased feed cost not covered under the current BC live price formula. The total lost cost to the growers in BC would have increased from \$0.0578 to \$0.0959 in quota period A-170 and from \$0.1236 to \$0.1616 in quota

period A-174. The lost cost does not factor in the 25% of the feed and chick cost not covered in the BC formula (75% of the difference of BC – Ontario feed + chick costs).

While a fixed differential over Ontario provides processors “assurity”; it fails to address variations in BC costs that are not in sync with changing costs in Ontario. As stated previously, the current feed cost gap is an prime example of where the fixed price differential model fails. A fixed price differential is not transparent, it does not specify what difference in BC versus Ontario costs that are being included nor any reference to change in the absolute differences between BC and Ontario production costs. It is not based on actual data other than the Ontario Farm Gate Minimum Live Price formula. Western provinces have recently started to shift away from fixed differential pricing formulas in recognition of the cost differences between their province and Ontario.

The Chicken Board has concluded that the PPPABC fixed differential proposal is not in keeping with sound marketing policy. While the proposed fixed differential may serve PPPABC interests in realizing “improved” processor competitiveness in Canadian markets, it comes at great expense to BC growers realizing a reasonable return.

Options Considered

On October 30, 2020, the Chicken Board issued a set of pricing options for review and consideration by stakeholders. A stakeholder roundtable was held on December 14, 2020 to hear feedback and whether there were any “new” ideas or options that the Chicken Board should consider. Five options were presented:

- Ontario posted price at a set weight category plus a fixed differential
- Weighted average of Alberta, Saskatchewan, Manitoba and Ontario posted prices plus a fixed differential
- Ontario posted price plus cost of catching, a percentage of the difference in feed and chick cost difference between BC and Ontario
- Using the Serecon COP with a fixed or variable percentage of recovery
- A tripartite COP/Linkage with hatching eggs, hatcheries and chicken

One of the critical challenges facing the BC industry in establishing a long-term pricing formula for mainstream chicken in British Columbia is to find one that provides a balance of interests; reasonable return to growers, BC processor competitiveness in Canadian markets while respecting hatching egg producers and hatcheries needs for reasonable returns and margins. For too long, the position of all stakeholders have been to “not lose ground” and as such each has held firm to their respective positions on pricing; cost of production on the Growers Association side and fixed differential over Ontario on the PPPABC side.

The Chicken Board has attempted to “bridge” the divide through the “without prejudice” sessions with each of the Chicken Growers and PPPABC in the fall of 2021. The Chicken Board was unable to secure a consensus of the parties or to gain insight on an alternate model through these sessions. It was clear that both the Growers Association and the PPPABC were not prepared to move off of their stated positions; COP for the Chicken Growers and fixed differential over Ontario for the PPPABC. Both parties have

provided the Chicken Board with data and analysis to demonstrate the benefits to be realized through their preferred option.

The Chicken Board remains unconvinced that either party has provided an objective analysis of the advantages, disadvantages, costs and benefits of their preferred options. Both parties have used assumptions that skew the benefits in favour of their particular option. The Chicken Board engaged an independent third party to assess the merits of both the Chicken Growers and the PPPBC proposals and analysis. This assessment is contained in B.

With respect to the submissions of the Growers Association, the Grower Sustainability Report raised the following:

- The 7% return for broiler farming asserted in the Art Friesen Report is a reasonable assumption.
- The overhead cost of \$2/bird used by Art Friesen Report is a reasonable estimate of a weighted average overhead for farms in BC.
- The results using a 3.5% debt service on the full cost of land, buildings and equipment analysis of the data collected for an 80,000-bird farm in the Lower Mainland is \$0.56/kg of required gross profit compared with the Art Friesen Report analysis of \$0.58/kg; in general terms affirmation of the Art Friesen Report results.
- The Grower Sustainability Report goes further and provides gross profit requirements for different size farms and for the Interior (\$0.61 - \$0.88/kg) and Vancouver Island (\$0.90/kg).

With respect to the PPPABC Grant Thornton Report model, the Grower Sustainability Report raised the following:

- The large number of assumptions used distracts from understanding the sensitivity of the results to changes in the assumptions and creates unnecessary difficulty in settling on a representative or model farm for purposes of evaluating returns.
- The unnecessary complexity arises from the grouping two investments together, the barn and the addition, and including superfluous details on bank financing.
- The 2016-17 data is outdated.
- The assumption of cost for a 50,000 square foot barn at \$38.65 per square foot building plus equipment cost may reflect the costs used by Serecon in the 2017 COP update, however 2018 numbers collected in the Grower Sustainability Report would indicate a higher cost, closer to \$53 per square foot. Even the Grower Sustainability Report cost underestimates the building and equipment costs for a new entrant grower, reported at \$68 (Interior) – \$100 (Vancouver Island) per square foot.
- The model farm used by Grant Thornton is not representative of broiler production in BC.

- Taking out Market Development production, the model farm produces 736,109 kg over 6.5 cycles or 113,247 per cycle.
- The median size broiler farm in BC produces 79,153 kgs (2020).
- The model farm used is 43% larger than the median farm size in BC.
- In 2020, 180 or 60% of the growers in BC would be smaller than the model farm.
- Wages account for 6 – 7% of the cost of production and should be valued and included in the model.
- There is no accounting for the opportunity cost of capital on the equity invested in the barn.
- The operating costs used in the model both in absolute and percentage terms are comparable with the data collected.

The Grower Sustainability Report suggests a more simplified model to the Grant Thornton model (details can be found in Attachment 2). The Grower Sustainability Report simplified model presents the results of 6 scenarios:

- PPPABC barn size;
- Lower Mainland 100,000+ kg farm;
- Interior 100,000+ kg farm;
- Median farm;
- Interior New Entrant Grower; and
- Vancouver Island New Entrant Grower.

The Grower Sustainability Report also adapted the simplified model to address growth as well as to compare the results if the Art Friesen Report data was applied.

The Grower Sustainability Report suggests that “The problem of finding a reasonable return can be inverted to find the price that would deliver returns above the hurdle rate. ... The results of this model show that the large farms in A-161 could accept a hurdle price below the Live Price for that period and still see returns greater than the hurdle rate. NEGs on the other hand, require a much greater price. ... For cycle A-172, using the Serecon data, we again get a result that suggests the price is near to providing returns that achieve the hurdle rate. This suggests that the current pricing formula is delivering returns for the median farm that just achieve the hurdle rate.”

It would be irresponsible for the Chicken Board to draw the conclusion that the current model is providing “reasonable returns to growers” based on the simplified model presented in the Grower Sustainability Report. In fact the Grower Sustainability Report conducted further analysis to address the questions of “What does it take to prosper?” and “Why and under what circumstances would someone operate below total cost recovery?”

Cost of Production

Why not adopt a Cost of Production (“COP”) formula to set the live price of chicken in BC? COP is used by the layer sector to form the basis of national pricing. Ontario uses a form of COP in establishing the Ontario live price of chicken. The BC Broiler Hatching Egg Commission (the “Commission”) has proposed a COP based pricing consistent with the practice used by the sector in other provinces.

BC is a high cost of production province. Broiler growers and processors in BC have long understood the high cost dynamic in growing and processing chicken in BC and for the most part accepted that returns in BC may not be the same as in other provinces that do not rely on the importation of feed ingredients. This dynamic is the basis of the need to balance grower return with processor competitiveness.

To clarify the Ontario use of COP, prior references to the Ontario Cost of Production Formula have been replaced by the Ontario Farm Gate Minimum Live Price. The Chicken Farmers of Ontario conduct periodic COP surveys (every 5 years) to provide a basis for discussion of the Producer Margin at the Negotiating Committee which includes representatives of the licenced Ontario processors. In short the COP survey data informs, but does not define the Producer Margin. In particular, labour and return on capital are two costs and expenses for which there is no transparency in how the costs reported are established in the formula.

With the onset of the current Ontario Farm Gate Minimum Live Price (quota period A-169), to improve transparency and apply a greater reliance on actual cost, Ontario has replaced mandatory efficiency adjustment factors with processes and procedures to address production elements such as feed conversion ratio and productivity metrics driving the producer margin costs such as barn utilization, cycle lengths, annual production volume, days in barn, chick conversion ratio, farm volume.

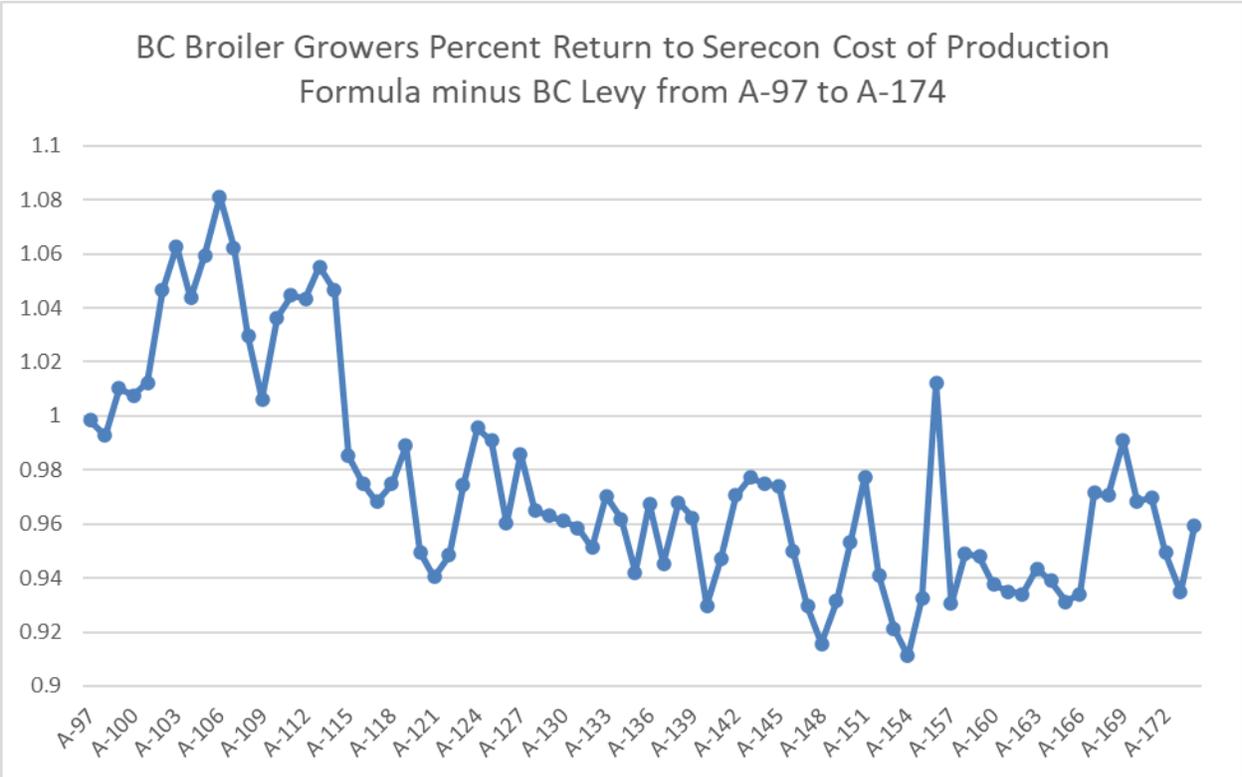
Refer to Appendix 7 for more details on the Ontario Farm Gate Minimum Live Price

Can the BC COP be used as a measure of reasonable return to growers? The Chicken Board and Commission use COP models for broilers and breeders in order to provide a basis for balancing returns between broiler growers and hatching egg producers (the Linkage formula). The COPs while informative cannot be taken as an actual reflection of the COP for either sector, as evidenced by the additional work the Commission undertook to establish their proposed COP based pricing formula.

Irrespective of the intended purpose of the COPs, they are useful in providing a measure of return to growers. The following graph plots the return to COP yielded by the live price by period. While the assumptions used in the COP model have been modified in each periodic update (every 3 to 5 years), there are also other factors that have played out in the results shown.

A-Period	Percent Return to Serecon's COP
Average from A-97 to A-112	103.36%
Average from A-113 to A-128	98.15%
Average from A-129 to A-168	95.06%
A-169	99.10%
A-170	96.82%
A-171	97.00%
A-172	94.93%
A-173	93.47%
A-174	95.94%

The only time other than quota period A-156 that the grower return to COP was in excess of 100% was prior to the implementation of the Ontario COPF Farm Gate Minimum Live Price formula (the "Ontario COPF formula") in quota period A-129. For a one year period (A-97 to A-112) the average grower return to COP was in excess of 100% (103.36%). This was primarily due to an inversion in the corn/wheat feed prices, where corn was priced higher than wheat.



During the Ontario COPF formula period, grower return to COP was variable, but generally averaged 95% (A-129 to A-168). Since the most recent changes to the Ontario COPF formula (quota period A-169), the grower return to COP initially increased, but has since declined to below the 95% average level owing to the limitation on upper movement of the BC live price due to the presence of guard rails. The current BC live price formula if not limited to \$0.1249 by the guard rails would have seen the BC live price increase by more than \$0.20/kg over Ontario. It is reasonable to expect that return to COP would have been closer to 100% without the guard rail limitations on price.

It should be noted that the Chicken Board utilizes separate stand-alone COP's to set the live price of organic and specialty chicken in BC based on 100% of COP.

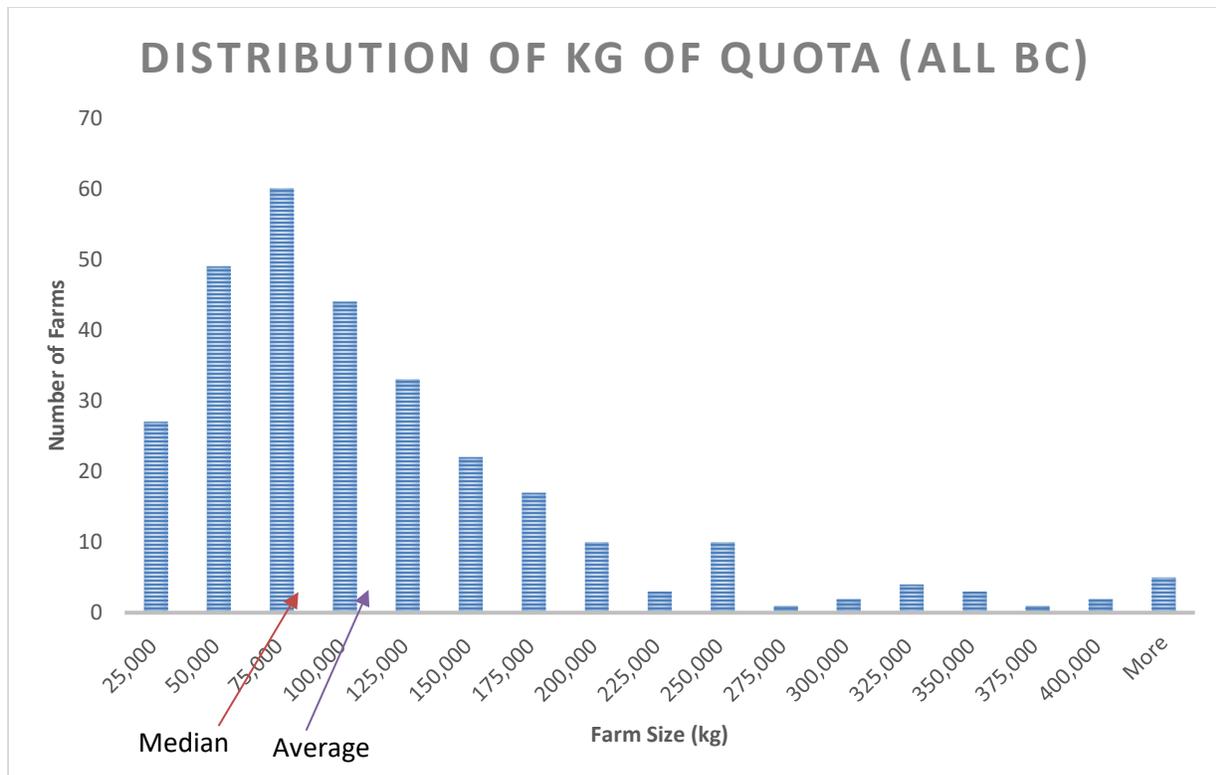
Other Strategic Policy Considerations

Future of chicken production in BC

The Chicken Board recognizes the breadth and diversity of production practices used to raise broilers in British Columbia. As illustrated in the BC Chicken Grower Sustainability report, there is a broad range in cost experience of BC growers due to size of operation, age of facilities, location, chick and feed supply sources; breed of chick; operating systems (brooding, heating/cooling, feeding, watering, lighting, ventilation systems), mortality rates, culling practices, condemnation rates, etc.

Anything short of a live price that covers the highest cost grower will not satisfy the interests of 100% of growers. The current COP model used for the linkage formula uses an average size farm. Does the use of average farm size provide the best “benchmark” for growers? Would the use of the median farm size be more appropriate in reflecting the grower cost base?

The Grower Sustainability Report considered the question of median versus average farm size. The distribution of quota by farm size is illustrated in the following graph. The distribution is not symmetrical. If an average farm size is used in analysis (106,000 kg) it will not capture the reality of most farms as roughly 60% of them are smaller than the average. Whereas the median, which represents the point at which there is 50% of the population below and above that level (~75,000 kg).



Variability amongst participants is also evident in the BC processing sector. Plant size, scale and location range from very small regional processors serving local markets with manual evisceration, cut-up and packaging to large fully automated systems. Variability also exists in labour (union versus non-union employees); chilling systems, throughput capacity; product mix; use of the Market Development Program as well as share and utilization of TRQ (Tariff Rate Quota) imports. The extent of quota holders and integration is also factor into competitiveness of the sector.

The highly variable nature of the BC processing sector also adds complexity to define quantifiable measures of processor competitiveness. What may be reasonable for one set of BC processors may not work for another set of BC processors. Hence in-province competition between processors also affects the Chicken Board’s ability to arrive at a one-size fits all set of measures for processor competitiveness.

The Chicken Board is responsible and accountable for

- Achieving and delivering on the Ministry of Agriculture, Food and Fisheries 2004 Regulated Market Policy.
- The “renewal” of the industry through measures such as promoting and implementing new entrant policies set forth in the 2004 Ministry of Agriculture, Food and Fisheries Regulated Marketing Policy and 2005 Specialty Review.
- Maintaining chicken production on Vancouver Island as set out by Regulation.

While not the specific subject of the Pricing Review, new entrant growers will be directly impacted by the outcome of the Pricing Review decisions as will growers and processors on Vancouver Island.

Threats to BC chicken industry

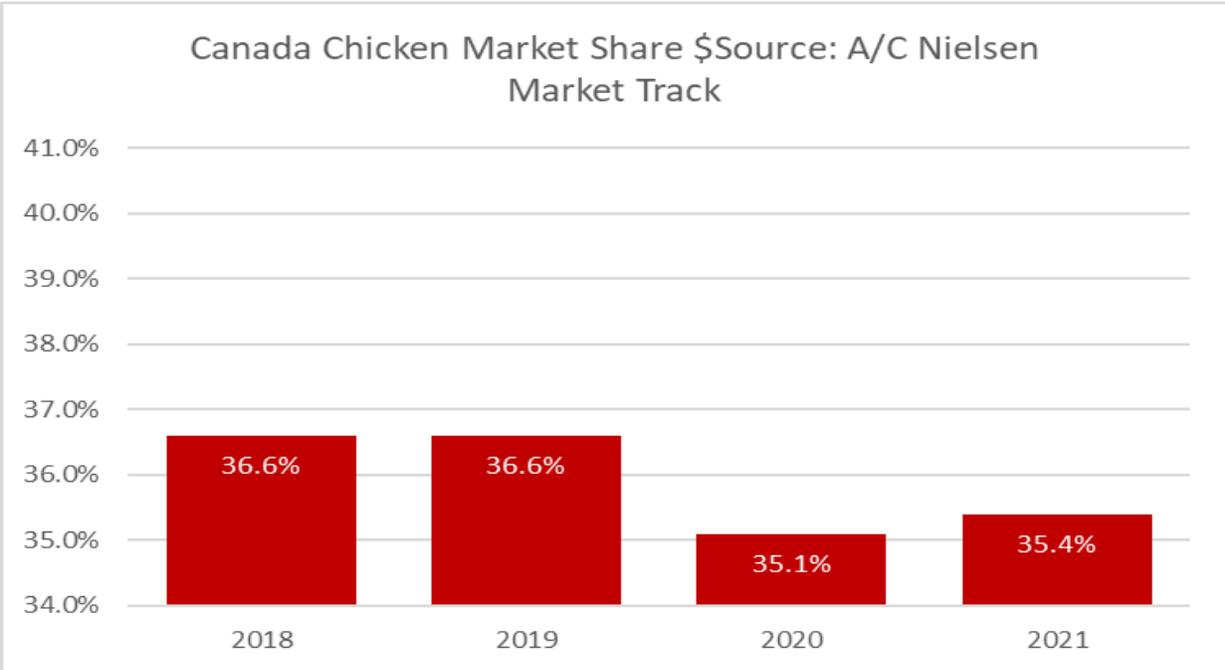
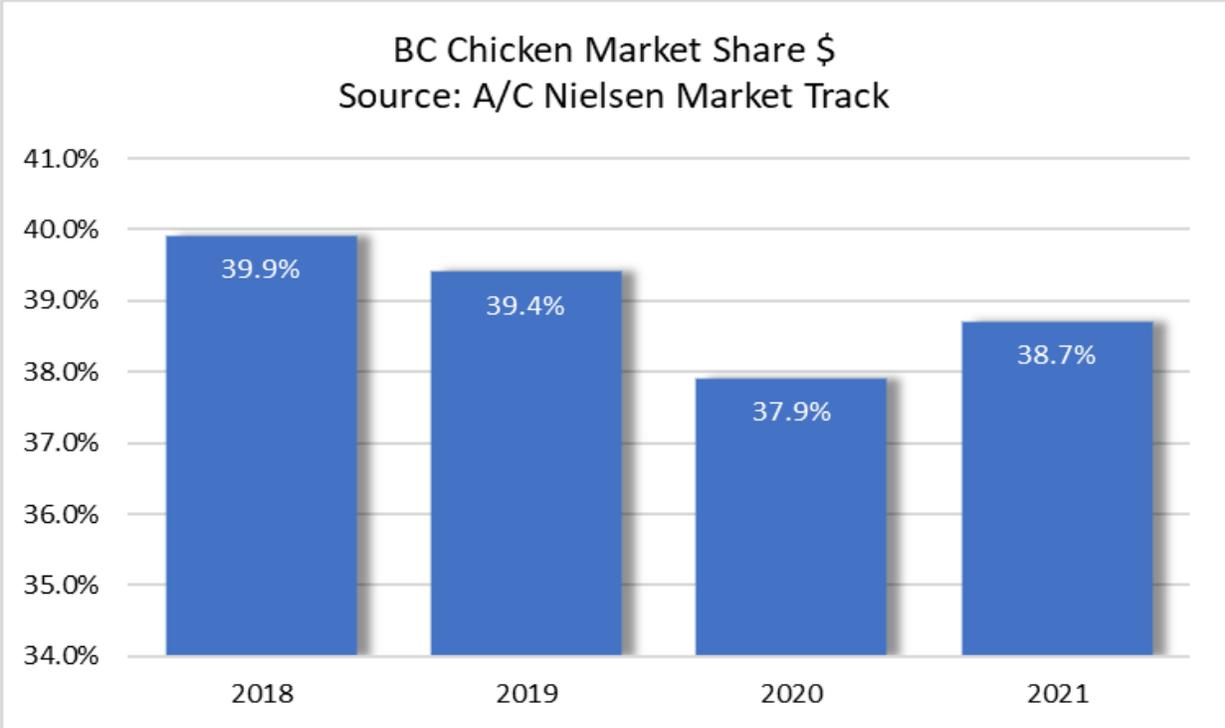
Higher production costs, in particular feed and labour, are and remain a reality in the BC chicken industry. As such, the BC chicken industry collectively must find ways to cooperate to achieve efficiencies throughout the value chain and enhance value in the marketplace. This point has been highlighted by the recent Atmospheric River weather event in November 2021 which shut off transportation routes into the Lower Mainland/Fraser Valley region and the COVID-19 pandemic.

The Commission has adopted the responsibility from the 2004 Ministry of Agriculture, Food and Fisheries, Regulated Marketing Economic Policy to “facilitate cooperation among producers, marketing agencies, input industries, processors and retailers, with a view of achieving efficiencies throughout the entire system, and enhancing value in the marketplace”. The work of the Commission with its proposed COP based pricing and work on hatchery costs can provide the necessary inspiration to the rest of the chicken value chain. The Chicken Board also accepts the responsibility with the view that working with the Commission and through the process outlined for BC Cost Recovery Model to pricing, a more robust and efficient chicken industry can emerge. It is important that the issue of pricing be addressed so as to enable important “strategic priorities” that are part of the Commission and Chicken Board’s strategic framework for a viable and sustainable BC chicken industry can be addressed.

Opportunities for BC chicken industry

There are unique characteristics that define the market for chicken in BC that can serve to support the long-term sustainability of the BC industry. Consumer demand for chicken in BC is strong. It remains the preferred protein source for BC consumers. The proximity of production to the markets not only provides transportation cost benefits, but also provides visibility for the industry. Consumers know that BC produces chicken that is available to them whether through retail or food service.

While demand is strong for BC chicken, per capita consumption in BC trails other provinces. This provides the BC industry with opportunities to market the BC advantage and increase consumption, driving increased provincial demand.



BC market share of dollars spent on chicken is 9.8% higher than the Canadian average.

Markets and Market Stability

The PPPABC provided a BC Chicken Market – Overview Presentation. Through the review roundtable process agreement was reached that BC was a net importer of chicken. The Chicken Board supports the conclusion reached but fails to see the implications of this net import status on the live price of chicken in BC. The Chicken

Board is of the view that this is more of an issue relating to the federal government's administration and allocation of Tariff Rate Quota imports than it is to BC pricing. While processors holding TRQ have access to lower price imported chicken, the imports are not directed at the fresh retail market. BC growers should not be expected to "absorb" the processor "cost" of TRQ.

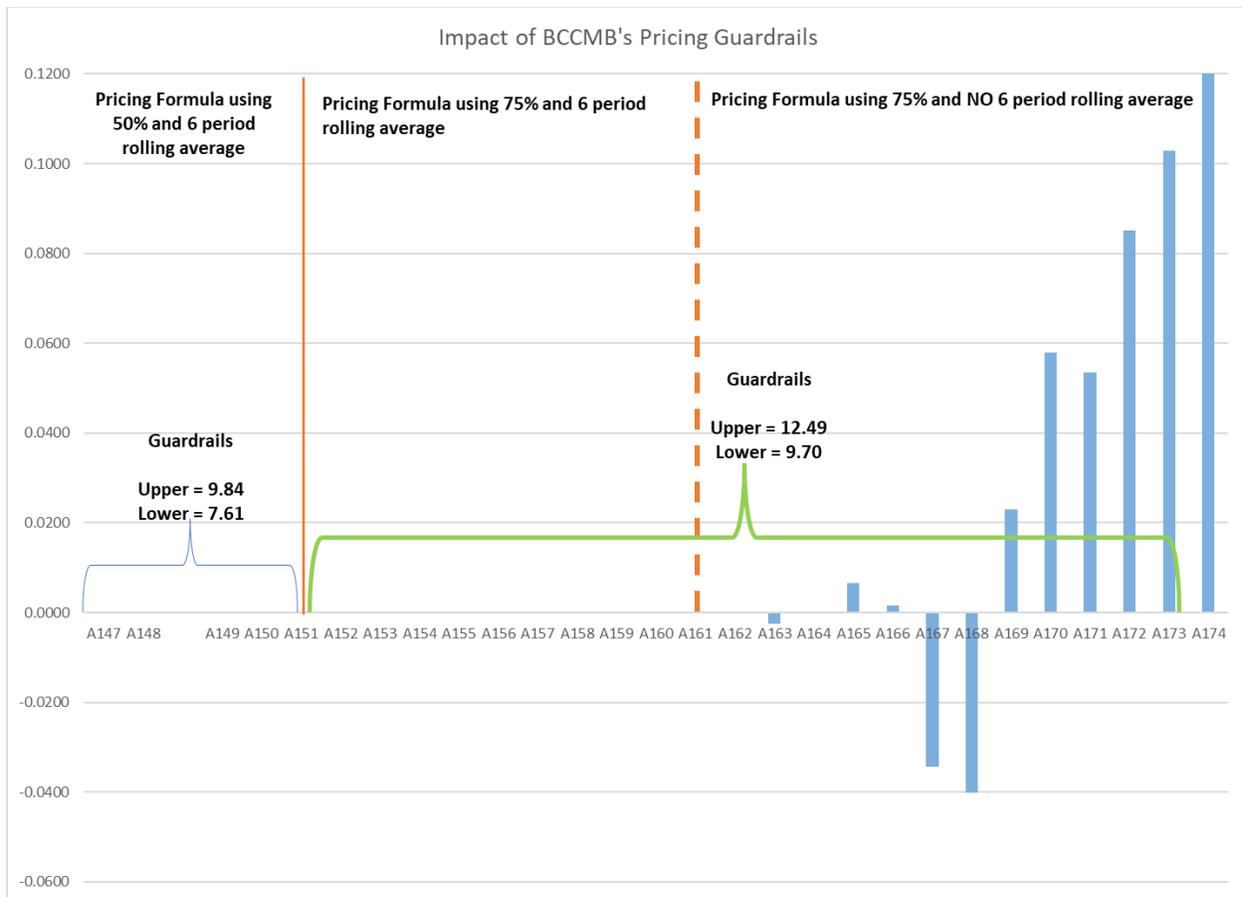
The question of market stability was raised to the Review Panel by the PPPABC in June 2021. In response, the Review Panel invited industry stakeholders to

- Identify if one or more of the current pricing structures are resulting in industry instability; and
- if so, provide the SAFETI-based rationale that demonstrates the resulting industry instability, including
 - a definition of industry instability
 - together with measurable or substantiated objective evidence and/or data on how this instability is being experienced by the processors.

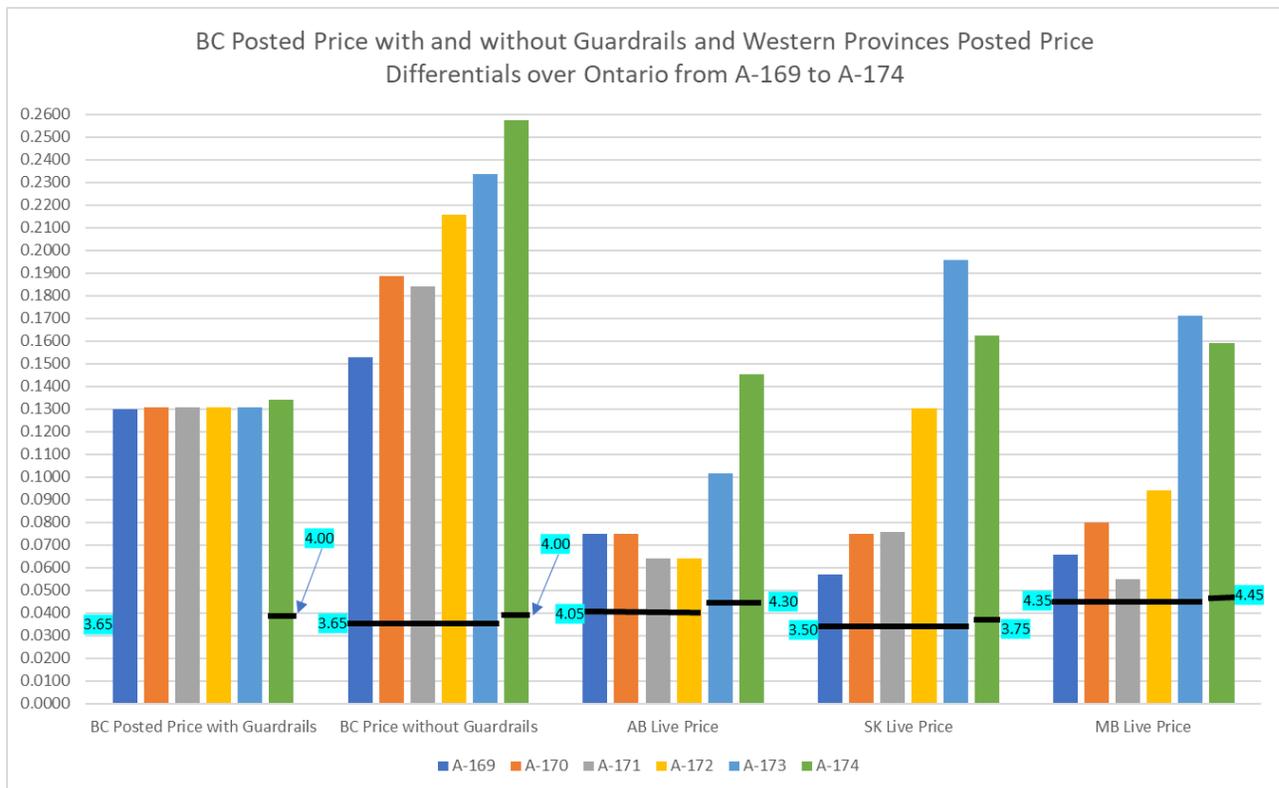
In August 2021, the Review Panel "was not given any measurable or substantiated objective evidence or data of industry instability during this process". The Chicken Board has not received any measurable or substantiated evidence or data of industry instability since the Review Panel's decision.

The Chicken Board does understand and respects the policy objective that "processors must be able to be competitive in the Canadian market" as well as "reasonable return to growers". The Chicken Board has addressed this objective in its current formula by applying guard rails in order to keep the BC live price within a pre-determined range of \$0.0970/kg to \$0.1249/kg over the Ontario live price. The Chicken Board remains unconvinced by the PPPABC that the \$0.0279/kg sleeve between the upper and lower guardrails is inadequate in responding to and not respecting market stability considerations.

The following graphs serve to illustrate the "effectiveness" of the guardrails in addressing market stability concerns.



The graph depicts the number of times the guardrails have been applied to the BC live price. During the 50% formula with the use of the 6-period rolling average, the guardrails did not come into play. During the 75% formula with the use of the 6-period rolling average again the guardrails did not come into play. The 6 period rolling average was removed after an agreement was struck between the PPPABC and the Growers Association for period A-161. This did have an impact on the pricing. The lower guardrails came into play three times, while the upper guardrail has come into play 7 times. The guardrails were originally set at 9.84 cents (upper) and 7.61 cents (lower) with the advent of the 50% formula. The guardrails were amended in A-151 to 12.49 cents (upper) and 9.70 cents (lower) and remain in place today. The amount above the guardrails since A-169 have continued to escalate as feed costs in BC have continued to increase while the Ontario feed prices have decreased up to quota period A-174.



The black horizontal lines on the graph represent the catching costs that are included in the calculation of the differential over Ontario; which are different in each province and have increased. There are two key points worth noting in the slide. The first is quota period A-173 live prices in Saskatchewan and Manitoba exceed the BC live price. Never in history have two prairie-provinces live prices exceeded the BC live price. The second observation to note is the impact the guardrails had on the BC live price versus the live price yielded by the BC formula in the absence of guardrails.

While the BC live price over Ontario remains static at \$0.1249 over Ontario and is projected to continue until such time that the wheat/corn price differential is moderated, the guardrails provide certainty for BC processors and enable market stability. As well, the changes to the Ontario Farm Gate Minimum Live Price, particularly the feed conversion ratio which is much closer to the BC rate serves to underscore the cost difference experienced by BC growers. As much as processors are concerned with the higher differential over Ontario, growers are concerned over their ability to continue to “absorb” the higher feed costs that are not captured in the current BC live price formula.

Conclusions

The Chicken Board has repeatedly and clearly stated the need and rationale for a revised long term formula for BC grown mainstream chicken. The rationale can be succinctly summarized as: relying on non-transparent formulas developed exclusively for other Canadian jurisdictions is unsustainable.

Both BCFIRB and the Chicken Board have encouraged PPPABC to provide measures of processor competitiveness so that the Chicken Board can evaluate the impact any changes in live price would have on said competitiveness.

The Chicken Board has reviewed and given due consideration to all of the submissions received through the Pricing Review as well as securing its own independent third party to provide additional analysis and perspective. The Chicken Board is supportive of the Commission's proposed approach to pricing and the need for a fundamental change in the way that the BC chicken industry looks at and conducts pricing.

The BC chicken industry by virtue of being at a higher cost of production than most other provinces needs to work collectively and cohesively together to address areas of efficiencies that can serve to offset some or most of the higher cost of production. Working off of the Ontario Farm Gate Minimum Live Price may provide the simplest approach however it does not the answer the question of long-term sustainability of the BC chicken industry.

The direction being proposed by the Chicken Board and Commission are consistent with the Ministry of Agriculture, Food and Fisheries, July 2004 Regulated Marketing Economic Policy. Despite being developed 17 years ago, the policies are just as applicable in 2022 as they were in 2004, particularly as they relate to the role of the system in facilitating cooperation to achieve the objectives of the policies. It appears from the PPPABC's December 13, 2021 letter that they are not supportive of a collaborative approach to pricing jointly undertaken by the industry.

As well, the underpinnings of supply management, referred to as the three pillars includes "a public policy which seeks to ensure that, on average, in any one year, an efficient producer of regulated product will be able to sell his products at a price which allows him to cover his cost of production and realize a reasonable return" (Cost of Production Monitoring Guideline For Agencies Established under Part II of the Farm Products Agencies Act, February 13, 2014).

The ability to secure data and assess methodologies that establish the cost to produce the chicks and grow the chicken is an asset, given the proprietary and confidential nature of the processing business. BC should not rely on another province's data or costs to determine "reasonable return to growers". BC must be able to determine its own cost structure and factors to ensure efficient production and growth. It is not possible for the Chicken Board to be able to "improve processor competitiveness" based solely on a comparison with the Ontario live price that is consistent with the objective of growers achieving a "reasonable return". The PPPABC stated position of "how processor competitiveness would be improved" with the proposed BC Cost Recovery Model to live price is seemingly different than the policy objective to address "processor competitiveness in Canadian markets".

The Chicken Board BC Cost Recovery Model approach is consistent with the Commission's proposed approach to pricing and represents the two boards' leadership

in asserting the British Columbia's position as third largest chicken producing province in Canada. The Chicken Farmers of Canada, unlike its counterparts in table eggs and dairy have stated pricing responsibility fall within provincial jurisdiction. While it preserves provincial autonomy, it does little to strengthen the overall system in Canada. In reality it serves more to fracture the industry in Canada, pitting province against province and east against the west. British Columbia taking the position of asserting a grower cost-based approach to provincial pricing that can be used to advocate and promote a national grower cost-based approach to pricing, a position that has been supported by processors nationally through the Canadian Poultry and Egg Processors Council.

Adopting a BC Cost Recovery Model provides a more simple form of linkage or coordination between broiler growers and hatching egg producers. It also allows the industry to focus in on areas where efficiencies can be gained to the benefit of all, as opposed to one sector taking the benefit at the expense of the other.

Processor Competitiveness in Canadian Markets

There is definitive lack of readily available, transparent or meaningful quantifiable measures tied to "the ability to profitably and sustainably maintain or enhance market share" definition of "processor competitiveness in Canadian markets" as presented through the Pricing Review. The proprietary/business confidential nature concerns with respect to processor costs and returns lead the Chicken Board to conclude that the inclusion of "profitably" in the definition cannot be measured and should not form part of the definition. The Chicken Board has determined that going forward the measures to be considered, subject to further discussion in the establishment of the BC Cost Recovery Model, will be live cost difference and quota utilization.

Reasonable Return to Growers

The Chicken Board sought the assistance of an independent outside third party to provide a "fresh" perspective on "reasonable returns to growers". The BC Chicken Grower Sustainability Report prepared by Hugh Scolah provides an in-depth analysis and assessment, as well as providing a range of models to attempt to provide quantifiable measures.

The report indicates that the current pricing model is providing most broiler operations with Total Cost Recovery with the exception of New Entrant Growers. This is good news, however Total Cost Recovery in and of itself does not constitute "reasonable returns to growers". The Total Cost Recovery model does not include land and quota costs. They are important considerations in establishing "reasonable returns" as growers must purchase land and quota to make investments in the broiler industry. As well, they factor into decisions regarding farm succession. The Grower Sustainability Report concludes that "Unless there are tax advantages or potential financial engineering related to other family businesses it does not make sense financial sense for the children of these farmers to borrow money to take over the family farm." This conclusion is primarily applicable to the 89% of farms producing less than 200,000 kgs.

The Chicken Board has determined that the BC Cost Recovery Model that includes cost of land is important in determining “reasonable return to growers”. Whether or not, the overlay of processor competitiveness in Canadian markets enable achievement of 100% of the grower cost base will be determined through the process to establish the formula. Other factors, such as efficiency benchmarks will need to be included to ensure that the grower cost base is not overstated.

Performance Measures

The Chicken Board accepts the criteria put forth by the PPPABC to guide the BC Cost Recovery Model process:

- “Data needs to be meaningful and representative”
- “Data needs to be transparent”
- “Data needs to be readily available, and robust for updating”

These are important principles that must be respected in the final product.

Transition Period

The Chicken Board recognizes that the shift to a BC Cost Recovery Model will take time. In the interim, the Chicken Board will continue to apply the current floating differential live price formula with no change to the minimum and maximum guardrails. The Chicken Board intends to shift the Ontario Farm Gate Minimum Live Price used in the formula to the 2.15 – 2.45 kg weight class. This will result in a \$0.02/kg reduction in the BC formula. The shift in Ontario weight class reference price will only be adopted if the amendments to the current formula for quota period A-175 proposed by the Chicken Board are approved by the Review Panel.

SAFETI Analysis

The Chicken Board attempted to secure consensus of the stakeholders on the best option for a long-term pricing formula. The Chicken Board has weighed the information, data and analysis present through the review and is required to make a decision as first instance regulator that best serves the interests of all. The Chicken Board has concluded that BC can no longer depend on other provinces for pricing. This does not mean that BC live price relative to live price in Central Canada is irrelevant. The live price in other jurisdictions is reflective of provincial costs in that jurisdiction as it must be for BC.

A full, Schedule 15 is included as Appendix C.

[Appendix 1 - The History of Pricing since the 2010 Supervisory Review of Pricing](#)

[Factors Contributing to the 2010 Supervisory Review](#)

In 2008, due to the continued difficulties and polarization within the PPAC with respect to negotiating the live price, the Chicken Board in May 2008 engaged the firm of Ference Weicker to prepare a proposal entitled “*Economic Analysis to Develop a Pricing Model for Live BC Grown Chicken*” (BCCMB 2009 Annual Report). The inability to arrive at an agreed upon live price continued throughout 2009 with the BC Chicken Growers Association (the “Growers Association”) and the Primary Poultry Processors Association of BC (the “Processors Association”) or both filing appeals on all pricing orders issued for the 6 quota periods in 2009.

[2010 Supervisory Review Decision](#)

The last Supervisory Review of chicken pricing was completed by BCFIRB in June 2010. The Supervisory Review imposed a pricing formula that used a weighted average of Ontario, Manitoba, Saskatchewan and Alberta production and live prices plus a fixed differential of \$0.0435/kg to take effect in quota period A-101. The fixed differential included the cost of catching; \$0.028/kg.

[2010 Mediation Agreement](#)

As a result of the various outstanding pricing appeals filed by the PPPABC, the Growers Association or both prior to the Supervisory Review a mediation session between the members of the Growers Association and the PPPABC was conducted on September 22, 2010 by Jim Collins, Executive Director, BCFIRB. A mediated agreement between the Growers Association and the PPPABC dated September 24, 2010 was concluded. The mediated agreement resulted in

- The fixed differential to be amended from \$0.0435 to \$0.0480 for quota periods A-101 to A-112 inclusive.
- For quota periods A-113 to A-119 inclusive the fixed differential would be amended to \$0.0485/kg.
- The catching costs for quota periods A-101 to A-119 inclusive were revised from \$0.028/kg to
 - \$0.033/kg for single deck barns and \$0.036/kg for double deck barns for growers using chicks supplied by their processor’s hatchery; and
 - \$0.0355/kg for single deck barns and \$0.039/kg for double deck barns for growers using chicks not supplied by their processor’s hatchery.
- An October 6, 2010 BCFIRB dismissal order of the outstanding pricing appeals.

[Subsequent Agreements through PPAC](#)

Through the PPAC a March 28, 2013 Multi-Period Pricing Agreement was recommended to cover quota periods A-120 to A-132 inclusive. This agreement continued the status quo of a \$0.0485/kg differential and catching cost schedule. The agreement also acknowledged changes forthcoming to the Ontario pricing model that includes a processor margin component. The Growers Association and PPPABC stated that they were not in favor of the expected Ontario pricing model and will

participate in discussions with western provinces to determine if a more suitable model can be utilized for the west.

A November 24, 2015 Agreement of the PPAC continued the \$0.0485 fixed differential to the weighted average price for the quota periods A-134 to A-139. On October 27, 2016, the Growers Association and the PPPABC agreed to increase the fixed differential from \$0.0485/kg to \$0.0571/kg for a “Bridge Period”; quota periods A-140 and A-141. The Chicken Board continued the “Bridge Formula for quota periods A-142 and A-143.

2016 Pricing Formula Review

In June 2016, the Chicken Board “as part of good governance and sound marketing policy determined it was now time to review the current pricing formula which has been in place for over five years. The review arises from a changing industry – rapidly changing national markets (consumer preference and increasing consolidation of the wholesale/retail sector), increasing imports (including potential increases in TRQ levels as result of the TPP trade agreement), and pricing being increasingly fragmented between provinces as part of the impact of the new Ontario COPF. Provincially, concerns have been raised respecting the updated Serecon COP, deteriorating grower margins and processor concerns respecting increasing amounts of product from Central Canada finding its way onto the shelves of BC retailers.” (June 28, 2016 BC Chicken Board letter re: BC Formula for the Pricing of Live Mainstream Chicken).

Prior to the Chicken Board commencing the review, the PPPABC had been expressing concern over the increase in differential resulting from the weighted average formula. The increased differential was resulting from increases in Alberta, Saskatchewan and Manitoba live prices in response to the annual adjustment being applied in the Ontario Farm Gate Minimum Live Price.

As well, the Growers Association made representations to the Board expressing concern that the escalating catching costs included in the BC live price reduced the actual differential received by growers to \$0.0135/kg to cover any production cost difference in BC. The Growers Association had requested the Chicken Board to regulate catching costs so as to eliminate the processors ability to reduce the actual differential that growers realize.

2017 Pricing Formula

In May 2017, following consideration of input received from industry stakeholders, the Chicken Board established a new pricing formula commencing in quota period A-144. The formula shifted from a fixed differential to a variable rate differential based on differences in feed and chick costs, consisting of:

- Ontario Farm Gate Minimum Live Price based on the 1.84 – 1.96 kg weight category, plus
- 50% of the rolling average of the difference in feed and chick costs between BC and Ontario over the last 6 periods, plus

- Catching costs (\$0.035/kg).

The Chicken Board in its decision indicated it would evaluate the formula and components, with industry input, within one year of implementation.

Subsequent to the decision, on September 8, 2017 the Chicken Board facilitated a session with the Growers Association and the PPPABC to discuss the need for guardrails in the Pricing formula as well as the Modular Loading Cost Recovery Premium included in the Ontario live price in A-145. The Chicken Board accepted the PPPABC recommendation, accepted by the Growers Association, that for the next five quota periods, up to and including A-150, the differential between the Ontario and BC live prices will be a maximum of \$0.0984/kg and a minimum of \$0.761/kg based on the 1.84 – 1.95 kg Ontario weight class, inclusive of the Ontario \$0.012/kg modular loading cost recovery premium. The decision also included any increases or decreases in the cost of catching during the period up to and including the end of quota period A-150 will result in corresponding increase or decreases in the maximum and minimum differentials between the Ontario and BC live prices.

Subsequent to the facilitated session, the PPPABC made representation to the Chicken Board that the Ontario live price used in the BC formula should exclude the Ontario \$0.012/kg modular loading cost recovery premium. Commencing in quota period A-145 the Chicken Board excluded the Ontario modular loading cost recovery premium from the BC live price formula.

2018 Pricing Formula

In June 2018, the Chicken Board implemented a new pricing formula for quota periods A-151 to A-156 inclusive based on:

- Ontario Farm Gate Minimum Live Price based on the 2.45 – 2.65 kg weight category, excluding the \$0.012/kg Ontario modular loading cost recovery, plus
- 75% of the rolling average of the difference in feed and chick costs between BC and Ontario over the last 6 periods, plus
- Catching costs (\$0.0365/kg), plus
- Guardrails to establish differentials between the Ontario and BC live prices set at a maximum of \$0.1249/kg and a minimum of \$0.0970/kg and adjusted to reflect any changes in catching costs.

The June 2018 was intended to be an interim decision that would be reviewed upon the completion/implementation of the Ontario COPF2 and/or the completion of the BC initiatives respecting Pricing Linkage and update to costs for BC chicken production which may occur prior to the completion of quota period A-156.

2018 Pricing Formula Appeals

Both the PPPABC and the Growers Association appealed the new pricing formula decision. The BCFIRB Appeal Panel (the “Appeal Panel”) heard the appeals in October

and November 2018 and issued its decision in May 2019. The Appeal Panel issued its decision on May 16, 2019. The Appeal Panel's findings included:

- “The Chicken Board’s decision to adjust the preliminary pricing decision from a 100% feed and chick differential to 75% is consistent with sound marketing policy.”
- “The Chicken Board followed a procedurally fair process based on regulatory requirements, which is appropriate to the interim nature of the decision it was making for a pricing formula for periods A-151 through A-156.”
- “The development of the June 27, 2018 pricing formula was based on a procedurally sound process and should remain in place until such time as the Chicken Board establishes a new pricing formula.”
- “While the panel supports, in principle, a chicken pricing formula based on the Ontario price and a fixed differential, there is insufficient evidence before the panel on this appeal to establish such a formula.”
- “The Chicken Board’s finding that grower returns were sufficiently low so as to require an adjustment in the Pricing Decision was based on verifiable data and as such, was reasonable.”
- “The panel does not accept that the Processors demonstrated through verifiable data from independent sources, declining competitiveness.”
- “The panel does not accept the Processors submission that the Chicken Board erred in establishing the pricing formula.”
- “The interim pricing formula for periods A-151 through A-156 is consistent with sound marketing policy.”

Other directions resulting from the BC FIRB decision include:

- “the panel dismisses the Processors’ request for a further interim pricing formula established through alternate dispute resolution ... in favour of extending the June 27, 2018 pricing formula to establish pricing for period A-160, to allow the Chicken Board to continue its work on a long term formula. The long term pricing formula must be in place for period A-161.”

2018 Pricing Formula Adjustments

The BC live price formula underwent minor adjustments as a result of changes in the Ontario Farm Gate Minimum Live Price to include adjustment factors for:

- Modular loading cost recovery
 - \$0.012/kg effective quota period A-145 (July 2017)
- Disease insurance platform for Avian Influenza Peril
 - \$0.0015/kg effective quota period A-154 (December 2018)
- Emergency depopulation charge recovery
 - \$0.0002/kg effective quota period A-163 (May 2020)

The Chicken Board agreed that such adjustments should not be included in the calculation of the BC live price and measures were implemented to exclude the Ontario adjustments. Due to the nature and reporting of the Ontario adjustments, there were periods in which the some of the adjustments were not excluded from the BC live price

formula and required the Chicken Board to reconcile the differences with processors. In October 2020, the Chicken Board sought the Review Panel's concurrence that the exclusion of the Emergency depopulation recovery charge from the BC live price formula was consistent with the Review Panel's July 3, 2020 decisions:

- The Chicken Board and the Commission are directed not to change any aspect of the current pricing structures as defined in this decision, unless by the way of BCFIRB prior approval or until such time as BCFIRB determines otherwise.
- The Commission and the Chicken Board are directed not to exit the price linkage agreement without BCFIRB prior approval.

Appendix 2 - BC Chicken Industry

Economic Contributor

The chicken industry is significant to the provincial economy through its broiler growers, chicken processor and further processors, contributing

- \$524 million in farm cash receipts
- 14,353 total jobs
- \$1.1 billion to Canada's GDP
- \$243 million in tax contributions

In 2021, there were 312 licenced broiler farms in British Columbia, with 79 per cent of the farms located in the Fraser Valley, 17% in the interior and 4% on Vancouver Island. Of the 312 licenced broiler farms, 271 are mainstream broiler farms with the balance organic and specialty chicken farms. There are 58 new entrant growers included in the total.

To put current production in perspective, in 2010, there were 326 licenced broiler farms

Farm size and production:

The distribution of mainstream quota allocated by farm is variable within a broad range from smallest to largest (6,559 kg - 900,000 kg):

- Small farms (<50,000 kg) 91
- Medium farms (>50,000 kg and <300,000 kg) 202
- Large farms (>300,000 kg) 15

The 15 large farms account for just under 20% of the total broiler production and the 91 small farms accounting for just over 8% of the total broiler production. Total provincial broiler production in 2021 was 188,317,825 kg eviscerated weight (unaudited), an increase of more 30 million kg in 10 years; an increase of greater than 20% over that period or a 2% annual growth rate.

Production of chicken occurs in three regions: the Lower Mainland, Vancouver Island and the Interior. The Lower Mainland has the most farms, 247 and 86.0% of the total provincial production. The Interior is next with 53 farms and 12.0% of the total provincial production, followed by Vancouver Island with 12 farms at just over 2.0 % of the total provincial production.

BC Processing Capacity

There are a total of 26 federal and provincial licenced processing facilities licenced by the Chicken Board. A number of the processing facilities are owned by the same parent company, i.e. the Pollon Group includes Colonial Farms Ltd (Armstrong), Hallmark Poultry Processors Ltd. (Vancouver), Superior Poultry Processors Ltd. (Coquitlam) and United Poultry Company Ltd. (Vancouver); and Rosstown Natural Foods Ltd.

(Aldergrove) also owns Island Farmhouse Poultry Ltd. (Duncan). The majority (88%) of chicken processing is located in the lower mainland and Fraser Valley.

BC Processor Growth

In 2004, the BC poultry industry came to a virtual shut down with the ordered destruction of nearly 17 million birds due to the first outbreak of Notifiable Avian Influenza (NAI) in commercial poultry premises in Canada. Processors in BC were able to process chicken that were cleared by negative test results for the presence of NAI, however, the broiler farms were not able to place chicks until 21 days following the last infected premise having a Canadian Food Inspection Agency (the “CFIA”) approved cleaning and disinfecting inspection.

BC processors were required to rely on chicken imported from other provinces and other countries to meet contractual commitments. BC processors lost contracts to other provincial processors due to the movement restrictions imposed by the CFIA during NAI; movement was limited to in-province only from BC processing facilities.

Following a further NAI discovery in 2005, the major BC processors made major investments through new construction and acquisitions of existing processing and further processing facilities within and external to BC. The Pollon group which in 2004 owned Hallmark, Superior, United and Colonial, built the Prairie Pride processing plant in Saskatchewan and acquired JD Sweid, a further processing facility with operations in Langley, BC and Waterloo, Ontario. Sunrise Farms in 2004 owned Sunrise Primary Poultry Processors, J&L Beef and Sunwest Foods, and subsequently acquired primary and further chicken processing facilities in Alberta; Dunn-Rite Foods in Manitoba; DC Foods and Grand River Foods, further processing facilities in Ontario.

Sofina Foods is an international food company who acquired Lilydale Cooperative’s operations in BC, Alberta and Saskatchewan, along with Jane’s Foods a major further processor in Ontario.

The 2010 Supervisory Review also supported the removal of assurance of supply to BC processors. The policy change has enabled the growth of smaller, regional and specialty based BC processors. Farm Fed and Wingtat Game Bird Packers were the first to expand operations. Rosstown Farms and Natural Foods since 2004 built Rosstown Natural Foods and Hatchery in Abbotsford; acquired Island Farmhouse Poultry on Vancouver Island. Farmcrest Foods in Salmon Arm expanded its quota holdings by a 5-fold increase to support new processing, hatchery, rendering and feed mill facilities.

The processing sector in BC is vertically integrated, with most processors owning hatchery operations along with primary and further processing facilities. All primary processors with the exception of Sofina Foods hold broiler quota in BC. Collectively BC processors hold greater than 20% of broiler quota in British Columbia; with greater than 4.5 million kg of quota acquired since 2004 (12% of quota holdings in 2014).

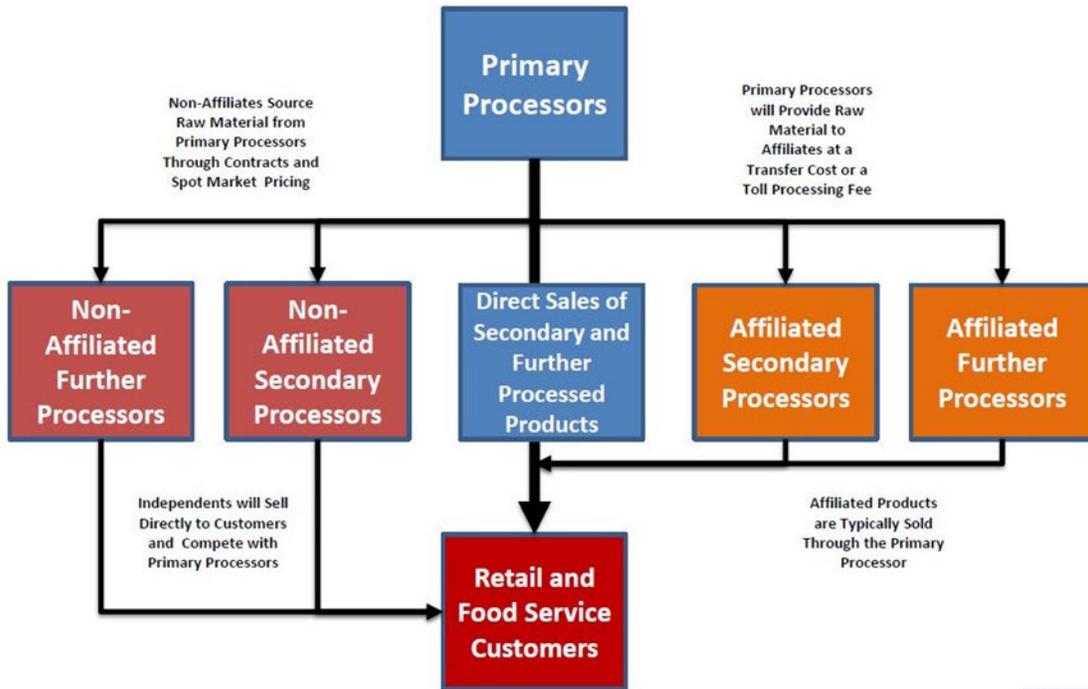
BC versus Ontario/Central Canada Processing

BC is the third largest province in broiler production in Canada, representing 14.7% of the national production compared with 33.6% in Ontario and 26.2% in Quebec. The increased volume of production in Central Canada affords central Canadian processors enhanced economies of scale when it comes to investments and other costs, such as labour.

The largest poultry companies in Canada include Maple Leaf Foods, Maple Lodge, Olymel, Sofina Foods and Exceldor all based out of Central Canada. Maple Leaf (Alberta), Sofina (Alberta and Saskatchewan) and Exceldor (Manitoba) have operations in western Canada. The top five processors control approximately 60% of the Canadian broiler market, also roughly aligning with provincial (Ontario and Quebec) broiler quota allocation. In comparison, the top 5 poultry companies in the United States as well control approximately 60% of the US broiler market.

There are structural differences in the processing sectors in Central Canada and BC. Central Canada makes extensive use of primary processors whose sole focus is to receive birds from the farm and produce chilled whole birds for distribution to secondary and further processors. The secondary processors focus on cut and wrap for the retail and food service sectors while further processors focus on ready to cook and serve products for retail and food service sectors. Some of the primary processing facilities are affiliated with secondary and further processors and provide the raw material at a transfer cost or for a toll processing fee. Other non-affiliated secondary and further processors source the raw material from the primary processors through contracts and spot-market (wholesale) prices.

CENTRAL CANADA PROCESSING STRUCTURE



PRIMARY POULTRY PROCESSORS ASSOCIATION OF B.C.

Primary processing in BC with one exception, Colonial Farms in Armstrong, focus on processing live birds through to the cut and wrap stage for sale to retail and food service. Colonial Farms, part of the Pollon Group, operates in a similar manner to the Central Canada primary processors, providing whole birds which are sent to other processing facilities within the Pollon Group of companies in Vancouver. Most of the primary processors in BC also have further processing facilities which are supplied from their primary processing facilities.

The structural differences in processing in BC and Central Canada must be factored into processor competitiveness. The structural differences make direct comparison of costs difficult. As well, the absence of processor revenue data make it impossible to determine the impact on processor margins.

Appendix 3 - Reasonable return to growers

The definition of reasonable returns to growers agreed upon through the Pricing Review process is “A profit over fixed and variable costs that allows for sustainably maintaining or enhancing production growth”. The Chicken Board attempted to secure through the Pricing Review process quantitative measures for this policy objective.

The Growers Association submissions have promoted their goal of “a BC COP which covers all costs and provides appropriate returns for capital, labour and management” (March 9, 2021 Responses to Questions by the BC Chicken Marketing Board). The Growers Association support a Cost of Production formula upon which to base the live price of mainstream chicken in BC based on “The COP is a robust concept. It is stable as many of the costs are fixed. It is relevant, meaningful and reflects the actual production costs for broiler chicken. Additionally, the COP can be used as a mechanism to encourage improved efficiency and collaboration within a COP pricing environment (March 26, 2021 Sound Marketing Policy for BC Chicken Growers).

The Growers Association provided the Chicken Board with a “Cash Flow Requirement to Maintain a Farm by Art Friesen, CGA, March 2021) (the Art Friesen Report”). The simple analysis compared three levels of production and suggested that a broiler grower with barn space to accommodate 80,000 broilers would require a \$3.2 million investment in buildings and equipment and \$1.5 million investment in land. The analysis indicates that the grower requires an average gross profit/return of \$0.58/kg after feed, chick, levy, catching and bedding to maintain the farm borrowing 100% of the money over 20 years.

The PPPABC submitted a “Grower Return Model” (the “Grant Thornton Model”) on March 19, 2021 to address the question of measures for “reasonable return to growers”. The PPPABC engaged Grant Thornton to develop a model that represents the projected cash flows for an existing grower faced with barn replacement. The Grant Thornton Model:

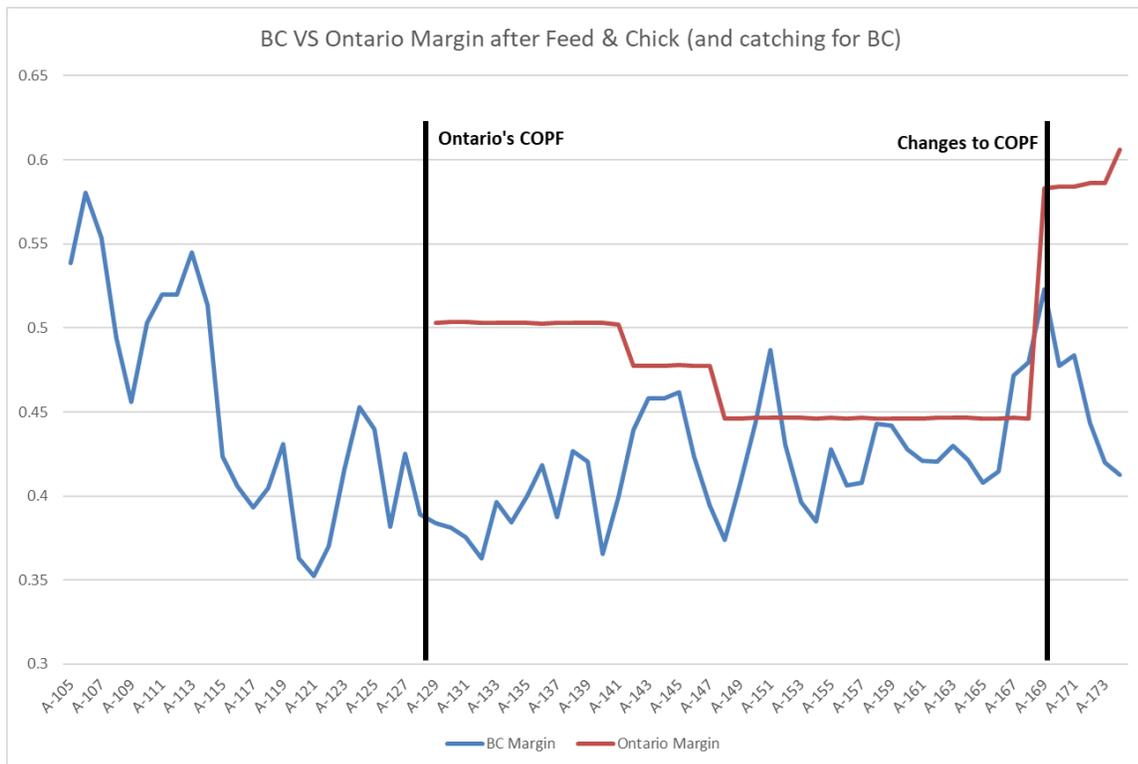
- Does not account for any land cost as the model depicts the situation for an existing grower, not someone entering the industry
- Assumes a capital investment of 25% of the value of the barn, included volume growth at a rate of 2% annually
- Excludes any inflationary review and cost increases.
- Uses 2017 data provided by Art Friesen to the Chicken Board in the development of the 2018 pricing formula
- Barn costs are taken from the Serecon COP and are intended to reflect barn and equipment costs in 2017.

The Grant Thornton Model generates positive annual cash flow returns for all scenarios examined, including a scenario that includes land. To illustrate the sensitivity of the analysis to assumptions, the average annual return for the various scenarios range from a low of \$154,063 to a high of \$718,183.

The Review Liaison attempted to compare the “reasonable return” results presented by the PPPABC and the Growers Association. The results for different “iterations” showed the returns ranging from \$0.33/kg to \$0.58/kg. The Review Liaison sought information as to the reasons behind such a range in returns.

Grower Margin

Having received three differing perspectives on grower margin with varying assumptions, the Chicken Board used historical data to look at grower margins over time to assess the impact the different live price formulas had. The only assumptions in the Chicken Board analysis are the underlying assumptions used in the linkage cost of production (the “COP”) with respect to chick and feed costs. The Chicken Board definition of grower margin is what is left after feed, chick and catching costs are deducted from the live price. The BC grower margin is compared with the Ontario grower margin in the graph that follows.



What the graph shows is greater variability in BC grower margin prior to the onset of the Ontario COPF Farm Gate Minimum Live Price in quota period A-129. It should be noted that during this period the Chicken Board used a “fixed differential” live price model. It was during the early period following the 2010 Supervisory Review that grower margins reached their highest level in quota period A-105. The result was due primarily to the high cost of corn relative to wheat. The higher corn cost resulted in higher Ontario live prices which provided a benefit to BC growers.

The “fixed differential” portion of the pricing formula included catching costs. As catching costs were increased, the residual differential to growers to cover higher feed and chick costs in BC was reduced, thereby reducing BC grower margin to a point where net differential to BC growers was \$0.0135/kg.

Since the introduction of the Ontario COPF in A-129, BC grower margins were relatively stable with a trend of improved margins with the on-set of the new BC live price formula commencing in quota period A-144. It was at this point the Chicken Board live price model shifted from a “fixed differential” to a “floating differential”. This improvement in margin is consistent with one of the key objectives of the 2017 live price formula review in addressing reasonable returns to growers. This was supported by the Appeal Panel’s findings “The Chicken Board’s finding that grower returns were sufficiently low so as to require an adjustment in the Pricing Decision was based on verifiable data and as such, was reasonable.”

Starting with quota period A-129, the Ontario Farm Gate Minimum Live Price formula included three “efficiency” adjustment factors. The three adjustment factors, feed efficiency, volume and producer efficiency would be netted off the total feed plus chick plus producer margin costs. The three adjustment factors were increased annually. The combined total of the three factors started at \$0.0268/kg for the first year and increased to \$0.1323 by quota period A-169. The three adjustment factors were used as proxies as opposed to making direct adjustments to the feed conversion ratio or producer margin costs. The impact of the adjustment factors were felt not only by growers in Ontario, but across Canada.

In quota period A-169, Ontario revised their Farm Gate Minimum Live Price formula, eliminating the annual efficiency adjustments. The escalating cost of feed ingredients combined with the elimination of the annual efficiency adjustments resulted in a positive impact on grower margins in Ontario as well as growers in BC and in other provinces. For Ontario, the one-time uplift in grower margin has been maintained in subsequent quota periods, however in BC, the uplift was short-lived with grower margins in decline and returning BC grower margins to pre-quota period A-169 levels.

The PPPABC are claiming that BC processors are owed a share of the “windfall” gain in grower margin received by BC growers resulting from the elimination of the Ontario annual efficiency adjustments. Is it reasonable to expect the relative increase in BC grower margins to be less than the increase in grower margins in other provinces?

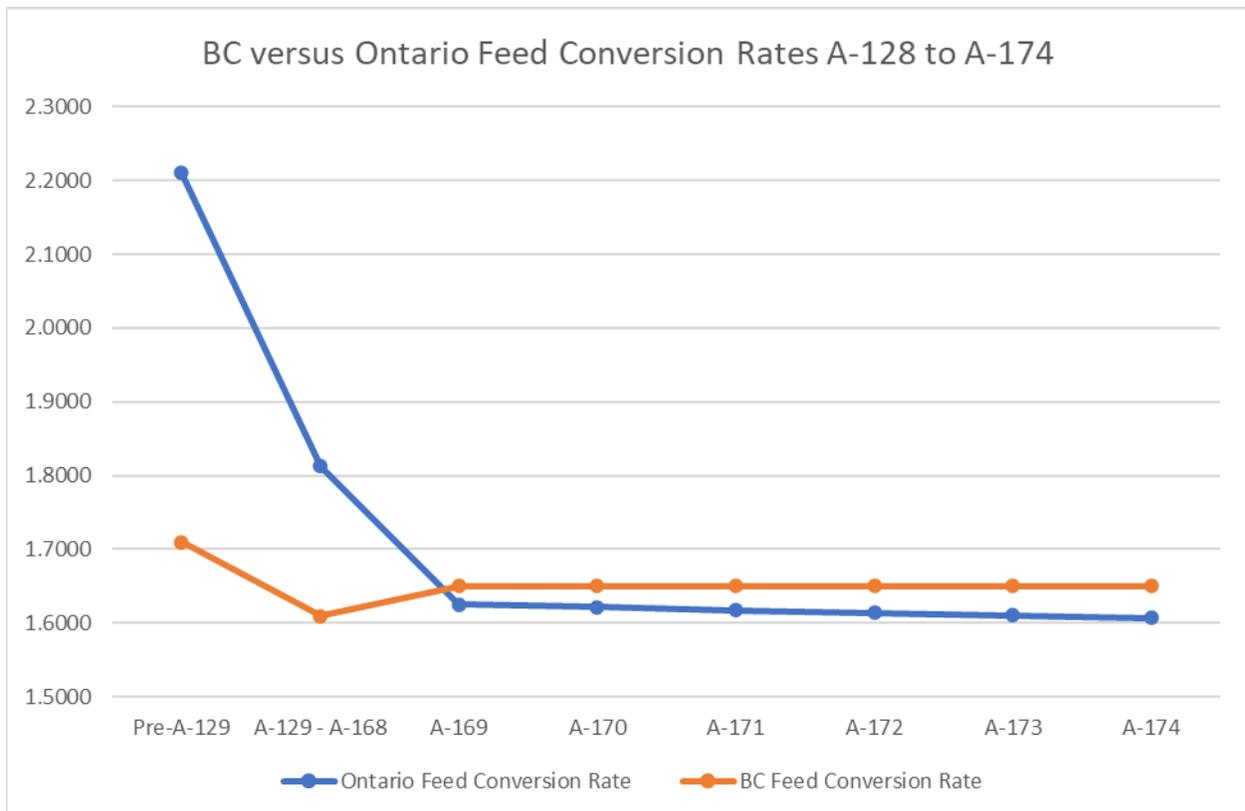
The Chicken Board was able to secure feed and chick data from the Chicken Farmers of Ontario for the pre-COPF quota periods, however, the data proved to be unreliable in generating Ontario grower margins for this period to provide comparison with BC grower margins. The purpose of comparing BC with Ontario grower margins is simply to reflect the higher input cost environment in which BC growers operate, primarily due to higher feed costs.

Appendix 4 - Cost of Feed

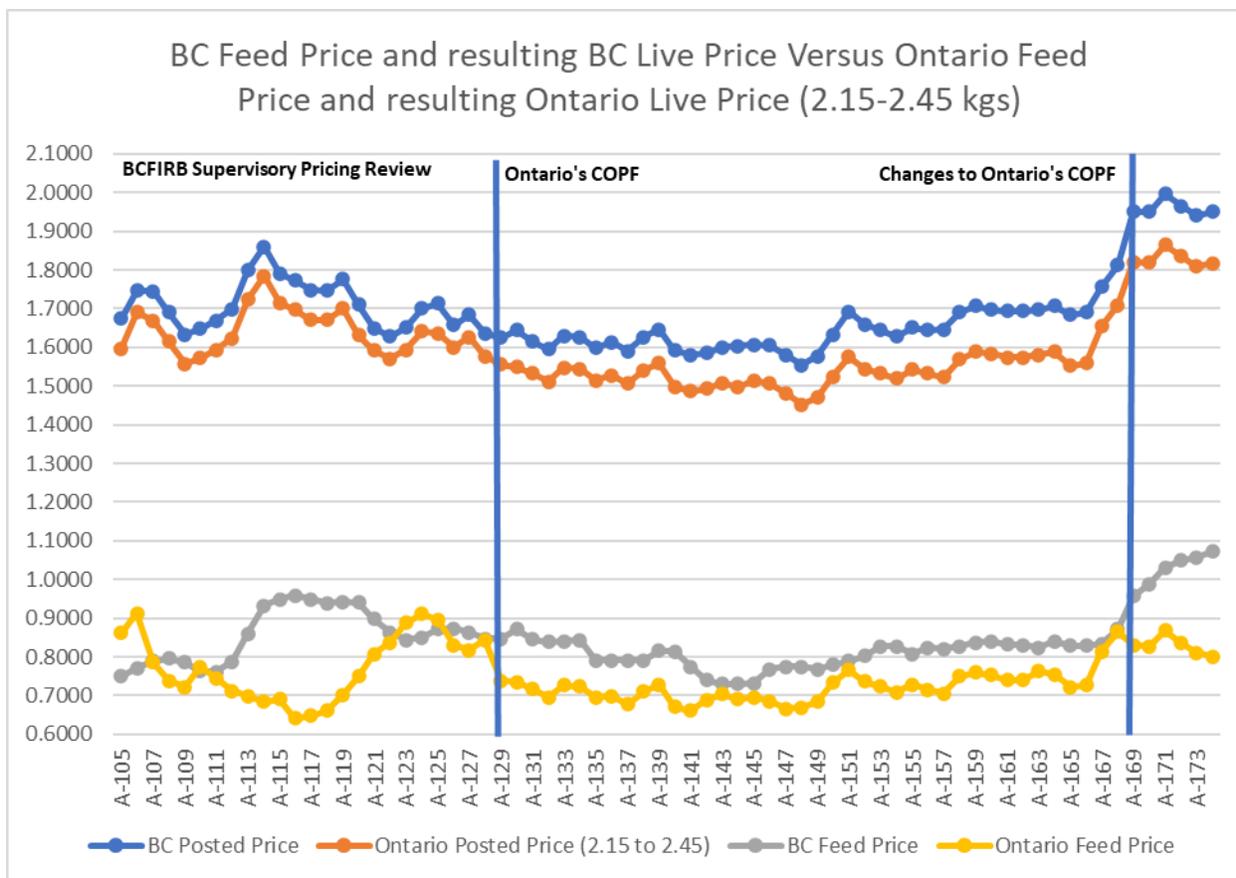
BC is a feed deficient province, dependent on the import of feed ingredients from outside the province. The higher cost of feed in BC as such is a function of transportation costs to bring in the feed ingredients. Feed is the largest cost factor in growing broiler chicken in BC, representing 50 to 60% of the total cost of production. Historically the higher feed cost in BC was mitigated through government policies and programs such as feed freight assistance and the Crow Rate benefit.

The live price is extremely sensitive to changes in feed price, owing to the inclusion of feed cost in the Ontario Farm Gate Minimum Live Price. Feed cost is determined by feed ingredient cost as well as the Feed Conversion Ratio (the “FCR”). The FCR is the amount of feed it takes to produce 1 kg of growth.

BC FCR prior to quota period A-169 has been lower than the FCR used in the Ontario Farm Gate Minimum Live Price formula. The lower FCR has enabled BC broiler growers to mitigate most of the higher cost of feed in BC. The change to the Ontario Farm Gate Minimum Live Price in A-169 has resulted in the Ontario FCR being lower than the FCR used in the BC Serecon linkage COP as illustrated in the following graph.



The following graph shows the feed cost relationship between Ontario and BC and its impact on live price.



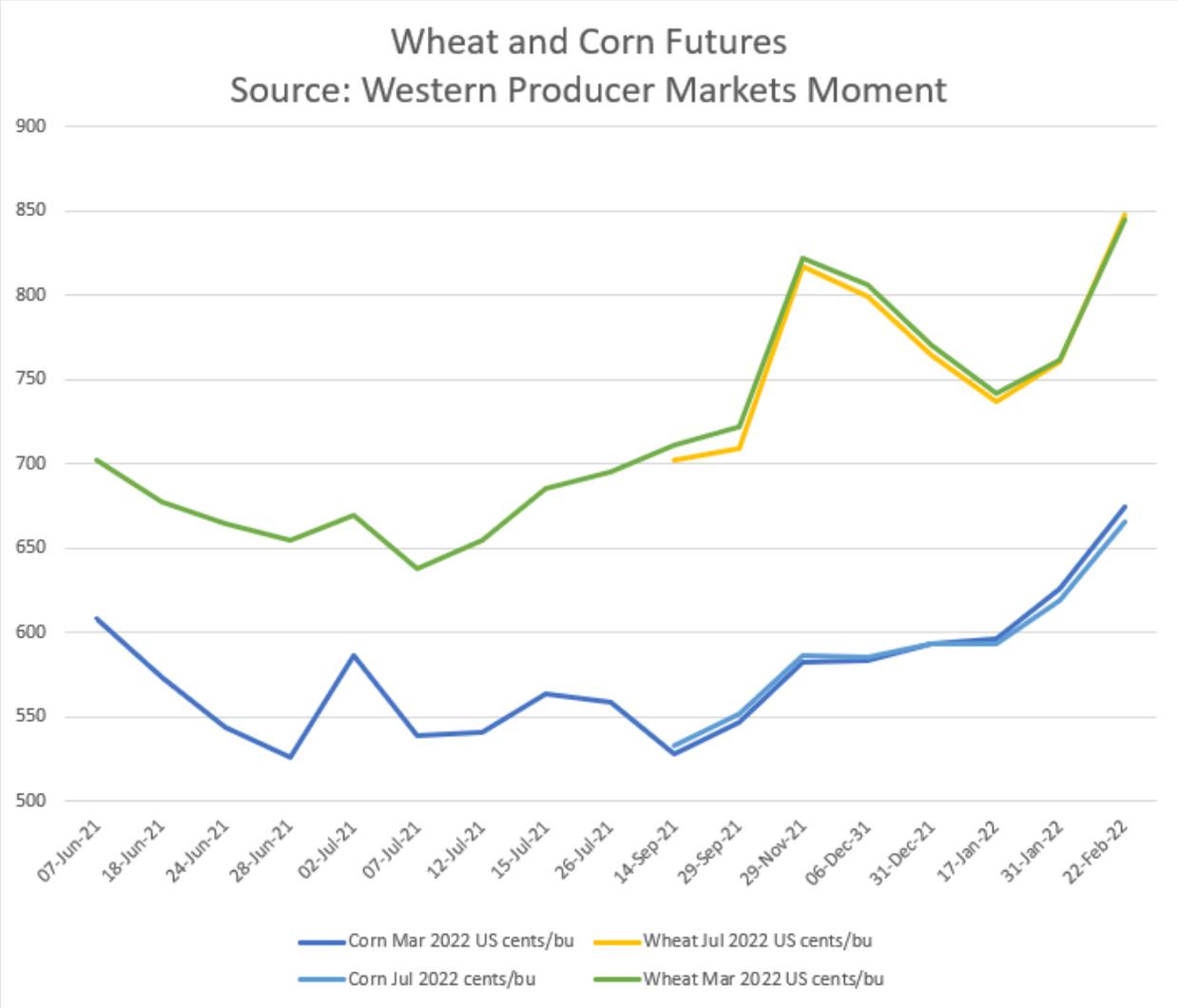
Corn versus Wheat

Feed corn is grown extensively in Ontario and the United States mid-west states and provides the primary protein source in broiler rations in Central and Eastern Canada, whereas wheat is the primary protein source in broiler rations in Western Canada.

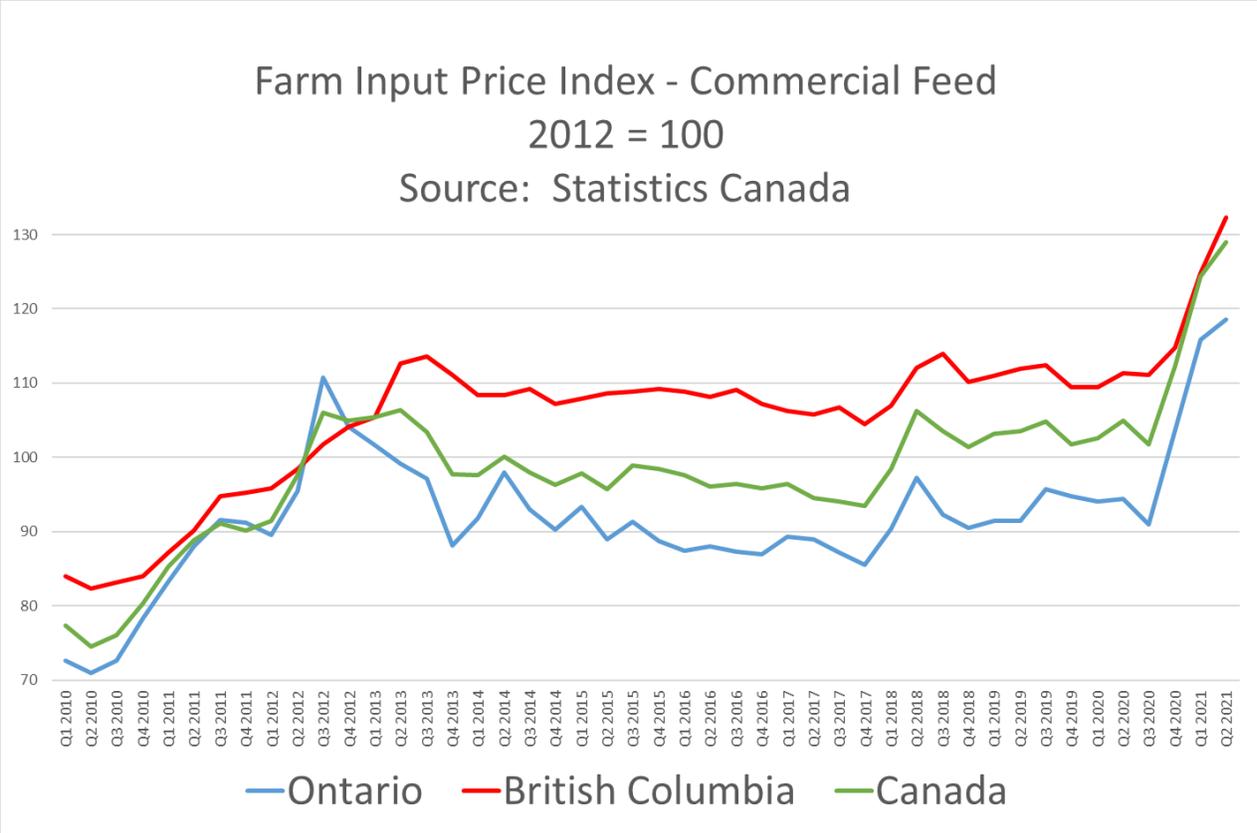
There is a feed cost difference resulting from the predominant use of corn in eastern broiler rations and wheat in western broiler rations. The price relationship between wheat and corn at most times is consistent, however, there are times when due to annual production shortages due to weather or government policies and incentives, i.e. ethanol production, the two prices diverge. The following table and graphs show the most current divergence and the period in 2012 when corn prices increased significantly due to US demand to produce ethanol pushing Ontario commercial feed prices above BC prices.

US Corn Prices (US\$/bu)				US Wheat Prices (US\$/bu)				Wheat – Corn (US\$/bu)			
Month	2019	2020	2021	Month	2019	2020	2021	Month	2019	2020	2021
January	3.56	3.79	4.24	January	5.28	4.87	5.48	January	1.72	1.08	1.24
February	3.60	3.78	4.75	February	5.33	4.88	5.83	February	1.73	1.10	1.08
March	3.61	3.68	4.89	March	5.19	4.86	5.85	March	1.58	1.18	0.96
April	3.52	3.29	5.31	April	4.93	4.84	6.04	April	1.41	1.55	0.73
May	3.63	3.20	5.91	May	4.78	4.76	6.46	May	1.15	1.56	0.55
June	3.98	3.16	6.00	June	4.81	4.56	6.24	June	0.83	1.40	0.24
July	4.16	3.21	6.12	July	4.52	4.54	6.26	July	0.36	1.33	0.14
August	3.93	3.12	6.32	August	4.35	4.55	7.13	August	0.42	1.43	0.81
September	3.80	3.40	5.47	September	4.26	4.73	7.75	September	0.46	1.33	2.28
October	3.84	3.64	5.02	October	4.45	4.98	7.90	October	0.61	1.34	2.88
November	3.68	3.79	5.27	November	4.39	5.24	8.51	November	0.71	1.45	3.24
December	3.71	3.97	5.47	December	4.64	5.43	8.58	December	0.93	1.46	3.11
Average	3.75	3.50	5.40	Average	4.74	4.85	6.84	Average	0.99	1.35	1.44

Source: Source: USDA AMS Dairy Markets News [CME Group Chicago: daily prices](https://teseo.clal.it/en/?section=cereali_usa)
(https://teseo.clal.it/en/?section=cereali_usa)



Futures price of corn and wheat for March 2022 and July 2022 contracts



In the latter part of 2021, the reverse has happened where the price of wheat has and continues to increase while the increase in corn prices have slowed as illustrated in the following slide.

This situation is cause for concern for BC growers and requires BC to find mechanisms to mitigate the higher feed cost going forward.

Appendix 5 - Processor Competitiveness in Canadian Markets

The definition of processor competitiveness in Canadian markets agreed upon through the Pricing Review process is “The ability to profitably and sustainably maintain or enhance market share”. The “agreement” on the definition included a caveat on the part of the PPPABC “in order to move the discussion forward”.

The Chicken Board attempted to secure through the Pricing Review process quantitative measures for this policy objective. The PPPABC provided a February 12, 2021 confidential submission “Processor Competitiveness”. Due to the sensitive and proprietary nature of the data reported, the Processor Competitiveness Report has not been made public, however, the information contained in the report provide some insight into the competitiveness challenges facing BC processors. The Chicken Board asked the PPPABC some questions to improve clarity of understanding. The PPPABC response to the questions was provided in a March 8, 2021 letter which was not deemed confidential by the PPPABC.

The response to the Chicken Board’s questions indicates that “BC Processor overall costs are approximately 30% higher than processing plants in Central Canada. Central Canadian Processors outsource the complex, labour intensive aspects of their business to lower cost co-packers and focus on selling primary cuts. Live Bird and labour costs represent approximately 85% of total processing costs and make up 75% of the cost gap relative to Central Canada. The structural difference between processing in BC and in Central Ontario make direct comparison of processor costs difficult, however the “Processor Competitiveness” report attempted to adjust Central Canada costs to match the product mix used by BC processors, that narrows the cost difference.

The PPPABC have suggested that metrics which measure “the ability to profitably and sustainably maintain or enhance market share” need to be assessed against certain criteria:

- “Data needs to be meaningful and representative”
- “Data needs to be transparent”
- “Data needs to be readily available, and robust for updating”

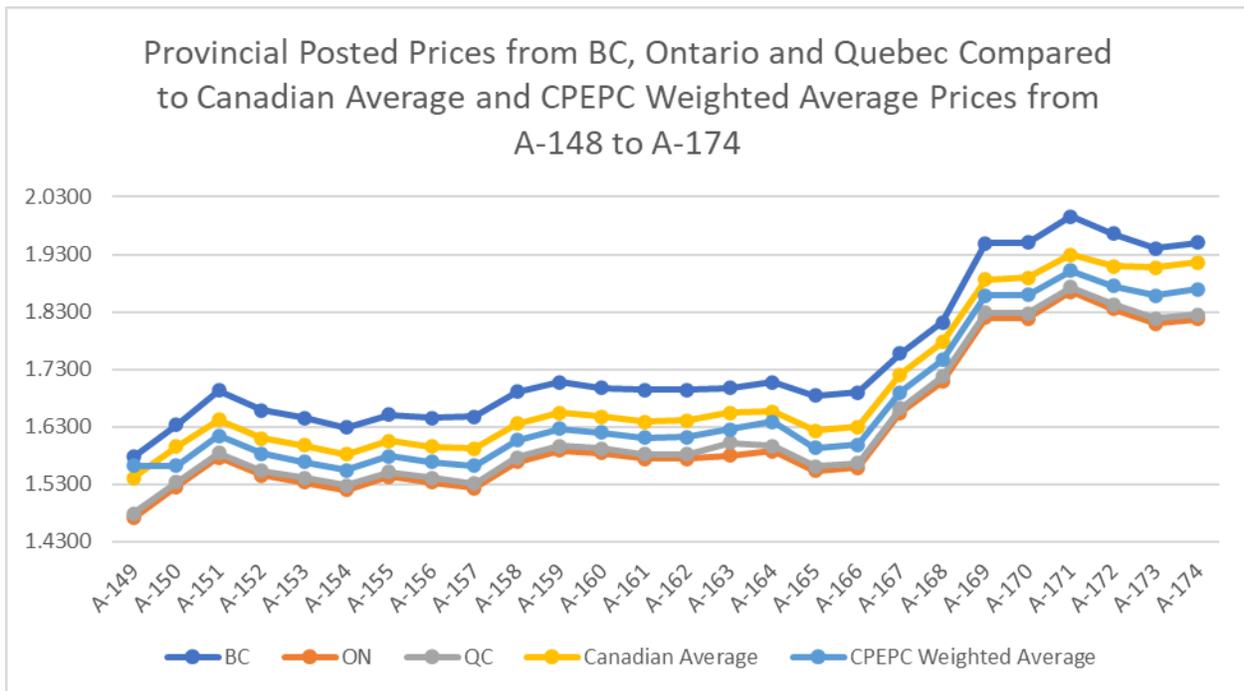
The PPPABC have suggested that “live bird costs are the best metric to represent processor competitiveness” given that they “are the most transparent cost element and make up 65% + of Processors’ total product costs”. They further state that “labour comparisons are extremely challenging to compare between provinces given the different product mixes, automation and the use of the third tier in Central Canada” and that “revenue comparisons are not available due to competitive sensitivities”.

If the Chicken Board is to accept the PPPABC position that “live bird costs are the best metric to represent competitiveness”, then the definition of “processor competitiveness should not include reference to the “ability to profit”. Profit is defined as returns less costs. If there are no readily available, transparent, meaningful and representative market prices or processor returns then how can the Chicken Board effectively measure

whether or not the objective of processor competitiveness is being achieved if defined as “The ability to **profitably** and sustainably maintain or enhance market share”?

If live bird costs are to be used as a metric to represent competitiveness, then what are the live bird costs that should be considered to ensure fair comparison? For example, is the posted Ontario Farm Gate Minimum Live Price the appropriate metric? The PPPABC’s submissions made reference to competitiveness with Central Canada processors which by definition would include Quebec. As such is the weighted average live bird cost a more relevant measure?

Quebec, which represents 26.2% of the Canadian production and part of the Central Canada processing sector posted live price compared to Ontario has ranged from being the same as Ontario prior to the Ontario COPF in quota period A-129, at which time the differential increased to \$0.02/kg and since lowered to \$0.008/kg in quota period A-145. The reduction of the Quebec differential to \$0.008/kg is linked to the netting out the \$0.012/kg Modular Loading Cost Recovery Premium used in the Ontario Farm Gate Minimum Live Price formula. The Canadian Poultry and Egg Processors Council tracks the Canadian weighted live price which reflects the weighted average provincial live prices based on provincial production. For quota periods A-163 to A-173, the Canadian weighted live price ranges from \$0.0360 to \$0.0504/kg higher than the Ontario posted Minimum Farm Gate Live Price.



The Chicken Board will ask the Committee established to engage stakeholders in the development of the BC Cost Recovery Model to examine the merits of the different live prices and recommend which should be considered as reference for BC processor competitiveness.

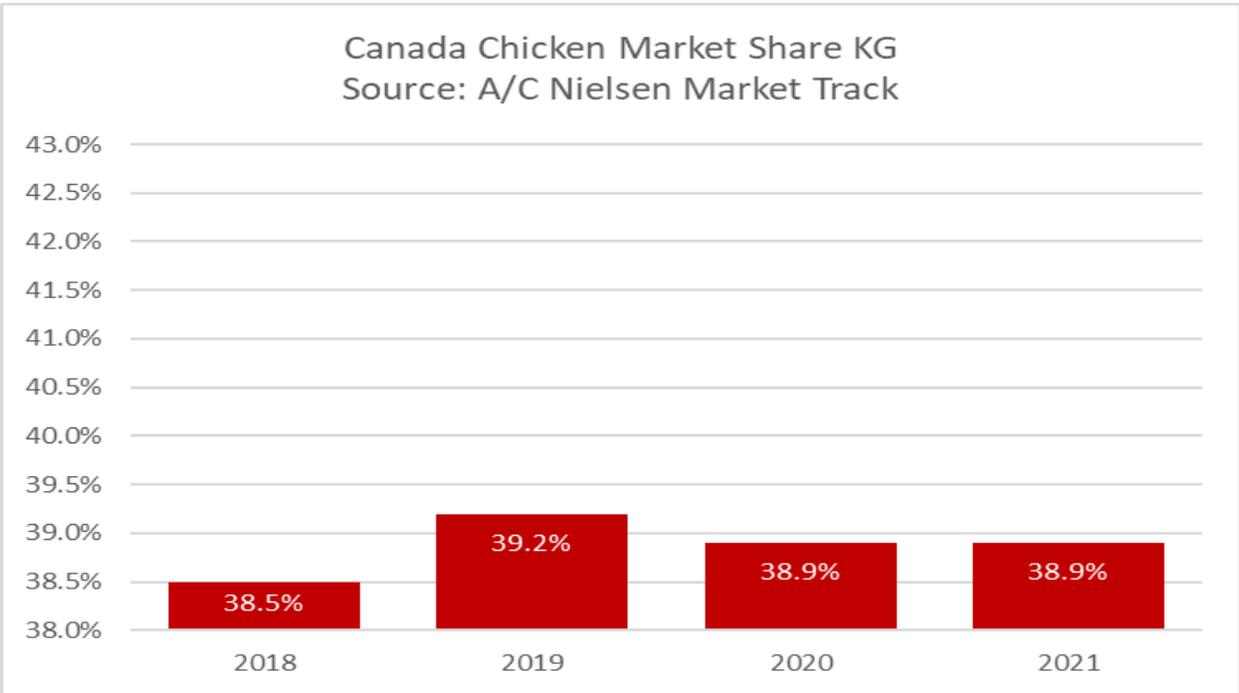
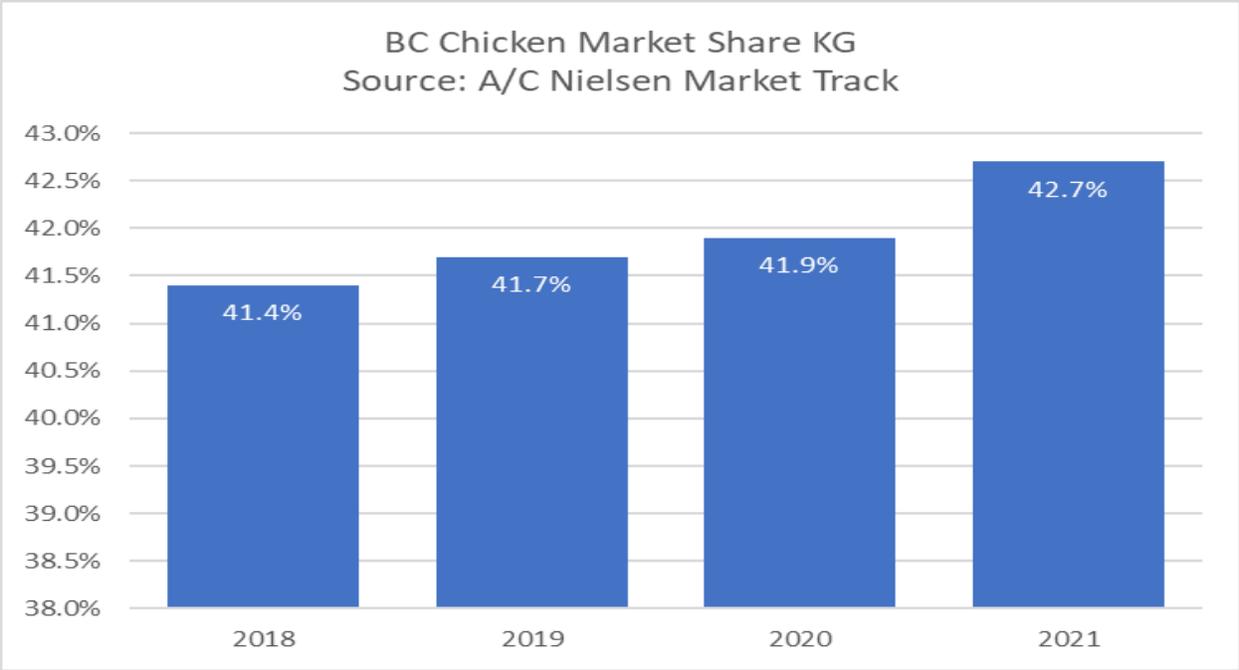
With respect to the “ability to sustainably maintain or enhance market share” the PPPABC has articulated valid concerns with respect to supply and demand relationships in the BC marketplace, particularly the volume of chicken products available in BC from other provinces. These concerns however are not unique to British Columbia as acknowledged by the PPPABC that “BC Processors compete in a market that is both Regional and National in nature – product must flow between provinces in order to compete (FIRB 2010 Supervisory Review)”.

The “ability to maintain or enhance market share” is for the most part dictated by quota allocation. Provincial allocation has and continues to grow, while it may fall short of balance with BC’s percentage of population it is consistent with the allocation formula set out in the federal/provincial agreement. The Chicken Board seeks the input of BC processors in preparing the BC allocation submissions for each and every eight week allocation period.

Whether or not the allocation is higher or lower than that requested by BC processors, provincial quota utilization has been close to 100% on average for the past four years, COVID notwithstanding. The Chicken Board is responsible for allocating 100% of the provincial quota allocation for each quota period. This is a transparent, readily available and meaningful measure of “ability to maintain or enhance market share”. It may not answer at what cost or impact on processor competitiveness this has, however the Chicken Board would not expect that BC processors would continue to set chick placement levels to utilize 100% of the BC allocation if it were creating instability to their markets or adversely affecting their competitiveness or profitability.

The average BC retail market price for fresh chicken prices are consistently higher than the Canadian average; \$0.60/kg on average from 2018 – 2020. While it has be argued in past appeals that there is no direct correlation between retail and wholesale prices, someone in the value chain is receiving a benefit from the higher retail prices. If the higher retail is a direct result of the higher live price, then one could argue that the processor has the ability to pass on the higher live price.

While chicken products are brought into British Columbia, it is not without cost to Central Canada processors. Transportation costs of moving product from east to west are higher than moving product west to east. BC enjoys lower transportation costs with shorter live haul distances than those in other provinces with the vast majority of BC production located in the Fraser Valley.



BC Chicken market share of retail KG volume is 9.3% higher than the Canadian average.

It could be argued that BC processor operations in other provinces are irrelevant to the BC pricing discussion however it can also be argued that BC processor operations in other provinces contribute directly to BC processor competitiveness, particularly with the unfettered flow of product between provinces. As well, BC processors can use western based live price contracts to balance the live costs across the west. The unanswered

question is the extent to which BC processors are able to balance higher BC live prices with lower live prices in other provinces to enable them to secure national and other contracts and “the ability profitably and sustainably maintain or enhance market share”. Clearly there is a direct impact on overall competitiveness and profitability for BC processors through their expanded presence of operations in other provinces, however, there are no transparent, or meaningful measures readily available for use in the pricing discussions.

While there were no submissions related to the subject of grower bonus or grower premiums, they are a factor in processor competitiveness. It was confirmed in the 201 Supervisory Review that processors in Central Canada paid premiums above the live price to growers. The continued existence of grower premiums was confirmed by the Processor Competitiveness Report, premiums over and above the live price are paid by processors in Central Canada. While the Chicken Board is unable to secure verifiable data on the amount of premium is paid, the existence of the premiums in Central Canada serve to reduce the BC versus Ontario price difference if the Central Canada bonus exceeds \$0.02/kg (the premium paid to BC growers).

Appendix 6 - BC Chicken Grower Sustainability

The Chicken Board engaged its own third party analyst, Hugh Scolah (for reference, Resume included in Appendix A) to examine “BC Chicken Grower Sustainability” which included an analysis of the models submitted by the Growers Association and the PPPABC. The final draft report was submitted to the Chicken Board in November 2021 and is included as Attachment B of this submission.

The “BC Chicken Grower Sustainability” report (the “Grower Sustainability report”) involved the collection of regionally based new entrant grower data; voluntary grower data submitted; and utilized data provided by Art Friesen. The Grower Sustainability Report also provides a comparison of the data collected with the Serecon COP reported data. The Grower Sustainability Report also assessed the prospects for farm succession; prosperity through expansion; and the ability of farms to recover their costs. The key findings of the Grower Sustainability Report include:

- There is diversity in size and location of chicken growers in BC and they face different capital and operating costs.
- The prospects of growers are not uniform.
- The current approach to pricing provides reasonable returns on barns and equipment for the median grower in most regions when quota and land costs are excluded.
- All farms in the dataset except for some new entrant growers are recovering their costs, including depreciation, but serious consideration needs to be given to other policy options for improving the long-term sustainability of the industry.
- The positive picture from returns and cost recovery does not translate into a positive outlook for farm succession and prosperity.

With respect to the submissions of the Growers Association, the Grower Sustainability Report raised the following:

- The 7% return for broiler farming asserted in the Art Friesen Report is a reasonable assumption.
- The overhead cost of \$2/bird used by Art Friesen Report is a reasonable estimate of a weighted average overhead for farms in BC.
- The results using a 3.5% debt service on the full cost of land, buildings and equipment analysis of the data collected for an 80,000-bird farm in the Lower Mainland is \$0.56/kg of required gross profit compared with the Art Friesen Report analysis of \$0.58/kg; in general terms affirmation of the Art Friesen Report results.
- The Grower Sustainability Report goes further and provides gross profit requirements for different size farms and for the Interior (\$0.61 - \$0.88/kg) and Vancouver Island (\$0.90/kg).

With respect to the PPPABC Grant Thornton Report model, the Grower Sustainability Report raised the following:

- The large number of assumptions used distracts from understanding the sensitivity of the results to changes in the assumptions and creates unnecessary difficulty in settling on a representative or model farm for purposes of evaluating returns.
- The unnecessary complexity arises from the grouping two investments together, the barn and the addition, and including superfluous details on bank financing.
- The 2016-17 data is outdated.
- The assumption of cost for a 50,000 square foot barn at \$38.65 per square foot building plus equipment cost may reflect the costs used by Serecon in the 2017 COP update, however 2018 numbers collected in the Grower Sustainability Report would indicate a higher cost, closer to \$53 per square foot. Even the Grower Sustainability Report cost underestimates the building and equipment costs for a new entrant grower, reported at \$68 (Interior) – \$100 (Vancouver Island) per square foot.
- The model farm used by Grant Thornton is not representative of broiler production in BC.
 - Taking out Market Development production, the model farm produces 736,109 kg over 6.5 cycles or 113,247 per cycle.
 - The median size broiler farm in BC produces 79,153 kgs (2020).
 - The model farm used is 43% larger than the median farm size in BC.
 - In 2020, 180 or 60% of the growers in BC would be smaller than the model farm.
- Wages account for 6 – 7% of the cost of production and should be valued and included in the model.
- There is no accounting for the opportunity cost of capital on the equity invested in the barn.
- The operating costs used in the model both in absolute and percentage terms are comparable with the data collected.

The Grower Sustainability Report suggests a more simplified model to the Grant Thornton model. The more simplified model is based the following assumptions:

- “Investments should be evaluated at the smallest possible unit” to make clear delineations between projects and improved decision making. As such, the simplified model removes the addition to the barn that is included in the Grant Thornton Report model.
- “Removing assumptions about bank financing. The structure of the bank financing has no bearing on the returns of the investment ... every grower is faced with unique financing circumstances. Attempting to construct a representative farm for the purpose of calculating reasonable returns requires that we strip these unique circumstances away.”
- “The barn is full right from the beginning and it does not matter whether or not this is achieved by purchasing or leasing quota. In this model the cost of land and quota are excluded as the returns are realized at the time of sale, and whatever the value of these assets has it has no bearing on the returns of the investment in the barn.”

- Uses “the BCCGA assumptions, supported by the CAPM approach, of a 7% total return. This 7% was arrived at by assuming a 3.5% return on equity/opportunity cost of capital, 2.5% depreciation, and a 1% return on risk.”
- “Labour costs are taken from the Serecon COP.”
- “Variable costs are taken from the grower surveys from 2020 with the data coming from cycles A148 – A-161.”
- “Assumed new build of 50,000 square feet with a density of 2.90 kg/sq. ft. as in the Grant Thornton model.
- “New entrant grower models for the Interior and Vancouver Island are included as book ends to the analysis. A more representative farm is somewhere in between the 50,000 sq. ft. build and the NEG.”
- “Land and quota are not included in the model.” However, it is important to note that some approach to estimating land costs, such as real borrowing costs is necessary to avoid an unreasonable return being implicitly assigned to land costs.

The Grower Sustainability Report simplified model assesses the results against the Net Present Value (the “NPV”) of the investment by discounting future cash flow “because deploying capital has an opportunity cost. It can be invested in an alternative that would grow at the discount rate.” “Another way of looking at the investment is asking the question, what would the discount rate have to be to get the NPV to equal zero ... how high does the cost of capital have to be to make me indifferent to doing the project or not? This discount rate is called the Internal Rate of Return” (the IRR).

“IRR is most frequently used in corporate environments when a firm wants to make sure that new investments are going to yield returns greater than the next best alternative. This alternative determines the firms ‘hurdle rate’, this is the minimum rate of return that investors in the firm are willing to accept. ... In the case of broiler production, the next best investment at a similar risk level is likely to yield 7% per annum or 4.5% less depreciation and this is the hurdle rate used here.”

Using the IRR representations of returns can make it easier to compare the investment prospects of different representative farms; whether a 50,000 sq. ft. new build or an 11,000 sq. ft. New Entrant Grower build.

The Grower Sustainability Report simplified model presents the results of 6 scenarios:

- PPPABC barn size;
- Lower Mainland 100,000+ kg farm;
- Interior 100,000+ kg farm;
- Median farm;
- Interior New Entrant Grower; and
- Vancouver Island New Entrant Grower.

The Grower Sustainability Report also adapted the simplified model to address growth as well as to compare the results if the Art Friesen Report data was applied.

The Grower Sustainability Report suggests that “The problem of finding a reasonable return can be inverted to find the price that would deliver returns above the hurdle rate. ... The results of this model show that the large farms in A-161 could accept a hurdle price below the Live Price for that period and still see returns greater than the hurdle rate. NEGs on the other hand, require a much greater price. ... For cycle A-172, using the Serecon data, we again get a result that suggests the price is near to providing returns that achieve the hurdle rate. This suggests that the current pricing formula is delivering returns for the median farm that just achieve the hurdle rate.”

It would be irresponsible for the Chicken Board to draw the conclusion that the current model is providing “reasonable returns to growers” based on the simplified model presented in the Grower Sustainability Report. In fact the Grower Sustainability Report conducted further analysis to address the questions of “What does it take to prosper?” and “Why and under what circumstances would someone operate below total cost recovery?”

[Grower Prosperity](#)

The Growers Sustainability Report defined “prosperity” as “when the Net Present Value of cash flows from investing in new barns is greater than keeping the farm the same size and selling any growth to interested bidders. That is, a farm is prosperous when the present value of cash flows from expansion are better than the next best alternative of staying the same size.” The Grower Sustainability Report states “if the price of quota is held constant (a very strong assumption), getting a farm NPV from expansion that is greater than the staying the same size is never achievable at any farm size, even when new barns and quota are paid for with cash and the existing barn, quota and land is paid for.”

If, from an economic perspective this is true, then why would broiler farmers continue to expand their operations? The Grower Sustainability Report goes on to state “Since farmers like to farm, even when the returns are dismal, and they often even like to expand when they’re not making money, we can relax the assumptions of economic theory and define a farm as prosperous when investment in growth has net present value greater than 0. In other words, they will keep investing in growth as long as they aren’t diminishing the capacity of the business to generate cash flow.” The Grower Sustainability Report describes the conditions under which the revised threshold is achieved.

The Grower Sustainability Report also comments “about the potential for quota values to grow.” The analysis in the report “comes at prosperity from the perspective of the net present values of cash flows but if a grower was primarily interested in growing their share of equity over time, appreciation in quota values could drive continued investment in growth. ... This is not rational in the economic sense, but many people do appear to measure their prosperity in equity and potential borrowing capacity rather than in terms of potential to generate positive cash flows”.

The Grower Sustainability Report concludes that

- “a farm begins to be prosperous at the NPV = 0 threshold at about 40,000 birds where there are no debt obligations against land, buildings or quota.
- larger farm has the potential to be more prosperous than a smaller farm.”

Operating below total cost recovery

The Grower Sustainability Report states that “In the Growers Sustainability study dataset only New Entrant Growers (NEGs) are operating under Total Cost Recovery. The economic rationale for this makes sense. A grower that already has rights to sell 100% of their quota would sell out after operating at below TCR for a short period of time if they believed that it was unlikely to see an improvement in their cash position. As a result it would be unlikely to observe a grower operating at a loss and we wouldn’t expect to find them in the data. A NEG is more likely to stay on until their awarded quota of 10,000 birds fully vests after 10 years.”

The Grower Sustainability Report comments that “The performance of New Entrant Growers in the data survey brings up the question of the viability of the New Entrant Program. A natural question to ask about this is, what size farm at start-up is necessary to achieve farm viability in the sense that the producers will keep farming beyond the ten years? The data would suggest that the current program is borderline at best.”

While the policies of the NEG program are not direct related to the Supervisory Pricing Review, it is an important policy consideration that must not be overlooked. The future success of the NEG program is not only dependent on answering the question raised by the Grower Sustainability Report, it also requires more in-depth analysis of the requirements necessary to get into broiler production such as up front capital investment.

Appendix 7 - Ontario Farm Gate Minimum Live Price Formula

On February 5, 2021, the Ontario Farm Products Marketing Commission (the “OFPMC”) prescribed by way of amendment to Regulation 402, Chickens – Marketing Ontario Farm Products Marketing Act (the “Regulation 402”):

- The elimination of the three annual price adjustments; feed, volume and producer efficiency.
- A revised list of Producer Margin costs applicable to quota period A-148 (2018).

As a result of the changes prescribed by Regulation 402, the Chicken Farmers of Ontario (the “CFO”) updated the elements of the Farm Gate Minimum Live Price for quota period A-169, which included:

- Updating the operational and capital costs to reflect 2021 costs based on the A-148 (2018) producer margin costs (non-feed and chick) established by Regulation 402.
- Changing the calculation of feed costs by reducing the feed conversion ratio from a fixed rate of 1.72 to a rate adjusted for every quota period based on grower results from the previous eight week pricing period. In quota period A-174 the feed conversion ratio used was 1.6069.
- As part of its annual review for pricing in January 2022, the CFO further adjusted the producer margin costs, in particular focussing on adjustments to the capital items.

Annual Adjustments

Effective January 15, 2015 and commencing with quota period A-129, the Ontario Regulation 402 which includes the pricing formula made mandatory the application of three annual adjustments; feed efficiency, producer efficiency and volume. The three factors were adjusted annually and continued until February 4, 2021 (quota period A-168). In quota period A-168, the feed efficiency adjustment was \$0.044/kg; the producer efficiency adjustment was \$0.028/kg; and the volume adjustment was \$0.061/kg. The total of the three annual adjustments, \$0.133/kg was subtracted from the total of the Chick Price plus Feed Price plus Producer Margin to arrive at the Farm Gate Minimum Live Price.

In April 2021, commencing with quota period A-169, in accordance with the OFMPC mandated changes to Ontario Regulation 402, the CFO changed its Farm Gate Minimum Live Price formula to eliminate the previously mandatory and prescribed annual price adjustments.

Producer Margin Changes

The Chicken Board is not attempting to ensure that BC growers are on par with the margin after feed and chick in Ontario, rather it is attempting to mitigate some, not all, of the extraordinary feed costs being absorbed by BC growers. The Chicken Board

acknowledges that BC is a higher cost of production province and that both growers and processors may not realize margins at the same level as other lower cost provinces.

It is important to note that the Ontario Farm Gate Minimum Live Price increase in “grower margin” is not an increase in “profit”. In this definition, grower margin is meant to enable an efficient grower the ability to recover the costs of farm inputs (capital costs, labour, sawdust, heat etc.) outside of feed and chick. These are cost increases also burdened by BC growers. The Board rejects the PPPABC notion that BC grower margins have substantially increased as the guardrail has capped and limited the ability to recoup the increased feed and chick costs which have far exceeded any increase in the grower margin calculation. The gap in BC grower margin relative to Ontario grower margin is widening, indicating that in BC an efficient grower is not recovering their non-feed and chick farm input costs.

For quota period A-169, the CFO updated the base producer margin contained in Regulation 402 to reflect 2021 costs. The increase from quota period A-148 to A-169 was \$0.0494/kg. This increase in producer margin served to off-set only 55.5% of the impact of the previously mandatory and prescribed annual producer efficiency and volume adjustments (-\$0.089/kg).

Feed Conversion Ratio

A further compounding factor in the BC over Ontario difference in feed cost is the change commencing in quota period A-169 is the feed conversion ratio (the “FCR”) used in the Ontario Farm Gate Minimum Live Price formula. The FCR used in Ontario decreased from 1.8130 to 1.6069. This has been covered in a previous section.

A P P E N D I X A

Hugh Scolah Resume

HUGH SCORAH

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EDUCATION

PhD Candidate Forest Resources Management September 2017 – Present
University of British Columbia

MA Economics September 2008 – November 2010
University of Victoria

BA Economics, Honours with Distinction September 2003 – August 2008
University of Victoria

WORK EXPERIENCE

Project Manager January 2019 – Present
UBC Forestry

- Coordinating a wildfire research program across 4 government agencies (2 provinces and the federal government) and 2 universities with 37 advisory committee members.

Sessional Instructor January 2019 – April 2019
UBC Forestry

- Forestry Economics and Conservation Economics

Agricultural Employee April 2013 – Present (Often 2 or 3 jobs simultaneously)

- Cow-Calf (~65 head)
- Operations Manager of largest heritage poultry start-up in Canada
- Family onion production, sold to local supermarkets
- Broiler production, working for a management company that looked after broiler farms in the Okanagan
- Irrigation specialist for a tree farm that produced ~36 million plugs / year

Real-time Energy Trader, Western Power Markets August 2012 – April 2013
Capital Power Corporation, Calgary AB

- Responsible for the hourly operation and marketing of 1500MW of coal and gas fired power plants
- Developed real-time marketing strategies targeted at the Mid-Columbia trading hub
- Designed Virtual Bidding strategies for the California Electricity Market

Principal December 2011– February 2013

Scorah Research Consultancy, Vancouver BC and Berkeley, California

- Aided clean-tech companies integrating with electricity markets to develop their Product Requirements Documents and understand utility operation and consumer needs
- Delivered presentations and advocated in rule-making committees at the major ISOs in North America as well as the California Public Utilities Commission
- Worked with clients to develop sales pitches to utilities and investment pitches to Venture Capitalists

Senior Quantitative Analyst July 2010 – December 2011

Powerex Corp. (A Subsidiary of BC Hydro), Vancouver BC

- Created daily strategies price targets for traders taking positions in the California electricity market
- Priced exotic derivative contracts in the electricity and natural gas markets in North America
- Analyzed Carbon Market and Renewable Portfolio Standard legislation in California
- Priced long-term structured financial products in the electricity and renewable energy markets
- Developed term trading strategies using multi-commodity spreads in renewable, gas, carbon and power markets

Strategy Analyst Jan 2009 – July 2010

Enbala Power Networks, North Vancouver BC

- Regular attendance and reporting on committee meetings at Independent System Operators in New England, New York, California and the Midwest
- Developed financial forecasting models for investors that assessed risks from price and regulatory changes
- Designed and coded optimization algorithms for day-ahead bidding in ancillary service markets
- Simulated the operation of gas power plants

PUBLICATIONS

Scorah, H., Sopinka, A., van Kooten, G.C. (2012) The economics of storage, transmission and drought: Integrating variable wind power into spatially separated electricity grids. *Energy Economics*, 34(2) 536 – 541.

AWARDS

MITACS, *Accelerate BC Graduate Research Internship Grant*, 2009

Wright Scholarship in Forestry, 2018

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A P P E N D I X B

GROWER SUSTAINABILITY

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BC Chicken Grower Sustainability

Prepared For

BC Chicken Marketing Board

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December 2021

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Executive Summary

This document explores the question of Grower Sustainability in British Columbia. There is diversity in size and location of chicken growers in British Columbia and they face different capital and operating costs. As will be shown the returns and prospects of these growers are not uniform. This poses a challenge from a pricing perspective. How does one choose a price that works for as many diverse producers as possible? I look at this problem from the perspective of a reasonable return but also consider the prospects for farm succession, prosperity through expansion and the ability of existing farms to recover their costs. The additional modelling is intended to provide a more complete picture of the industry than can be obtained by considering financial returns alone.

To inform these models a unique dataset was collected by interviewing growers around the province in the summer of 2020. I have summarized this data by region (Vancouver Island, Interior and Lower Mainland) and size (0-50,000kg, 50,000-100,000kg, 100,000+kg) to get a higher resolution view of the financial well-being of growers that is not offered by the Serecon Linkage COP.

Using this data in the models I have come to the following conclusions:

- The current approach to pricing provides reasonable returns on barns and equipment (defined as 4.5% per annum excluding depreciation) for the median grower in most regions of the province when quota and land costs are excluded.
- All farms in the dataset except for some new entrant growers are recovering their costs, including depreciation.
- The positive picture from returns and cost recovery does not translate into a positive outlook for farm succession and prosperity. This is driven by high land and quota costs that are not included in the analysis.

The current pricing approach results in adequate returns and cash flow for growers but serious consideration needs to be given to other policy options for improving the long-term sustainability of the industry. Choosing the price needs to be considered in the context of other factors and can't be done in isolation. Most importantly, the logic of asset pricing implies that increases in Live Price above the cost of production will be capitalized in Quota Prices and cannot solve problems with grower sustainability over the long term.

Approaching the Question of Grower Sustainability

If you are business minded, evaluating investment returns relative to other opportunities is an intuitive starting point for assessing the sustainability of chicken production under supply management in British Columbia. Any existing grower or potential new entrant who is looking to invest in the industry will have other opportunities for their capital and an adequate return on investment is a necessary condition for industry sustainability. With this in mind, much of this document revolves around trying to define an adequate return on capital for chicken production in British Columbia and comparing the methodology and results of my model with the submissions from the BC Chicken Growers Association (BCCGA) and the Primary Poultry Processors of British Columbia (PPPBC). In addition to this analysis, I also introduce models that consider cost recovery and succession planning. Traditional measures of investment return fail to capture the whole picture of industry sustainability and these models attempt to fill those gaps.

To model investment returns, cost recovery and farm succession I needed data, and this was collected directly from farmers in the summer of 2020 with a focus on Vancouver Island and the Interior. With this data each grower sustainability metric can be presented by region and farm size. This data is described in the following section. Following a description of the data and its collection I discuss the theory behind modelling investment returns in a supply management context and describe the models used for cost recovery and succession. The results of these analyses are presented using the data collected from growers and then I use this dataset to compare results with the analyses provided by BCCGA and PPPBC. With these results, I turn to the question of what it takes for a broiler farm to prosper in British Columbia and the circumstances under which growers in British Columbia would choose to operate below cost recovery. These discussions are provided to deliver a more complete picture of grower sustainability in light of the investment returns analyses.

Data Sources

There are two key sources of data used in this report. The first is farm-size, measured by quota holdings and the second is cost data obtained through interviews with individual growers around the province. This data was provided by the board.

Quota Holdings Data

The quota holdings data has been stripped of information indicating ownership. The purpose of analyzing this data was to understand the distribution of farm sizes in the province with the intent of understanding what a representative farm might look like in British Columbia. One feature of supply managed industries is that the pricing mechanism has historically supported farm sizes that would not be possible without supply management and it is worth understanding what the distribution of farm sizes looks like and the impact this has on farm sustainability.

Grower Sustainability Study

An attempt was made to collect data on production costs from as many growers as possible from the three producing regions of the province (Interior, Vancouver Island and Lower Mainland) over the summer of 2020. The focus was on getting data from Vancouver Island and the Interior as the existing work by Serecon in the maintenance of the Linkage Cost-of-Production pricing model captured costs in the Lower Mainland.

With the help of members of the Grower's Association, in-person meetings or phone calls were held with 8 of 10 growers on Vancouver Island. I subsequently received data from all of the Growers I spoke with and verified the bills and financial statements of 4 of them and had 100% of the growers who submitted data offer to send me any documentation required for verifying the data.

In the Interior, meetings were held twice, once in July, during holiday season and COVID-19 social distancing measures where 10 farmers attended. 4 farmers responded with data from this meeting. In September, I spoke it at Grower's Association meeting and received further responses for a total of 13 farms. This represents roughly 1/4 of interior growers. Similar to the Island, I have verified bills and financial statements for 6 growers, or half the sample.

For the Lower Mainland, with the exception of data provided by board members, the data is an aggregation of farms from a Certified Professional Accountant. I am unable to verify the financial statements behind the data, but it is drawn from annual tax filings prepared by a CPA in good standing. The Lower Mainland sample represents 15% of all broiler farms in the Fraser Valley.

A summary of the number of farms reporting by farm size is included in Table 1.

Region	<50,000kg	50-100,000kg	100,000kg+	Total
Interior	2	4	7	13
Vancouver Island	4	2	2	8
Lower Mainland			31	31
Total	6	6	39	52

Table 1 Number of farms reporting by farm size and region. Lower Mainland farm data from a data aggregation provided by Art Friesen with the exception of board member data.

85% of the farms in the data set reported with 6 or more production cycles of data. Either their 6 most recent cycles or the cycles in their 2019 fiscal year. The remainder reported one or two cycles of data for the variable costs and a full-years estimate for annual costs (e.g. insurance, office & administration).

Reasonable Returns to Growers

Identifying a pricing level at which BC Growers achieve a reasonable return is challenging because of the dispersed geography of production, the diversity of farm sizes and the challenges that supply management present for conventional financial analysis. The different farm sizes and geographic dispersion make it difficult to come up with a meaningful average price and the implication of this are explored in the Observations and Findings section. The challenges of assessing returns in a supply management context are discussed the following section.

Defining Reasonable Returns

In the theory of financial returns, a 'reasonable return' would be the return that is achievable at a given level of risk in a free market. Most investors demand a higher return on investment if the investment is more likely to lose money, and a lower return when there is a lower likelihood of default. Using this theory, I would attempt to find investments that are comparable to broiler barns in their risk level, find out what the market expects investments at that risk level to return and call it a 'Reasonable Return'

The model conventionally used for this type of analysis is the Capital Asset Pricing Model (CAPM). The CAPM is used to calculate the risk premium that is necessary to justify a risky investment relative to the risk-free rate (usually the risk-free rate is given by the yield of US Treasury Bills). With some caveats this model can be used for setting a hurdle rate for investment in the BC broiler industry.

Aswath Damodaran¹, a Professor at the NYU Stern School of Business and the author of the standard textbook on equity valuation publishes regular updates on the relative risk for different industries. I would assert that supply managed poultry industries falls somewhere between a regulated utility and the agricultural industry in terms of the relative risk to the market. Damodoran estimates the relative risk of regulated utilities to be 0.74 of the market risk and agricultural stocks to have 0.87 of the total market risk. Averaging these we get 0.805.

The expected return of the entire universe of assets can be calculated based on historical returns or implied from current market activity. Historical real returns average about 8% but the current market sees returns of only 5.65%² in the coming years.

If I take current Treasury yields of roughly 1.6%, I can use the above factors to estimate a required return from broiler farming that justifies the risk. If I use historical market returns the CAPM model gives me an 8.04% required return. If I use the implied market returns the model gives 6.1%. In the analyses to follow, I will use 7% as a value in the middle of this range. This value is consistent with the value used by Art Friesen in his analysis provided for the BCCGA although he arrived at this value using a different approach.

¹ http://people.stern.nyu.edu/adamodar/New_Home_Page/home.htm

² <http://aswathdamodaran.blogspot.com/2021/01/data-update-2-for-2021-price-of-risk.html>

To calculate the actual returns of growers it is necessary to model capital invested as well as their cash flows. In the context of supply management choosing what is to be included in the 'capital invested' category is a challenge. It is a fact that growers must purchase land and quota to make investments in the broiler industry. For the purposes of evaluating returns on investment, however, these costs are excluded. The reasoning for this is two-fold. First, quota and land are not productive in the context of broiler production. In calculating returns it is necessary to separate the performance of the productive buildings and equipment so that meaningful comparisons can be made. A grower can choose to produce in Surrey or in the Peace River District with wildly different land costs and subsequent returns if land were to be included. To avoid this problem, land costs are excluded except when farm succession is discussed below where land cost issues are unavoidable reality.

The second reason for not including land and quota values is that the returns of these assets are realized at the time of sale, whereas the returns from buildings and equipment are realized as on-going cashflows. Again, we can reasonably separate out the returns from land and quota on this basis as these are going to vary by geography and time of sale. Without this, there is no reasonable way to make returns comparable between individual farms, or representative farms for the different regions and size groupings.

Unfortunately, limiting the evaluation of returns to buildings and equipment alone leaves out an important part of the challenge of pricing in supply management. To capture the effect of land and quota costs in BC on grower sustainability I have also offered a model of farm succession.

In addition to the challenge with identifying the values that should be included in the 'capital invested' category we also have many growers who are not making or evaluating investment in the industry. For these growers, return on investment is not a relevant metric. To understand how growers in the non-investing category are doing I also develop a cost recovery metric which is aligned with cost-of-production methodologies.

Finally, it needs to be acknowledged that in the supply management context, the Three Pillars, production controls, managed imports, and pricing control, prevent the free exchange in the market to determine prices for farm products and subsequently the appropriate valuation of assets and the calculation of returns. This makes it difficult to make comparisons between the returns of supply managed industries and those in the market at large that face less regulation and, in theory, open trading in public markets of the assets involved. This has partly motivated the use of Cost of Production models in pricing and the evaluation of fair returns in the past. This is discussed before turning to results of the different financial models.

Alternative Measures of Grower Sustainability

In the previous section I provided a justification for considering two alternative metrics of farm sustainability in the supply management context: Cost recovery and succession pricing. The approach to estimating these are described in this section and the results are given after the discussion of measures of returns on investment.

Total Cost Recovery

The purpose of a total cost recovery metric is to assess the financial health of growers who are not immediately in the market to invest. The costs included in the total for the purposes of this study include:

- Feed
- Chicks
- Bedding
- Utilities
- Vehicle and Equipment Operating Costs
- Repair and Maintenance
- Administrative and Office Costs
- Insurance
- Custom Work (including Catching, Cleaning, Sawdust placement)
- Levies
- Management & Labour
- Taxes
- Depreciation
- Operating Interest

Land and quota costs are not included. A grower who is not achieving Total Cost Recovery is not making sufficient income to overcome depreciation and is going to exit the industry when equipment and buildings can no longer be maintained. This metric tries to assess whether or not growers are 'eating their depreciation' to stay in business. If a large proportion of growers were operating below Total Cost Recovery, we would expect to see large numbers of growers exit the industry in the coming years. This can be thought of a lower bound on industry sustainability.

Succession Price

The Succession Price is intended to understand the conditions that are necessary for children to take over the family farm. This includes quota values but not land. To find this price I assume a deal on quota \$52.50/bird (half price) and a depreciated barn. Assumptions for the Succession Price are in Table 2.

The full depreciated cost of the barn and quota is being borrowed at 3%. The borrowing rate was selected to reflect borrowing costs that were mentioned in interviews with Growers.

	#Birds	Depreciation Barn
Lower Mainland 100,000+kg	60,000	\$ 300,000
Interior - 0-50,000kg	20,000	\$ 250,000
Interior - 50,000-100,000kg	30,000	\$ 250,000
Interior - 100,000kg+	60,000	\$ 300,000
Vancouver Island	30,000	\$ 250,000

Table 2 Assumptions for the succession price.

The live price that supports this transfer between generations is sensitive to assumptions about the quota price received by the children of Growers, the borrowing rates they are faced with and the amount they are charged for the depreciated barns. From my experience, the assumptions made here are conservative. In reality, the quota price demanded by other children in the family is likely to be much higher and land costs have been ignored and are a reality for most.

The Role of Cost of Production

The challenges of finding the correct price in a supply managed system have been discussed at length in the academic literature. Schmitz & Schmitz in their 1994 article in the Canadian Journal of Agricultural Economics summarized this challenge concisely:

“... one of the most important issues in computing costs of production revolves around the choice of a model of representative farm... if costs fall as output increases, then for the large efficient producer, rents per unit have to exceed those of the model farm.”³

In a free market, the price is set when the marginal costs of production are equal to the marginal willingness to pay of consumers. Producers who are unable to recover costs at this price exit the business. Under supply management this doesn't happen. Through the political process, Canadians have decided that other values take precedence over this market process, but this creates a challenge for price setters. Choosing a price, set by costs above the efficient producer creates a windfall for the efficient producers and they get larger returns even while some smaller farms fall behind. In supply management, it can be true that some growers are doing exceedingly well and some are barely hanging on at the same time. This wouldn't be true in a free market. The price would drop as returns to scale were taken advantage of and the less efficient farms would exit the business. Practically, in constructing a pricing mechanism this

³ Schmitz, A., & Schmitz, T. G. (1994). Supply management: The past and future. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie*, 42(2), 125-148.

requires finding a balance between sampling the most efficient producers and upholding the other societal values that supply management supports.

This challenge manifests differently between variable operating costs and fixed capital costs. With variable operating costs different farms are going to display different operating efficiency in the use of variable resources (most importantly with feed and chick costs). If variable costs are going to be sampled from the most efficient producers, this will mean that most producers are going to be losing money and that could place food security at risk. This suggests that a measure of central tendency (usually the average) is used instead. There are still winners and losers in this case, but the average as a model for industry costs is straight-forward to calculate from a sample of farmers and is more likely to lead to price and supply stability.

For fixed capital costs the choice of model farm is not as straight-forward. The two biggest cost components are depreciation and return on investment⁴. Depreciation varies widely depending on the age of the buildings and equipment and how the farm accountant decides to calculate depreciation for tax purposes. For model farm purposes two options come to mind, either an average can be selected from sample data or depreciation on new investment based on the average farm size in the sample. For return-on-investment stronger assumptions must be made. As discussed above, because of restrictions on competitive markets in supply management expectations about industry returns can not be observed. The standard practice in Cost of Production modeling has been to make use of comparable assets that are traded in competitive markets as a proxy for what a fair return should look like in a supply managed industry. The standard tool for many illiquid assets is called the Capital Asset Pricing Model (CAPM).

⁴ The other two included in the existing BC COP are property taxes and working capital interest.

Observations and Findings

Median vs Mean Farm Size

The data on farm quota holdings is summarized in Figure 1. The distribution of farm size is not symmetrical. If an average farm size is used in an analysis (roughly 106,000 kgs) it will not capture the reality of most farms as roughly 60% of them are smaller than the average size and there are a few farms that are several times larger than the average in the tail of the distribution. This makes it difficult to make meaningful comments about what is happening on-average in British Columbia.

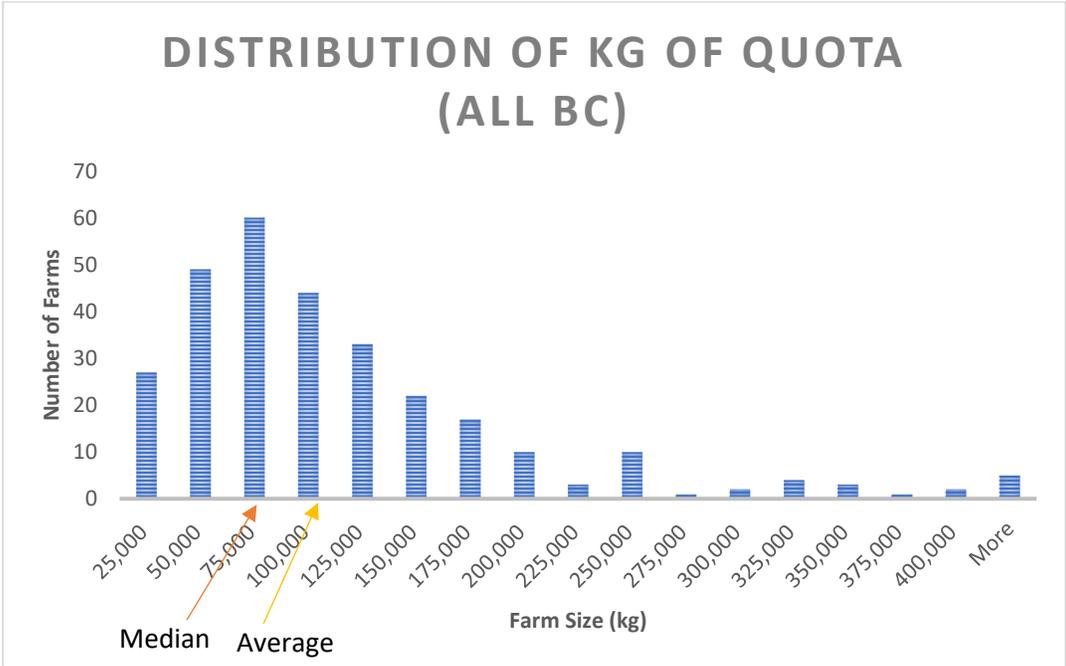


Figure 1 Histogram of mainstream quota farm sizes with 25,000kg bins. Note the long tail, this contributes to a significant difference between the average farm size (106,629kg) and the median farm size (79,153kg).

As an alternative to considering averages the results of the analysis from the Grower Sustainability study are broken down according to regional and size categories to get a higher resolution view of the financial status of Growers throughout the province.

Summary of Grower Sustainability Findings by Farm Size and Region

A data summary of all the cost-categories is included in Table 3. This data is separated by region and farm size category. All of the farms in the Lower Mainland (LM) are in the 100,000kg+ category and Vancouver Island had too few farms in the 50-100,000kg category to separate them from the <50,000kg category and maintain data anonymity.

For comparison purposes the values from the A-161 Cost of Production (COP) Serecon Linkage model are also included. A-161 was selected because most of the farms in the dataset reported values from this cycle. One cost category that is found in the Serecon data and not included here is return on equity. This is not included because it assumes a 'reasonable return' in its calculation.

In many cost categories, the A-161 COP model has higher costs than the observed data with the exception of Vancouver Island farms. My best guess is that this is because a large sample is taken every 5 years or so and the costing in the interim relies on an inflation factor. Actual costs appear to be running below the assumed rate of inflation up to A-161.

The numbers in **red** indicate values that are above average for that category. ⁵

The items that stand out in this data are that feed and chick, of course, dominate costs. Feed costs vary as much as 8 cents / kg between Vancouver Island producers and large interior producers and there is a discrepancy of 17 cents / kg between the costs of large interior producers and those on Vancouver Island.

The other important thing of note in this table is that Labour, Depreciation, Operating Interest and Taxes are held at constant value. For all of these cost categories I defaulted to the Serecon values as I could not make sense of the variation in the data set. In the Labour category producers frequently appeared to take profits out of the farm by paying themselves a salary that would exceed \$120/hr. I am sure this has tax advantages, but it is not reflective of the true cost of hiring someone else to manage the farm.

Depreciation is dependent on the age of the barns and the type of depreciation formula used by the farm accountant. There is a real physical average annual cost of the deterioration of barns and equipment but that is not always reflected in the accounting calculations and so I settled on the A-161 COP number as it was a reasonable approximation of the reported values in the dataset summarized here. For Operating Interest many farms run no line of credit at all and run their business on a cash basis. There is however an opportunity cost for using cash for this purpose and so I included the A-161 COP number for completeness. Finally, for taxes, this is highly dependent on the municipality or regional district, the other structures on the farm etc...

⁵ Note that in Feed and Chicks, the highest cost categories that the A-161 COP is running above most producer categories in the province.

CATEGORY / COSTS (\$/KG)	A-161 COP	LM 100,000 KG+	INT 0-50,000 KG	INT 50-100,000 KG	INT 100,000 KG+	VAN ISL
FEED	\$0.83	\$0.80	\$0.77	\$0.78	\$0.76	\$0.84
CHICKS	\$0.40	\$0.38	\$0.35	\$0.33	\$0.32	\$0.37
BEDDING	\$0.02	\$0.02	\$0.02	\$0.01	\$0.01	\$0.01
UTILITIES	\$0.05	\$0.04	\$0.09	\$0.05	\$0.06	\$0.10
VEHICLE & EQUIP OPS	\$0.01	\$0.00	\$0.03	\$0.02	\$0.01	\$0.01
REPAIR & MAINT	\$0.04	\$0.02	\$0.08	\$0.04	\$0.05	\$0.03
ADMIN & OFFICE	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.02
INSURANCE	\$0.02	\$0.01	\$0.02	\$0.01	\$0.01	\$0.02
CUSTOM CHARGES	\$0.05	\$0.05	\$0.04	\$0.04	\$0.03	\$0.04
LEVIES	\$0.002	\$0.002	\$0.002	\$0.002	\$0.002	\$0.002
LABOUR	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11
DEPREC	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09
OPERATING INTEREST	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
TAXES	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
TOTAL	\$1.68	\$1.58	\$1.66	\$1.54	\$1.52	\$1.69
EBITDA	\$0.15	\$0.26	\$0.18	\$0.29	\$0.32	\$0.14
TCR	101%	108%	103%	110%	112%	100%

Table 3 Costs per kg in each of the cost categories by region and size of farm.

Table 4 contains the percentage breakdown of costs by cost category. Consistent with other studies and the A-161 COP model, feed and chick make up nearly 75% of the cost of production. Small Interior growers deviate from this slightly because of high repair and maintenance costs. In interviewing new entrant growers, it became apparent that several of them have purchased used equipment to save money in the construction phase and they are paying for it now with higher maintenance costs than seen elsewhere in the industry.

Category / Costs (\$/kg)	A-161 COP	LM 100,000+kg	Int 0-50,000kg	Int - 50-100,000kg	Int - 100,000kg+	Van Isl
Feed	50%	50%	47%	51%	50%	50%
Chicks	24%	24%	21%	22%	21%	22%
Bedding	1%	1%	1%	1%	1%	1%
Utilities	3%	3%	5%	3%	4%	6%
Vehicle & Equip Ops	0%	0%	2%	1%	1%	1%
Repair & Maintenance	2%	1%	5%	3%	3%	2%
Admin & Office	1%	1%	1%	1%	1%	1%
Insurance	1%	0%	1%	1%	1%	1%
Custom Charges	3%	3%	2%	3%	2%	2%
Levies	0%	0%	0%	0%	0%	0%
Labour	6%	7%	6%	7%	7%	6%
Depreciation	6%	6%	6%	6%	6%	5%
Operating Interest	2%	2%	2%	2%	2%	2%
Taxes	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%

Table 4 Break down of costs by percentage of total for each cost category for each of the Grower categories.

There are no real surprises in this data set. Feed and chick costs dominate the cost of production. On a purely operating basis (reflected in the EBITDA or Earnings Before Interest, Taxes, Depreciation and Amortization) the difference between high and low-cost farmers is their feed conversion ratio (FCR) and the cost of feed. FCRs ranged from 1.55 – 1.80 averaged over a year with the median at 1.65. Any room for improvement in the competitiveness of the industry is going to come through improved feed conversion ratios⁶ and chick quality.

Results for Total Cost Recovery

The data described in the section are used to calculate Total Cost Recovery and Succession pricing for the different size farms and geographies at A-161 pricing. Calculations of returns are left for the discussion of the submissions from the BCCGA and PPPBC.

⁶ For more on the potential efficiencies of improved feed conversion ratios see Appendix A.

<i>Category / Costs (\$/kg)</i>	<i>Total Cost Recovery</i>	<i>Succession Price</i>
<i>A-161 COP</i>	\$1.68	\$1.95
<i>Lower Mainland 100,000+kg</i>	\$1.58	\$1.84
<i>Interior - 0-50,000kg</i>	\$1.66	\$1.95
<i>Interior - 50,000-100,000kg</i>	\$1.54	\$1.82
<i>Interior - 100,000kg+</i>	\$1.52	\$1.78
<i>Vancouver Island</i>	\$1.69	\$1.97

Table 5 Price thresholds for measuring total cost recovery and succession price for the different regional farm categories. Red prices indicate that required price to achieve the threshold is not met by the A-161 Live Price.

Table 5 makes clear the challenge with choosing a price in supply management. The price selected for A-161 meant that the average producer in every size category in every geography was achieving total cost recovery including depreciation. There were producers in the province who were not achieving this, but the vast majority of producers were making it.

The Succession Price is calculated as the value necessary to cover the costs in the Total Cost Recovery column as well as the cost of borrowing at 3% against 50% of the quota value and the depreciated cost of the barn. This is detailed in Table 2. Even with land excluded, once even partial costs of purchasing quota and barns are included succession looks unachievable for a young person concerned about the opportunity cost of their time and money.

Succession Price

Of the 293 conventional or non-specialty growers in British Columbia, 180 (or 61%) produce less than 100,000kg and 256 (or 89%) produce less than 200,000kg (See Figure 2). Unless there are tax advantages or potential financial engineering related to other family businesses it does not make financial sense for the children of these farmers to borrow money to take over the family farm. There are few spouses willing to work a full-time off-farm job just to make payments on debt to keep the family farm in the family. The consequence of this is that the growers in this category are going to sell their farms and quota to larger operators and exit the industry.

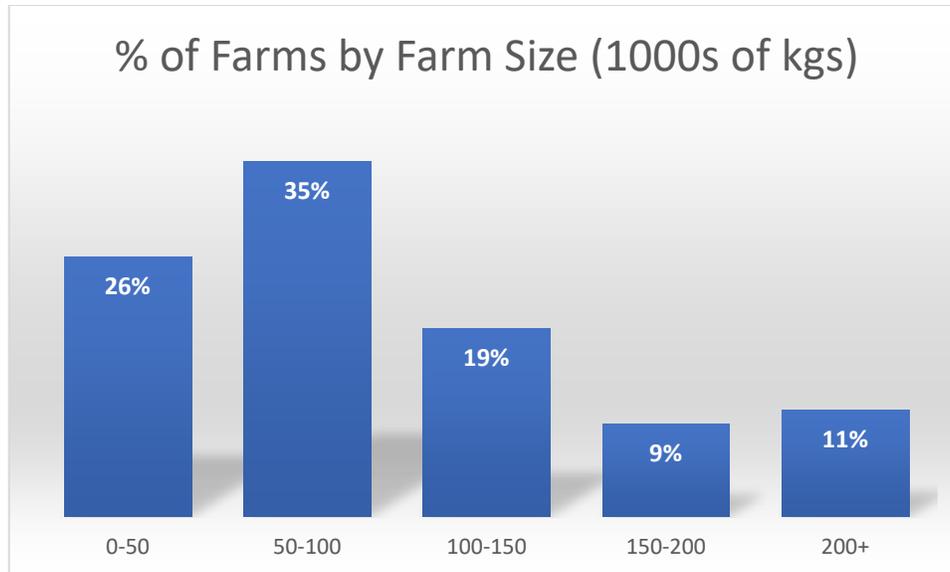


Figure 2 Percentage of Growers in each farm size category. Size categories in 1000s of kilograms of quota. 89% are below 200,000kg. A very large number of these farmers will choose to retire in the next 20 years, and it is financially unviable for their children to take over at today's live prices.

Although, I do not have the average age of the producers I talked to during this study, there were very few under the age of 40. At today's prices we can expect a very large fraction of the 89% of growers under the 200,000kg production level to exit the industry in the next 20 years. Without exception every grower I spoke with sees their quota value as their pension and if their children are not going to buy it, it has to be sold to retire.

Most of the growers are still in the Lower Mainland. In the Summer of 2020, the Total Cost Coverage price was \$1.58/kg and the succession price was \$1.84/kg. Some children are going to be in different financial circumstances than others and the point of a price increase would not be to get all Grower's children to take over the farm but it is fair to say that a Live Price of somewhere between \$1.58/kg and \$1.84/kg is necessary for the industry over the long run for industry sustainability if it is to maintain a similar industrial structure, holding quota prices constant.

While the Succession Price requires making more assumptions about a model farm than the Total Cost Recovery price, they still provide reasonable ball-park figures for the Live Price level that is necessary to see young farmers stay in the industry and the next generation to stay on the farm.

Calculating Reasonable Returns and Assessments of Processors and Growers Submissions

In this section I offer a simplified approach to calculating reasonable returns and the price required to achieve those returns as well as reflect on the submissions from the BCCGA and the PPPABC⁷.

A Simplified Model

A general rule used in evaluating investment opportunities, taught in first year finance courses, is that investments should be evaluated as the smallest possible unit. This makes for clear delineations between projects and makes for improved decision making. In evaluating an investment in a chicken barn, it is unnecessary to include an addition. An addition is a stand-alone investment that is made separately from the initial build. A grower could choose to sell some of their quota or purchase idle barns on another farm instead of building a new barn once their initial investment is at capacity. To make the model as simple as possible the addition from the PPPABC model has been removed.

The second simplification in this model is removing assumptions about bank financing from the PPACBC model. *The structure of the bank financing has no bearing on the returns of the investment.* Another justification for this assumption is that every grower is faced with unique financing circumstances. Attempting to construct a representative farm for the purposes of calculating reasonable returns requires that we strip these unique circumstances away.

A third simplifying assumption is that the barn is full right from the beginning, and it doesn't matter whether or not this is achieved by purchasing or leasing quota. In this model the cost of land and quota are excluded as the returns are realized at time of sale, and whatever the value of these assets has it has no bearing on the returns of the investment in the barn. This does leave open the question of how to treat the growth in the quantity of chicken a grower is permitted to produce over time. Integrating this in a simple fashion is discussed in the second on results.

Further assumptions in this model:

- This model uses the BCCGA assumptions, supported by the CAPM approach, of a 7% total return. This 7% was arrived at by assuming a 3.5% return on equity/opportunity cost of capital, 2.5% depreciation, and 1% return on risk. The reader will note that I use 4.5% as the discount rate. I have subtracted the 2.5% because it is implicitly assumed in the model with \$0 salvage

⁷ Further discussion of the assumptions of the BCCGA and PPPABC models can be found in Appendices B and C, respectively.

value at the end of 40 years. As discussed above this is consistent with the CAPM model and market returns for assets of a similar risk.

- Labour costs are taken from the Serecon COP.
- Variable Costs are taken from grower surveys from 2020 with the data coming from cycles A148-A161.
- Assumed new build of 50,000 sq ft with a density of 2.90 kgs / sq ft as in PPPABC model assuming.
- New Entrant Grower models for the Interior and Vancouver Island are included as a book end to the analysis. A more representative farm is somewhere in between the 50,000 sq ft build and the NEG.
- Land and Quota costs are *not* included in the model.

It is helpful to briefly review some background on how Internal Rate of Return (IRR) models are structured. To do that first consider the Net Present Value (NPV) model.

The Net Present Value of an investment is the sum of a series of future cash flows discounted to the present. We discount future cash flow because deploying capital has an opportunity cost. It can be invested in an alternative that would grow at the discount rate.

Suppose we have \$1 million to invest, and it will generate \$75,000 in net revenue every year for 40 years. The opportunity cost of our investment is 4.5% per annum. We would calculate NPV: $NPV = -\$1,000,000 + \$75,000/(1.045) + \$75,000/(1.045)^2 + \dots + \$75,000/(1.045)^{40} = \$380,119$ Another way of looking at the investment is asking the question, what would the discount rate have to be to get the NPV to equal zero. One way of thinking about this would be, how high does the cost of capital have to be to make me indifferent to doing this project or not? This discount rate is called the Internal Rate of Return or IRR.

As a measure of returns, IRR is most frequently used in corporate environments when a firm wants to make sure that new investments are going to yield returns greater than the next best alternative. This alternative determines a firm's 'hurdle rate', this is the minimum rate of return that investors in a firm are willing to accept. This hurdle rate is usually set by the next best alternative use of a company's cash. If the company can invest its cash at a rate of 3% this sets the hurdle rate. Any project worth doing should have an IRR greater than 3%. In the case of broiler production, the next best investment at a similar risk level is likely to yield 7% per annum or 4.5% less depreciation and this is the hurdle rate used here.

By using the IRR representation of returns it can be easier to compare the investment prospects of different representative farms. Whether they be the 50,000 sq ft new build or an 11,000 sq ft New Entrant build.

Both are presented below.

Results and Discussion

Results from the simplified analysis are shown in Table 8. There are 6 scenarios presented, the PPPABC barn size, density and construction costs and the same size build for the Lower Mainland and Interior. Updated cost data for the Lower Mainland has been used for the PPPABC so that differences between the PPPBC and Lower Mainland scenario are entirely driven by differences in barn costs. The Median farm is modeled with the median operating costs from the Grower Sustainability data and a building cost of \$60/sq ft. This is in between the large barn construction of \$53 sq ft and the \$68 sq ft new entrant barn found in my interviews. The outcome is clearly sensitive to assumptions about barn costs.

	BCPPA	LM 100,000+ kgs	Interior 100,000+kgs	Median Farm	New Entrant (Interior)	New Entrant (VI)
NPV	\$ 1,641,435	\$ 923,935	\$ 1,975,630	\$ 303,230	\$ 485,190	-\$ 729,727
IRR	9.81%	6.80%	9.21%	5.64%	1.78%	-1.62%
Return over 4.5%	5.31%	2.30%	4.71%	1.14%	-2.72%	-6.12%

Table 8 NPV and IRR for representative farms based on the PPPBC assumptions as 4 other region/size pairs.

The Net Present Value metric makes it difficult to compare the relative returns of the different investments. Internal Rate of Return, in the middle row of Table 1, is more helpful. For the PPPABC case if the cost of capital faced by the investor was 9.81% the proponent would be indifferent between doing and not doing the project. This is much better than the negative return for the VI New Entrant where it only makes sense to make the investment if the investor is being paid to borrow money. The final row in the table is included to highlight the difference between the indifference point of investing and not investing and what was considered fair or reasonable in Art Friesen's analysis (4.5% - 3.5% return on equity + 1% for risk). For the large producer over the median farm size the returns are greater than this 4.5% hurdle rate. For the smallest farms the returns are substantially below this hurdle.

Including Growth

In the PPPABC/Grant Thornton model growth in quota holding is included. For the sake of simplicity, it is easier to add the growth back on to the returns at the very end. If we assume that the cash flow from the incremental growth is roughly the same as the production that came before it this is a reasonable approach. All we have to do is, take the 2% growth from the PPPABC model and add it to the IRR 9.81% to get 11.81%. One practical way of justifying this is that we are trying to build a representative or model farm for a specific subset of growers in the province. If there is no room in the barn to house the growth it will be leased out to someone who does have space and the increased production is being realized within the supply management system.

IRR Using BCCGA/Friesen Inputs

	BCPPA	Lower Mainland 100,000+ kgs	Interior 100,000+ kgs	Interior New Entrant	VI New Entrant	Friesen 80,000	Friesen 40,000	Friesen 20,000
NPV	\$ 1,641,435	\$ 923,935	\$ 1,570,160	\$ 485,190	-\$ 729,727	\$ 154,940	\$ 77,470	\$ 23,514.93
IRR	9.81%	6.80%	8.30%	1.78%	-1.62%	4.84%	4.84%	4.70%
Return over 4.5%	5.31%	2.30%	3.80%	-2.72%	-6.12%	0.34%	0.34%	0.20%

Table 9 Numbers from the Art Friesen model are included alongside the others. The largest difference is the costs per sq ft for building construction.

In Table 9, the IRR calculations are updated with the values provided by Art Friesen in the simplified NPV model. The IRR settles between the PPPABC and the New Entrant values. All the Friesen IRRs are the same because the Friesen model assumes that costs, including building costs, scale linearly with farm size. This is not supported by the data available to me. Per square foot building costs especially decline with scale.

Assumptions used in inputting the Friesen data into the simplified NPV:

- Per square foot construction costs have been calculated assuming 2.9 kg/sq ft density, 100% quota utilization and Friesen's total building cost
- I was not clear on what was included in Overhead in the Friesen model so I assumed everything that was not Feed, Chicks, Bedding and Utilities (the primary variable costs in chicken production). This gives a total cost of production of \$1.51/kg which falls in between the extremes used in the other production categories.
- The building costs of \$60/sq ft are larger than the large farm values used for the PPPABC and 100,000kg+ farms and less than the New Entrant. Likely, a reasonable number for the median farm.
- The Friesen model uses labour costs that are 3 cents / kg cheaper than those used in the other scenarios.
- Pricing for all grower categories is set at the A-161 price of \$1.69/kg

The median farm in the province is most closely represented the Friesen 40,000 birds category. I do not have the data to perform the analysis on a farm in the 50,000-100,000kgs category in the Lower Mainland but I would expect median returns to be closer to the Friesen 40,000 as the barn size will be less capital efficient than for the larger producers while operating costs will be very similar.

What Price is Required to Get Over the Hurdle Rate?

The problem of finding a reasonable return can be inverted to find the price that would deliver returns above the hurdle rate. Both the BCCGA and the CAPM approach agree on 4.5% less

depreciation. Table 10 shows the prices necessary to achieve this hurdle rate in the simplified returns model described above.

Grower Category	Hurdle Price	Cycle Reference Price
<i>PPPABC</i>	\$ 1.60	1.69
<i>Lower Mainland 100,000+ kgs</i>	\$ 1.64	1.69
<i>Interior 100,000+ kgs</i>	\$ 1.60	1.69
<i>Interior 50-100,000kgs</i>	\$ 1.60	1.69
<i>Median</i>	\$ 1.66	1.69
<i>Interior New Entrant</i>	\$ 1.76	1.69
<i>VI New Entrant</i>	\$ 1.88	1.69
<i>Friesen</i>	\$ 1.68	1.69
<i>Serecon COP A-172</i>	\$ 2.00	1.96

Table 10 Hurdle Prices for different grower categories that delivers a return just over the hurdle rate of 4.5%. Hurdle Prices that exceed the reference Live Price are highlighted in red.

The assumptions on building and operating costs are the same as in simplified model above with the exception of the new category Serecon COP A-172. This category is included to provide an updated operational cost data. There has been significant inflation in feed and chick costs since data was collected from growers in Summer 2020. This grower category makes use of the Linkage COP model developed by Serecon. As in the other non-NEG categories, the new build size is 50,000 sq.ft. as in the PPPABC model. I have limited the Friesen farms to a single category because costs were assumed to scale linearly and that model gives the same result no matter the farm size.

The results of this model show that large farms in A-161 could accept a hurdle price below the Live Price for that period and still see returns greater than the hurdle rate. NEGs on the other hand, require a much greater price. The Friesen model requires a price very close to the Live Price for A-161 and is likely more representative of the model farm. For cycle A-172, using the Serecon data, we again get a result that suggests the price is near to providing returns that achieve the hurdle rate. *This suggests that the current pricing formula is delivering returns on investment for the median farm that just achieve the hurdle rate.*

A Comment on the Inclusion of Land and Quota Costs

In the above analysis land and quota values are excluded from the analysis. These costs are excluded because the returns from these investments are not realized as cash flows from the investment. Instead returns from land and quota are realized at the time of sale. Including the costs of these investments in a returns analysis without including the sale of these assets at the end amounts to double-dipping. The grower gets compensated twice for the risk involved in owning the asset. This is the right way of thinking about land and quota if we are trying to understand returns on investment, but what we are interested in evaluating the potential of a business to survive or prosper?

The next two models answer these questions. A prosperous business is a growing business. Growing more chicken requires owning more quota. The following sections considers the economic conditions required to grow the business, including purchasing quota. It assumes no incremental land purchase because the land is already bought and paid for by the existing grower.

In the second model, survival of the farm is considered by asking the question what Live Price is required for a farm to just continue to operate? This serves as a bookend for pricing in the sense that if the Live Price dropped below this level we would expect to see many growers begin to exit the business. This analysis includes neither quota or land because they are sunk costs and we are concerned only with survival in this analysis.

What Does It Take to Prosper?

So far, the analysis has revolved around meeting a minimum return or hurdle rate using the IRR metric. We can ask a different question and try to find out what conditions are necessary for a grower to prosper. Before describing the model and listing assumptions, we need to define what is meant by 'prosper'. This approach is intended to capture the necessary conditions for growth in the industry and it includes quota values.

In this analysis, I start by defining prosperity as when the Net Present Value of cash flows from investing in new barns is greater than keeping the farm the same size and selling any growth to interested bidders. That is, a farm is prosperous when the present value of cash flows from expansion are better than the next best alternative of staying the same size.

It should be noted that this is alternative way of looking at the problem of farm sustainability than the reasonable returns analyses that were performed by Art Friesen, Grant Thornton or myself. It's different because quota values are included in the analysis. Quota values have been excluded in the returns analyses because (a) quota values are difficult to model using conventional financial models and (b) the returns are not realized from the actual production of chicken but only at time of sale.

In this analysis, quota is included because we are asking different questions. Does it make sense to invest in expansion compared to the next best alternative (selling some of the quota)? And what does it take to grow the business? *Rather than comparing industry returns to fair market returns, this analysis tries to find the necessary conditions of an individual farmer to expand their business, regardless of whether or not it is fair or reasonable.*

As it turns out, if the price of quota is held constant (a very strong assumption), getting a farm NPV from expansion that is greater than the staying the same size is never achievable at any farm size, even when new barns and quota are paid for with cash and the existing barn, quota and land is fully paid for.

Since farmers like to farm, even when the returns are dismal, and they often even like to expand when they're not making money, we can relax the usual assumptions of economic theory and define a farm as prosperous when investment in growth has net present value greater than 0. In other words, they will keep investing in growth as long as they aren't diminishing the capacity of the business to generate cash flow.

This threshold is achieved under the following set of conditions:

- The farm currently has 40,000 birds of quota, barns are full and the producer must build to utilize growth in quota holdings
- In year 1, grower receives 10% (4000 birds) increase in quota holdings
- Going forward demand for chicken is growing at 1.5% / year
- Grower builds a new barn to house 30,000 birds (~20,000 sq ft @ \$50 per sq ft)
 - Growing at a density of 2.90 kg / sq ft
- The remainder of the space is initially filled with Market Development (MD) or Leased quota @ \$0.25/kg (PPPABC assumption)
 - As the allocation grows MD is reduced until barn is full and then another barn with 30,000 birds is built.
- Discount rate is 4.5%. (Opportunity cost of capital)
- Cost of production data is taken from average of Interior growers (it doesn't make much of a difference if Lower Mainland data is used, the farm must be a little bit bigger than 40,000 birds)
- Existing land, quota, and barns are wholly owned by the grower with no debt besides an operating line of credit.
- The growth scenarios unfold over 80 years and in the expansion scenario a new barn is built every time quota holdings exceed barn capacity.

Under these conditions, the investment in the new barn will result in a net present value of cash flows for the farm of roughly \$0. At this point, if chicken farming was your life and you didn't feel right about investing your money elsewhere, the investment begins to make sense.

The result is sensitive to many of these assumptions, namely:

- If building costs are higher, it's not worth it
- If there is any debt owing against existing land, quota, barns, it's not worth it.

- If the cost of market development goes up, its not worth it.

The price of quota is important in interpreting the results of the model. Quota prices are assumed to stay constant at \$100 / bird.

If this price drops the initial farm size to break even on the investment at $NPV = 0$ becomes smaller than 40,000 birds.

The flip side of this is that nothing has been said about the potential for quota values to grow. This analysis comes at prosperity from the perspective of the net present values of cash flows but if a grower was primarily interested in growing their net equity over time, appreciation in quota values could drive continued investment in growth.

This is not rational in the economic sense, but many people do appear to measure their prosperity in equity and potential borrowing capacity rather than in terms of potential to generate positive cash flow. This does after all, describe the BC property market over the past 15 years so this behavior is not uncommon.

In summary:

- *a farm begins to be prosperous at the $NPV = 0$ threshold at about 40,000 birds where there are no debt obligations against land, building or quota.*
- *A larger farm has the potential to be more prosperous than a smaller farm.*

Why and Under What Circumstances Would Someone Operate Below Total Cost Recovery

In discussing the results of the Grower Sustainability interviews I defined Total Cost Recovery as including all variable operating costs plus depreciation but not including a return on investment. In the Grower Sustainability study dataset only New Entrant Growers (NEGs) are operating under Total Cost Recovery (TCR). The economic rationale for this makes sense. A grower that already has rights to sell 100% of their quota would sell out after operating below TCR for a short period of time if they believed it was unlikely to see an improvement in their cash position. As a result, it would be unlikely to observe a grower operating at a loss and we wouldn't expect to find them in the data. A NEG is more likely to stay on until their awarded quota of 10,000 birds fully vests after 10 years.

How far below TCR would they be willing to operate from an economic perspective?

The losses of NEGs in the Grower Sustainability study data ran in a range of \$800-4000/cycle per cycle. How close are these growers to giving up?

Using the opportunity cost of capital provided by Art Friesen we use a discount rate of 7% (3.5% return on equity, 1% for risk, 2.5% for depreciation). Assuming a quota price of \$120/bird. The present value of a quota sale at year 10 is $\$1,200,000/(1.07)^{10} = \$610,000$.

A NEG who has done the math will exit the business if the expected present value of the loss is more than \$610,000.

Using these inputs we find that the NEG is willing to operate up to a loss of \$0.69/kg or \$86,853/year in order to get the quota payoff at the end. Of course, this implies that off-farm income or savings is sufficient to subsidize the farm to get through to year 10. This is likely an unfair assumption for many new entrants, and they will give up before losses of this magnitude are reached.

My sense from interviews is that a loss of around \$2000/month or \$0.19/kg is the practical limit for many of the NEG's. There was only one NEG operating near this limit during the 2020 interviews.

A scenario beyond ten years is not considered because a NEG is not going to stay in the business with fully vested quota with a TCR below 100%.

Minimum Farm Size to Achieve TCR

The performance of New Entrant Growers in the data survey brings up the question of the viability of the New Entrant program. A natural question to ask about this is, what size farm at start up is necessary to achieve farm viability in the sense that the producers will keep farming beyond the ten years? The data would suggest that the current program is borderline at best. I offer two observations from the data and interviews with growers.

The first observation is that this is about more than size. In the early years of operation many NEG's make expensive mistakes that are realized in poor feed conversion ratios (FCR). The mean FCR in the entire Summer 2020 dataset is 1.65 kilograms of feed per kilogram of live weight. NEG's were frequently running greater than 1.8. Given that feed is frequently exceeds 50% of variable costs these are expensive mistakes. This can be solved by better screening of NEG candidates or improved mentoring/on-boarding of new entrants in their first year without increasing the initial quota allocation.

Second, both the data and modelling suggest that a farm with 30,000 birds and above achieves TCR using the current pricing approach. I was also told in interviews that square footage for 30,000 birds is likely the minimum viable new barn build. The current New Entrant Grower program results in the construction of sub-optimal barn sizes. It may not make sense to increase the size of the quota grant in the New Entrant program, but a viable program will likely require that a new entrant can build and fill a barn that houses 30,00 birds.

Conclusion

Several different approaches to Grower Sustainability are considered in this document that include Reasonable Returns, Total Cost Recovery, Farm Succession, and a definition of a Prosperous Farm that chooses to make use of growth in allocation. These additional approaches are included because simply looking at the financial returns is insufficient in a supply managed context.

My conclusions through the data collection and modelling process are as follows:

- The current approach to pricing hovers around delivering reasonable returns (4.5% excl. depreciation) for the median grower, excluding land and quota costs.
- If we include quota values in a succession model, prices need to be at least 20 cents higher per kilogram at current quota values to encourage farm succession and maintain the current industrial structure.
- If a grower has zero debt, and no need to purchase incremental land a median sized grower can build a new barn, housing 30,000 birds and it make it cashflow over the life of the barn. This is not rational in the economic sense, as growers would be better off selling their quota growth.
- Total Cost Recovery is being achieved by all growers except for some New Entrant Growers. Current pricing is not going to push out existing growers who are not New Entrants.

All together I conclude that the current pricing achieves reasonable returns for barns and equipment. However, the pricing does not allow for succession or prosperity for all growers except those in exceptional financial circumstances. Changing the Live Price to solve these dilemmas is almost certainly not the correct approach as there are other options for improving the long-term prospects of the industry and any price increase over current levels would likely be counter-productive as improvement in cash-flow will be capitalized into quota values and this will favour the largest farms and exacerbate the uneven distribution of returns in the industry. This follows from the basic logic of asset pricing. It is important to note that quota prices are not set by the average cost grower. Excluding the possibility of speculation, when a successful transaction of quota occurs the buyer has higher expectations for the cash flow of the quota asset than the seller. The buyer is willing to pay up to the discounted future cash flow that the new quota allows. Paying more than this means that the buyer will be destroying wealth over the long run. This means that the most likely buyers are the ones who are generating the greatest cash flow relative to the average producer, who, if the COP models are working properly, on average are just covering costs (including the opportunity cost of capital). If the Live Price is increased above the industry average COP, the lowest cost producers have an increase in the discounted cash flow of a quota purchases, and this will result in an increased willingness to pay for quota. According to this logic it is likely, that a policy that maintained the Live Price above the COP would result in a more rapid consolidation of the industry and an even higher barrier to farm sustainability.

Examples of possible alternatives to increasing the Live Price include encouraging growth outside of the Lower Mainland where land costs are lower. This could include the development of processing facilities in new regions. The development of a quota exchange that improves

quota price transparency and potentially the regulation of quota pricing itself. Growth could also be allocated in ways that are more favourable to smaller producers. These are just a few possibilities for improving grower sustainability over the long-run that do not involve price increases over current levels.

Appendix A: Potential Efficiencies from Improved Feed Conversion Ratios

The Grower Sustainability study was split into 3 different regional groups. Interior, Vancouver Island and Lower Mainland. Each of these regions had a simple average feed conversion ratio (FCR) of 1.65.

In the entire dataset the lowest FCR was found to be 1.57 over an entire year or 6 cycles (Interior). The highest in the data set was 1.95 over two cycles (Vancouver Island). 2 of the worst FCRs were from New Entrant Growers (there were 5 in the dataset).

Feed prices have increased close to 35% since this data was collected. For the purposes of calculating the financial impact of improvements in FCR I assume a feed price of \$600/tonne. We can see the impact of improvements in FCR on financial conditions, at this price in Tables 1.

Total Savings	Improvement in FCR		
Farm Size (kg)	0.01	0.05	0.1
40,000	\$ 1,560	\$ 7,800	\$ 15,600
80,000	\$ 3,120	\$ 15,600	\$ 31,200
120,000	\$ 4,680	\$ 23,400	\$ 46,800
Savings per kg	Improvement in FCR		
Farm Size (kg)	0.01	0.05	0.1
40,000	\$ 0.01	\$ 0.03	\$ 0.06
80,000	\$ 0.01	\$ 0.03	\$ 0.06
120,000	\$ 0.01	\$ 0.03	\$ 0.06

Table 11 Total savings from an improvement in feed conversion ratio at a feed price of \$600/tonne over 6.5 cycles or one year.

For the established farm shipping 120,000kg every cycle running at the provincial average FCR of 1.65 an improvement of 0.01 in the FCR and a savings of roughly \$5000 may not be worth the additional management effort.

For the new entrant at 40,000kg with an FCR of 1.85, an improvement of 0.1 represents \$15,600. Which is close to a mortgage payment for many of the new entrants in the data set. This is both possible and salient to the new entrant grower.

Appendix B: Art Friesen Model and the Grower Sustainability Dataset

Above I have discussed the economic theory behind deciding on a reasonable return for the chicken industry using the Capital Asset Pricing Model. The BCCGA/Friesen model asserts that a 7% return is necessary for broiler farming. This figure includes 2.5% deducted for depreciation, 3.5% for return on equity and 1% return for risk. If we use the standard tool for asset valuation in finance (CAPM), do we get a similar result?

Based on the discussion of CAPM on pg 7, yes. The 7% rate falls between 6.1% implied market rate and the 8.04% historical market return and is a reasonable assumption for further modelling.

The Grower Sustainability study collected data from farms from 3 regions of the province in the Summer of 2020. A large part of the data from the Lower Mainland was provided by Art Friesen which offers an opportunity to double check his results. The Interior and Vancouver Island can also be compared to these results. The land, building and equipment, and labour costs are all consistent with the data set and my general experience in the broiler industry. The payments are straight-forward calculation using the 3.5% rate already discussed. This means the comparison comes down to the overhead costs for the different regions. Art Friesen has used \$2/bird. Results from the Grower Sustainability study are shown in Table 6.

	Overhead (\$ / bird)
Art Friesen estimate	\$2.00
Lower Mainland	\$1.67
Interior Small	\$3.31
Interior Medium	\$2.10
Interior Large	\$2.23
Vancouver Island	\$2.67
Simple Average	\$2.40
Avg. ex Int. Small	\$2.21

Table 6 Overhead is cost of production less feed, chick, levy, catching, bedding, labor and payments on capital investment.

This data provides estimates of the overhead that vary on either side of the \$2/bird used by Art Friesen. Approximately 90% of the differences in costs between the Lower Mainland data and the rest of the province can be attributed to energy, equipment and repair and maintenance costs. This is consistent +/- 7% across the province for each of the regions. Reported costs per kg for machinery, energy and repairs were relatively low for the Lower Mainland. This data is also from 2019 and there has been price inflation in these categories over the past 18 months.

Given the weight of production in the Lower Mainland \$2/bird is a reasonable estimate of a weighted average overhead for farms in BC.

Required Gross Profit per kg with 3.5% Debt Service

In Table 7 I have constructed Gross Profit figures on the same basis as Art Friesen’s with adjustments made to the overhead cost assumptions discussed above. Building and Equipment are also 25% higher on Vancouver Island to adjust for observations on construction costs collected during the Reasonable Returns study process. Otherwise, I have kept the land and building cost assumptions the same.

Required Gross Profit with a 3.5% debt service on the full cost of land, building and equipment is \$0.56/kg for the 80,000-bird farm in the Lower Mainland and \$0.58/kg for the comparable farm using Art Friesen’s numbers. Similar results.

	Gross Profit \$/kg	Feed, Chick, Levy, Catching and Bedding	Required Live Price \$/kg
Art's Model Farms			
80,000 birds	\$0.58		
40,000 birds	\$0.65		
20,000 birds	\$0.76		
Grower Sustainability Model Farms			
LM 80,000 birds	\$ 0.56	\$1.25	\$1.80
Interior 20,000 birds	\$0.88	\$1.18	\$2.06
Interior 40,000 birds	\$0.67	\$1.17	\$1.84
Interior 80,000 birds	\$0.61	\$1.13	\$1.74
Van. Isl 20,000 birds	\$0.90	\$1.27	\$2.17

Table 7 Gross Profit comparison between Art Friesen model farms and Grower Sustainability model farms. Variable costs and required live price included for the Reasonable Returns model farms.

I have extended the analysis by including the variable costs of production to estimate the required live price to cash flow with 3.5% financing on the entire cost of land, building and equipment.

For a large farm in the Interior the increased cost in energy, vehicles and equipment maintenance is more than made up for in a lower cost of feed. This feed difference is enough to get the 40,000-bird farm close to the large farm Lower Mainland cash-flow requirements.

A Note on Land Costs in the BCCGA/Art Friesen Model

The BCCGA/Art Friesen model does not include appreciation in land values in the calculations but there is an implied return from the land by borrowing against 100% of the land value at 3.5%. This is problematic from the perspective of valuing potential returns of an asset.

The CAPM model discussed above is used to value companies that make capital investments. This is not appropriate for valuing land. The classical approach to valuing returns to land or *land rents* is to estimate the present value of future cash flows after returns to capital and labor have been accounted for. Agricultural land prices appear to be divorced from the present value of these land rents in British Columbia. This can be seen in the difference between land prices and the lease rates for the land. People are paying more for agricultural land than they can hope to earn from producing food on it. By using a 3.5% implied return rate, the grower is getting a return on inflated-land prices that is not justified by the productive potential of the land.

Appendix C: PPPABC/Grant Thornton Model

The primary challenge with using the PPPABC approach is the large number of assumptions in the model. This distracts from understanding the sensitivity of the results to changes in assumptions and creates unnecessary difficulty in settling on a representative or model farm for the purposes of evaluating returns.

The unnecessary complexity in the PPPABC model arises largely from grouping two investments together (the barn and the addition) and including superfluous details on bank financing. I discuss these shortcomings in more detail in the main report as well as presenting a simplified Net Present Value and Internal Rate of Return model, justify the assumptions, and discuss the results.

PPPABC/Grant Thornton Model Notes

- 2016-2017 data is outdated
- Not clear that Art Friesen's data was used appropriately as there is no sign off on the model by Art
- Assumes a 50,000 sqft barn at \$38.65/sqft building + equipment– Serecon Numbers
 - I talked to Interior growers involved in prior cost research and 2018 numbers would have been closer to \$53/sqft – ~35% higher
 - Barns have zero value at the end of life (are 100% depreciated at 40 years, not 75%).
- Cost per sqft of new build on smaller farms are substantially higher. New Entrants in my sample were running \$68-100 / sqft. (Low end of range in the interior, high end on the Island)
- Taking out MD, this farm is producing 736,109kg over 6.5 cycles or 113,247 kgs per cycle. The median farm size in 2020 in BC was 79,153kg.
 - This model farm is 43% larger than the median farm.
 - In 2020 180 or ~60% of growers were smaller than this farm. *This farm is not representative.*
- In the version I received, there are no wages in the model.
 - This accounts for roughly 6-7% of costs and is a significant omission.
 - This is justified on the basis of "Assumes the grower is actively managing and working on the farm" but this omits the fact that there is an opportunity cost to one's time and it should be valued.
- There is no accounting for the opportunity cost of capital on the equity that is invested in the barn.
- Operating costs both in absolute and percentage terms are well within in the range of the data I collected.

A P P E N D I X C

S A F E T I A N A L Y S I S

Schedule 15
(Part 55)
(Section 55.4)

Board Decision or Determination

Form B

attach applicable Forms A, if available

Pricing Model (Mainstream) Formula Decision 2022

1. Date(s) of this decision:

Preliminary Final decision on January 6, 2022

Final Decision on March 4, 2022

2. Members of Board present for decision:

H. Sasaki, DA Janzen, B. Vanderspek, R. Nickel and C. Paulson

3. What sources of information did the Board consider in coming to its decision?

- Form A - Application for Decision or Determination
- Board Staff's Briefing Note
- Applicant's oral submissions
- Board's Orders (give reference numbers, if applicable):
Schedule 19 – Pricing Model
- Other (explain):

- All materials posted on the website <https://bcchickensectorpricingreview.com>
- Submissions directly to BCCMB
 - **BCHEPA**
 - 2020-11-24 letter re: October letter – pricing and linkage supervisory review

- 2021-06-10 – letter re: Pricing letter additions
 - 2021-07-23 – BCBHEC Questions to BCBHEPA/BCEHA/PPPABC/BCCGA re: “Clarifying questions to stakeholder submissions”
- **BCCGA**
- 2020-11-24 letter & attachments
 - 2019-09-26 K. Grier letter to BCCGA
 - October 2020 Agri-Food Economic Systems – Costs and Returns in BC Chicken Marketing
 - November 2020 Agri-Food Economic Systems – Live Chicken Pricing in BC: An Evaluation
 - 2021-03-09 BCCMB Questions response by BCCGA
 - 2021-03-12 letter from BCCGA arising from March 10/21 meeting with BCCMB & attachments.
 - June 2016 – Live & Consumer Pricing of Chicken
 - Professional statement re Processor claims of selling in an Open Market.
 - 2021-03-12 – BCCGA letter re A. Friesen Cash flow requirement (2021-03-02)
 - 2021-03-12 – BCCGA spreadsheet from A. Friesen cash flow
 - 2021-03-26 – BCCGA letter re: Sound Marketing Policy
 - 2021-03-29 – BCCGA letter to W Holm re:
 - 2021-03-26 – letter from K. Grier
 - 2021-05-27 – BCCGA letter – questions on Power Point presentation (preliminary decision)
 - 2021-06-25 – BCCGA letter – BCCGA written feedback on BCCMB/BCBHEC pricing models
 - 2021-07-05 – BCCGA letter – Comments on June 25/21 PPPABC submission
 - 2021-07-23 BCCMB questions “Pricing Review Stakeholders Submissions – follow up session.
 - 2021-07-27 – BCCGA written submission “HEC CMB Stakeholder engagement meeting – July 27/21
 - 2021-07-27 BCCGA response to BCBHEC letter dated June 25, 2021
 - 2021-08-13 – BCCGA letter to BCCMB/BCBHEC re: follow up information to the July 27, 2021 Stakeholder Engagement
 - 2021-11-01 – email from J. Curtis (BCCGA) re: PPPABC Model on grower returns
 - 2022-01-19 – J. Buchanan (Silver Slough) Grower Feedback to BCCMB submission.
 - 2022-01-21 – Chris Coers – to the BC Chicken Board of Directors
 - 2022-02-04 – BCCGA – CGA feedback to BCCMB *Draft* Pricing Review Decision

- 2022-04-04 – Mark Dreidiger – addressed to W. Holm.
 - Undated – John Bartel – re: draft pricing review submission
 - Undated – Lance and Carolyn Nickel – 2022 pricing review comments
 - Undated/untitled – Ben Lazar
 - Undated/untitled – Ryan and Sophia Van Dorp
 - 2022-03-03 – BCCGA – re: Final Pricing Decision Feedback
- **PPPABC & other Processors/Hatcheries**
- Redline critique/comments of BCCMB 5 Pricing Options paper
 - 2021-02-12 comments/evaluation on BCCGA submission and list of outstanding questions and comments.
 - 2021-03-08 Responses to Competitiveness and Fair Return Questions.
 - 2021-05-28 – letter from Rosstown Natural Foods re: Pricing and Linkage review document (comment on BCCMB power point – preliminary decision)
 - 2021-06-01 – letter from FVSP re: Moratorium on Grower Movement
 - 2021-06-02 – letter from PPPABC re: questions regarding preliminary decision
 - 2021-06-21 – letter from FVSP re: Moratorium on Grower Movements (AoS).
 - 2021-06-23 – letter from Rosstown Natural Foods re: Pricing and Linkage Recommendations
 - 2021-06-25 – PPPABC letter re: BCBHEC Proposed COP-based pricing package
 - 2021-06-25 – PPPABC letter re: BC chicken sector pricing supervisory review preliminary live pricing formula decision feedback
 - 2021-06-25 – BCEHA letter re: preliminary pricing formula decision feedback
 - 2021-07-27 – BCCMB letter to PPPABC re: BCCMB questions “Pricing Review Stakeholders Submissions – follow up session Aug 6th.”
 - 2021-07-28 email to FVSP re: invitation for further meeting with HEC and CMB
 - 2021-07-28 email to Rosstown re: invitation for further meeting with HEC and CMB
 - 2021-07-30 PPPABC letter to Chair re: BC Processors competitiveness in Canadian Markets – follow up questions for Aug 6/21 session with BCCMB and BCBHEC.
 - 2021-08-04 BCCMB response to PPPABC letter of July 30th.
 - 2021-08-05 PPPABC response to BCCMB letter of Aug 4/21
 - 2021-08-05 – BCEHA submission for Aug 6th meeting
 - 2021-10-05 – PPPABC – re follow up on BCCGA Grower Return Calculations
 - 2021-10-05 – PPPABC re: follow up on Pricing impact and Fixed differential proposal

- 2022-01-04 – PPPABC re: BCCMB Correspondence – December 21, 2021
 - 2022-02-07 – PPPABC re: draft final pricing decision feedback
 - 2022-02-28 – PPPABC re: BCCMB Draft Final Pricing Decision – Interim Pricing Formula
- Written submissions **not posted** on website due to proprietary information confidentiality (and will not be provided).
 - 2020-11-24 – material provided by PPPABC
 - Market overview dated December 14, 2020
 - (later replaced by Feb 17 presentation)
 - Processor Competitiveness (undated)
 - 2021-01-28 – PPPABC submission “the advantages/disadvantages for the ON industry passed on the “Second tier” cut up, boning and tray pack operations that supply much of the retail sector in Ontario directly”.
 - 2021-01-28 – PPPABC submission “Central Canada Processing Structure”.
 - 2021-02-17 – PPPABC - Processors Competitiveness Presentation
 - 2021-02-18 – JD Sweid Competitiveness presentation by B. Shier (No documents provided).
 - June 2017 – BCCGA – Agri-Food Economic Systems - Comparative Costs & Returns in Chicken Processing: BCCGA - BC v Competing Regions in Canada
 - July 2019 – Agri-Food Economic Systems - Comparative Costs and Returns in Hatcheries: BC v Competing Regions in Canada
 - 2021-03-19 – PPPABC letter – reasonable returns for growers
 - 2021-03-19 – CONFIDENTIAL - PPPABC spreadsheet update of BC Poultry Processors Association model on grower returns
 - 2021-03-23 – CONFIDENTIAL – Chicken Broiler Live Price Weight Category
 - 2021-03-29 – Processor recommendation on Live Bird Pricing – Fixed Differential
 - 2021-03-29 – CONFIDENTIAL – PPPABC Chicken Live Pricing Supervisory Review – Process Concerns
 - 2021-03-29 – CONFIDENTIAL – PPPABC letter – Grower Return Model – Reasonable Returns for Growers.
 - 2021-03-29 – CONFIDENTIAL – PPPABC letter – Assurance of Supply
 - 2021-04-07 – CONFIDENTIAL – PPPABC spreadsheet update of BC Poultry Processors Association model on grower returns - v11-00 draft 2021-04-06
 - 2021-08-16 – CONFIDENTIAL – PPPABC letter re: Response to BCBHEC questions to PPPABC Submission PPAC letter dated June 25, 2021 received via email.
 - 2021-08-16 -- CONFIDENTIAL – PPPABC letter – PPPABC response to BCCMB questions – BC Processor Competitiveness in Canadian Markets
 - 2021-08-16 – PPPABC letter – Fixed differential Pricing Model.
 - 2021-08-24 – PPPABC letter re: posting of confidential documents to restricted area of the Pricing Review Website
 - Redacted Documents received from PPPABC
 - Market overview dated December 14, 2020

- 2021-01-28 – PPPABC submission “the advantages/disadvantages for the ON industry passed on the “Second tier” cut up, boning and tray pack operations that supply much of the retail sector in Ontario directly”.

Independent consultants:

- **Ference & Co.**
 - 2020-11-30 – high level analysis of 2 BCCGA reports undertaken by D. Ference.
 - 2021-01-28 – review of PPPABC reports (BC Chicken Market – Overview PPPABC Dec 14/2020 & Processor Competitiveness, PPPABC Dec 14, 2020
 - Cost Advantages and Disadvantages of BC Chicken Growers and Processors compared to their counterparts in Ontario.
 - High level analysis of PPPABC Feb 17, 2021 document
 - BC Live Chicken Price Impact Analysis – analysis of June 25/21 PPPABC report entitled “BC Chicken Sector Pricing Supervisory Review” and the BCCMB analysis entitled “Hypothetical analysis using proposed formula in Past periods” and April 19/21 BCCMB report entitled “Pricing and Linkage Review: Preliminary Decision, Key issues and Considerations (referred to as the interim formula in this report”.
- **Serecon Consulting**
 - 2021-02-16 Reasonable returns performance measures
 - 2021-02-24 Reasonable returns performance measures follow up
 - 2021-10-26 – Serecon Linkage Scenario Analysis
- **Hugh Scolah**
 - 2021-03-24 – commentary on A. Friesen March 3/21 cashflow
 - 2021-09-14 – Notes on BCPPA/Grant Thornton Model
 - Notes: “This model does not represent the cost data of any specific farm.....
 - Final Report December 2021

Regulatory Agencies

- **BC Farm Industry Review Board**
 - 2005-09-01 - Specialty Market and New Entrant Submissions: Policy, Analysis, Principles and Directions
 - 2010-06-09 – Supervisory Review of BC Chicken Marketing Board Pricing-Related Recommendations Decision
 - 2019-05-16 – Two Appeals from a Decision Concerning Chicken Pricing
 - 2021-08-20 – Industry Stability and Current Pricing Structures – BCFIRB Review and Decision
- **Farm Products Council of Canada**

- 2014-02-13 – Cost of Production Monitoring Guideline for Agencies Established Under Part II of the Farm Products Agencies Act
- **BC Ministry of Agriculture Food and Fisheries**
 - 2004-07-26 – Regulated Marketing Economic Policy

4. What is the Board's decision?

Upon receipt of the FIRB Supervisory Panel's prior approval, to go forward to develop a long term pricing formula using a grower cost-based approach with the appropriate guardrails to account for BC processor competitiveness in the Canadian Market.

Participants to include Growers, Processors, Hatching Egg Producers, Hatcheries, Chicken Board and Hatching Egg Commission. The Committee would be struck as soon as the Review Panel has affirmed the Chicken Board's decision for a long-term pricing formula.

The Committee would make recommendations to the Chicken Board on the long term formula, including how it will address processor competitiveness and reasonable returns to growers.

While the long term formula is being created, Board has made the decision to implement a new interim pricing formula which will remain in place as the Board works towards a grower cost based model:

Ontario Price based on the weight category of 2.15 to 2.45 kilograms. It will **NOT** include the \$0.012 per kilogram CFO modular loading cost recovery, AI insurance cost recovery, OBHECC charge for emergency depopulation. [underlining highlight changes made by BCCMB]

Plus

75% of the difference in feed and chick costs per kilogram of live chicken between BC and Ontario.

Plus

\$0.0365 per kilogram which is the current catching cost. Increases or decreases in the price of catching must be approved by the BCCMB in advance. If approved, these increases or decreases will be reflected in the live price.

Plus

Guardrails: The differentials between the Ontario and BC live prices will be set at a maximum of \$0.1249 and a minimum of \$0.0970. The guardrails are to be a "ceiling" and/or "floor". The guardrails will be adjusted to reflect any changes in catching costs.

This new formula will be used beginning of the next period after FIRB renders its Supervisory Decision providing prior approval.

5. How did the Board come to this decision?

The BCCMB is committed to the concept of principle based regulation (PBR) and outcome based decision making through SAFETI (Strategic Accountable, Fair, Effective, Transparent, Inclusive) initiatives as directed by FIRB. These initiatives support good governance in the regulated marketing sector.

SAFETI has been applied at all stages of the decision making process: information gathering, analysis of risks and opportunities, options development and evaluation through to the final decision of the Board.

RATIONALE FOR DECISION BASED ON OUTCOME BASED PRINCIPLES

Strategic:

The Board has the authority to make orders it considers necessary or advisable to promote, control and regulate effectively the marketing of the regulated product, and to amend or revoke them, under 11(1)(q) of the Natural Products Marketing (BC) Act. The Act at 11(1)(k) gives the Board the authority to set the prices, maximum prices, minimum prices or both maximum and minimum price at which the regulated product or a grade or class of it may be bought or sold in British Columbia or that must be paid for a regulated product by a designated agency and to set different prices for different parts of British Columbia.

The BC Chicken Marketing Scheme (1961) grants the Board the power under 4.01(g) to fix the price or prices, maximum price or prices, minimum price or prices, or both maximum and minimum prices at which the live chickens over 2 days old that are regulated product, or any grade or class thereof, may be bought or sold in the Province, or that shall be paid for the regulated product by a designated agency, and may fix different prices for different parts of the Province. Further, 4.01(l) gives the Board the authority to make such orders, rules and regulations as are deemed by the Board necessary or advisable to promote, control and regulate effectively the production, transportation, packing storage or marketing of the regulated product and to amend or revoke the same.

Under the Chicken Scheme at 3.20 Pricing and Production Advisory Committee at section (3) it states the Board must consult with the committee and consider the committee's advice before the Board makes any decision relating to pricing or production.

Since the fall of 2019, the Board joined with the BC Broiler Hatching Egg Commission (the “Commission”) in developing a Strategic Framework for the BC Chicken Industry and committed to increase and improve regulatory cooperation and coordination. The Board concurs and supports the Commission’s approach to pricing, including built in efficiency factors.

The Board’s decision is consistent with the Commission’s and is a critical precursor to better position BC in the longer-term. This includes improved overall sustainability of the BC industry and encouraging future western and national cost-based pricing approaches that do not solely rely on Ontario pricing decisions.

The outcome of the grower cost-based approach that reflects the actual costs can then be combined with the actual costs of hatching egg producers and hatcheries in support of a comprehensive response to evidence based processor competitiveness.

The decision will contribute to balancing the interests of all key participants in the chicken value chain, providing certainty and predictability. It will contribute to the long-term sustainability of the BC chicken industry by addressing regional differences, succession management as well as providing certainty for renewed investments in the sector.

Accountable

The decision is consistent with the objectives of supply management to provide an efficient grower with a return based on the cost to grow chicken in BC as a baseline for addressing issues such as processor competitiveness. The decision also embodies the integration of efficiency into the regulatory pricing structure of not only the Board, but within the chicken value chain for the benefit of the entire industry.

The decision is consistent with the Ministry of Agriculture’s Regulated Marketing Economic Policy through a mechanism that facilitates cooperation amongst the stakeholders in the chicken value chain to achieve efficiencies and enhance value in the market place.

The Board is accountable for its decisions to the entire industry and the decision is considerate of the impact of its decisions on other parties.

The BCCMB maintains its legitimacy and integrity through understanding and discharging its responsibilities (as per the NPMA, Provincial Policy, BCFIRB direction) and is accountable by providing reasons explaining the course of action to stakeholders within this Schedule 15.

Fair

The Board has utilized the Supervisory Pricing Review process to invite, inform and engage industry stakeholders to ensure procedural fairness. All sides were consulted, and their opinions heard. The Board has with its decision and supporting submission provides the rationale in support of achieving sound marketing policy.

The decision recognizes and addresses the concerns brought forth by the growers and processors in their submissions.

The decision is consistent with the pricing structure put forward by the Commission for hatching egg producers and will lead to an improved basis for linkage between not only growers and producers, but also hatcheries and processor interests.

Effective:

The process leading to the final decision was effective. In addition to the input received from stakeholders, the Board obtained independent analysis and was provided with reports on the materials received from the BCCGA and the PPPABC. It also sought a broader, strategic view of pricing and possible measures to address the question of reasonable returns to growers.

It is expected through the engagement process in establishing the long-term grower cost-based approach that additional, meaningful, representative, transparent, readily available, robust data that can be updated periodically as required will be secured. Regulatory efficiencies are and will be built into the cost-based pricing mechanisms, monitored and reported on, reducing costs to the system. The grower cost-based approach will have a clearly defined regulatory outcome – to provide the chicken industry with a fact based pricing formula that is simple, transparent and capable of providing predictability and stability.

Transparent

The decision will lead to a transparent pricing structure that is accountable to not only the chicken industry, but more broadly to the agri-food economy and the BC public.

The data used will be based on actual on farm survey information and feed data. The methodology and assumptions will be clearly defined and respect generally accepted valuation principles, currently not third party validated.

The decision making process, practices, procedures and reporting on the mandate are open and accessible to the people impacted by the decisions and operations of the Board.

This Schedule 15 SAFETI containing the Board's decision and rationale will be posted on the website. Further, an explanation will be included in the BCCMB Monthly Board report and will also provide a reference to the Schedule 15 on the website.

Pricing orders are transmitted to all mainstream growers and processors by email.

Inclusive

A joint Board and Commission website (<https://bcchickensectorpricingreview.com/>) was established to post all publicly available information and resources generated through the Supervisory Pricing Review. The website also provided the ability for readers to post comments on the materials.

The BCCGA, PPPABC, as well as individual processors, BCBHEC and BCBHEPA provided input. The decision of the Board is in the public interest to provide continuity and stability respecting the live pricing of the regulated product. The PPAC will be consulted during and after the roundtable process.

The Board solicited industry submissions starting in October 2020. The Board presented an initial determination which was circulated to industry and discussed at a roundtable on May 10, 2021. Time was provided for further comments and input and to meet with the Board. As well, a series of three without prejudice meetings with each of the BCCGA and PPPABC were scheduled to be used as the opportunity to explore ideas and concepts that could lead to an agreement prior to the Board making a draft final decision.