

CFO Chick Supply Optimization - 2016 Farmer- Member Survey Results



March 2017

Chick Supply Optimization Farmer-Member Survey Results Final Report

Introduction

Chick quality and early chick performance are important to maximize industry productivity. Hatcheries and farmer-members both have important roles in producing a quality product. Another important aspect of chick supply optimization is ensuring that an adequate supply of good quality chicks are available to meet the projected growth requirements in Ontario.

CFO held a series of farmer-member consultations on chick supply optimization across the province in June and July of 2016. In September CFO once again engaged its farmer-members on chick supply optimization – this time through a quantitative survey designed to provide a better understanding of farmer-member experiences and needs in this important subject area.

More than 50 % of farmer-members responded to the survey suggesting that this topic is of great importance to them and that the results can be received with confidence. The survey was set up in 6 subject areas:

- Chick supply management: planning and order fulfillment
- Chick order reliability
- Chick quality assurance
- Barn environment and husbandry practices
- Flock performance; assessment, reporting and communication
- Hatchery service

Hatchery Representation

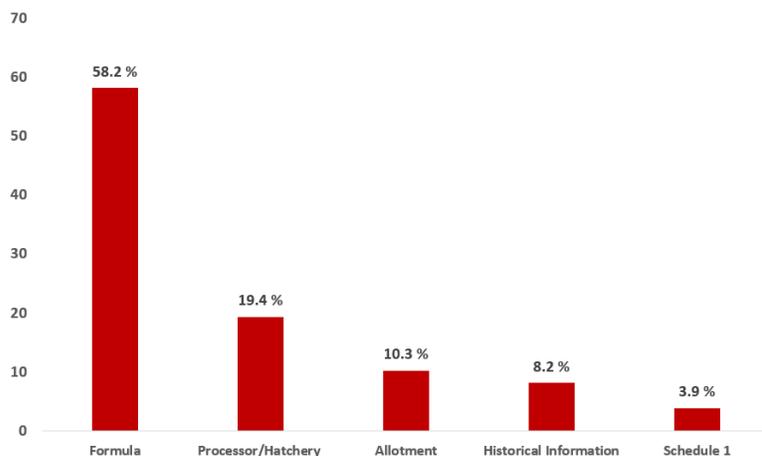
Farmer-members were asked to identify the hatchery from which they purchase their chicks. Survey responses showed that all hatcheries in Ontario and Quebec were represented in the data in approximately equal proportion to their market share (e.g. chick sales).

Survey Results

1) Chick Supply Management: Planning and Order Fulfillment

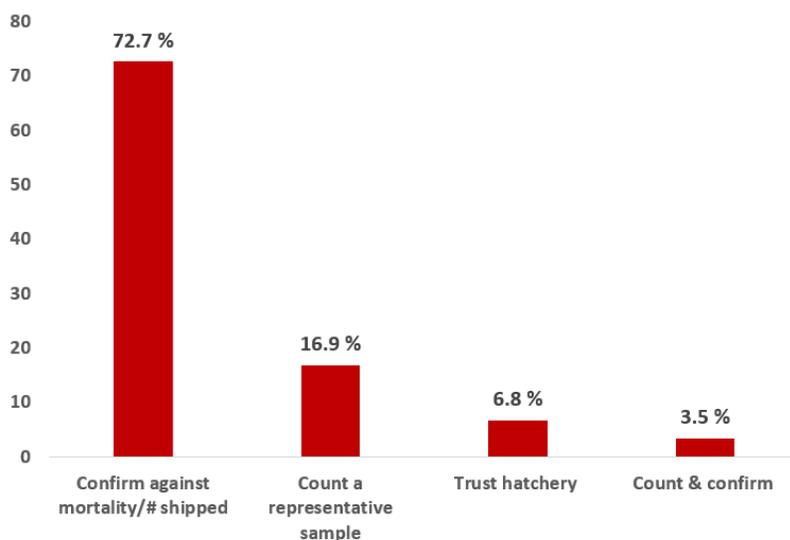
Farmer-members were asked how they determine the correct number of chicks to order per crop. During the farmer-member consultations, knowing how many chicks to order to maximize quota utilization was identified as a challenge because of the variability in chick quality from crop to crop. This question was open-ended which means that respondents were not limited to specific responses provided through the survey. The majority of farmer-members (58.2 %) responded that they use a formula to determine the number of chicks to order. Typically, what is considered in the formula is the kilograms allotted, target weight of the birds and an average flock mortality/condemnation rate as well as the 2 % extra provided by the hatchery. References were also made to using historical and/or seasonal averages. Approximately 20 % of the time farmer-members reported that they either had their processor or hatchery representative determine the correct number or they determined the number in consultation with them. Complete results are presented in Figure 1.

Figure 1 – How do you determine the correct number of chicks to order per crop?



Farmer-members were also asked how they know if they received the correct number of chicks when they are delivered. Specific responses were provided to this question (“confirm against mortality/# shipped” and “count a representative sample”) although respondents were also given the option to specify “other” options. A large majority of farmer-members (greater than 72 %) reported that they determine if they received the correct number once they reconcile the number of birds shipped with their flock mortality. While this is the easiest (and perhaps most accurate) method of confirming numbers, if a problem is detected this method does not allow for timely communication and resolution. Counting the number of boxes as well as a representative sample of chicks per box during placement is the recommended practice because it allows possible discrepancies to be identified at the time of placement. Yet, less than 20 % of farmer-members reported that they counted a representative sample of chicks at the time of placement. Based on this result, it would appear that there is an opportunity for more farmer-members to implement a process for confirming chick numbers at the time of placement. Complete results for this question are presented below in Figure 2.

Figure 2 – How do you know you received the correct number of chicks when they are delivered?



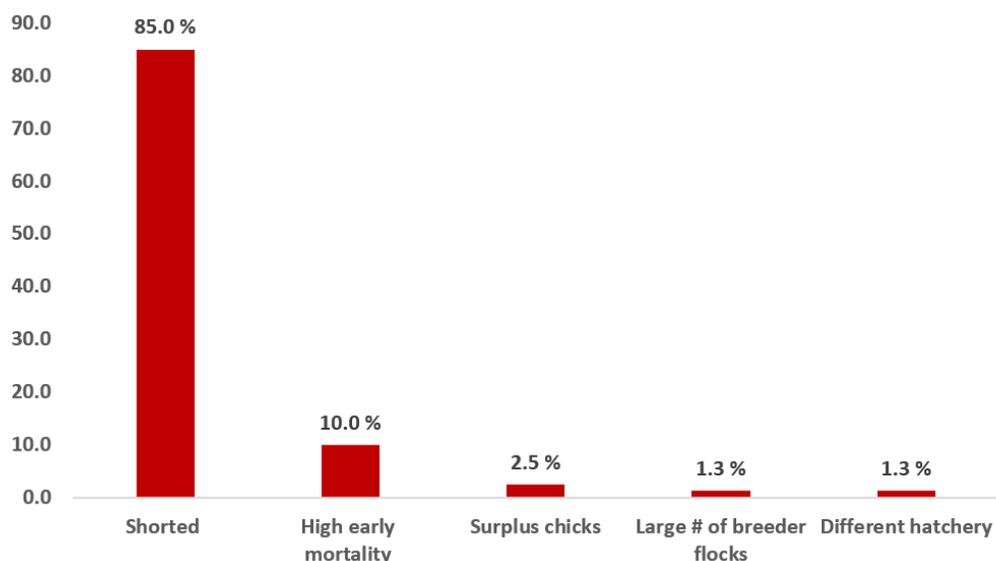
The final question in this section related to the presence of farmer-members at the time of chick placement. Almost 100 % (99.6 %) of farmer-members reported that they are always present when their chicks are placed.

2) Chick Order Reliability

The focus of the chick order reliability section was to better understand how often farmer-members are receiving multiple placements of chicks, discrepancies in their chick orders or chicks greater than 12 hours old or from the U.S.

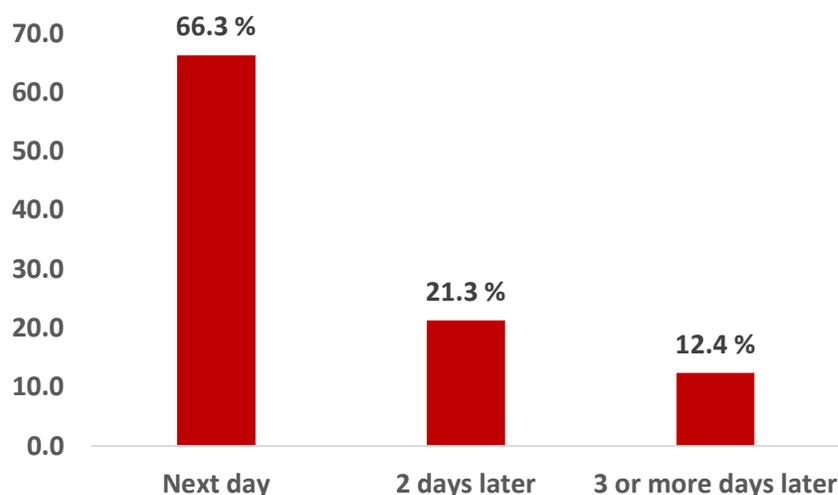
The first question asked pertained to receiving multiple placements for the same chick order. Overall, 16.5 % of farmer-members responded that they had received multiple placements for the same chick order in the last 6 quota periods. Farmer-members who reported that they had received multiple placements for the same chick order were also asked why additional chicks needed to be delivered. Two responses were provided to this question including “shorted on original placement” or “high early mortality” although survey respondents could provide “other” reasons as well. Almost 85 % of farmer-members reported that they were shorted on their original placement whereas another 10 % said that additional chicks had to be delivered to compensate for high early mortality. Five percent of farmer-members provided “other” responses. Survey responses are summarized below in Figure 3.

Figure 3 – Why have you received multiple chick placements for the same chick order in the last 6 quota periods?



Farmer-members who received multiple placements for the same chick order were also asked over what time period the additional chicks were delivered. The survey responses indicated that approximately 2/3's (66.3 %) of the additional chick placements took place the next day. What is concerning, however, is that more than 30 % of the time, the additional chicks were not delivered until 2 or 3 days later, resulting in a large age gap between the initial and subsequent placements. Results are presented in Figure 4.

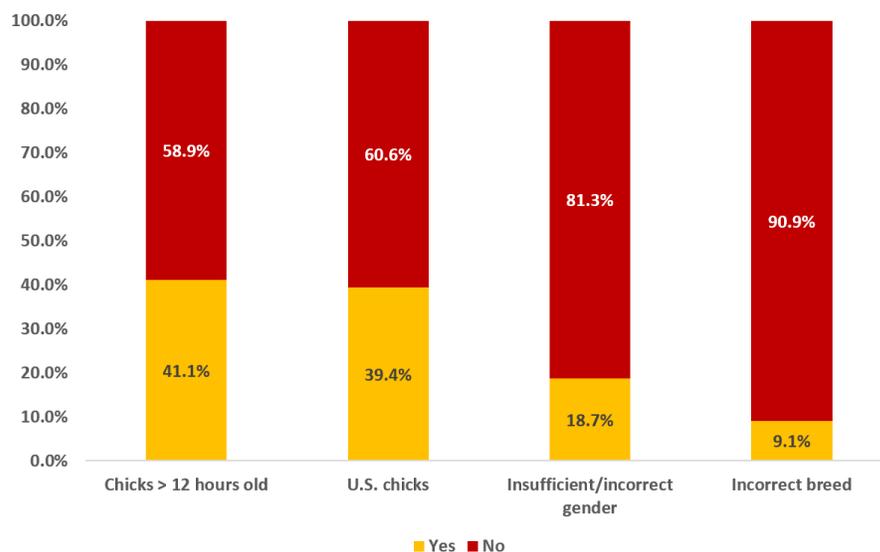
Figure 4 – When were the additional chicks from the same chick order delivered?



Farmer-members were also asked if they had received the following in the last 6 quota periods – U.S. chicks, chicks greater than 12 hours old, incorrect or insufficient gender and incorrect breed.

Less than 10 % (9.1 %) of farmer-members reported receiving the incorrect breed of chicks in the last 6 quota periods whereas 18.7 % reported receiving chicks of a different gender than what they had ordered. Significantly more farmer-members (approximately 40 %) reported receiving either U.S. chicks or chicks greater than 12 hours old in the last 6 quota periods. At 41.1 %, the incidence of farmer-members reporting that they received chicks greater than 12 hours old was much higher than what was reported in the Early Chick Performance survey conducted in 2012. In the 2012 survey, 29.2 % of farmer-members reported receiving chicks greater than 12 hours old but it is also noteworthy that at this time, this information was not being reported consistently by all hatcheries so it may not be a relevant comparison. Also of note is that almost 40 % of farmers reported receiving U.S. chicks in the last 6 quota periods. Given that only 4 % of the total chicks placed in Ontario are hatched in the U.S., this would confirm the belief that U.S. chicks tend to be spread out across a relatively large number of farms. Results are presented in Figure 5.

Figure 5 – Have you received chicks > 12 hours old, U.S. chicks, insufficient or incorrect gender or incorrect breed in the last 6 quota periods?

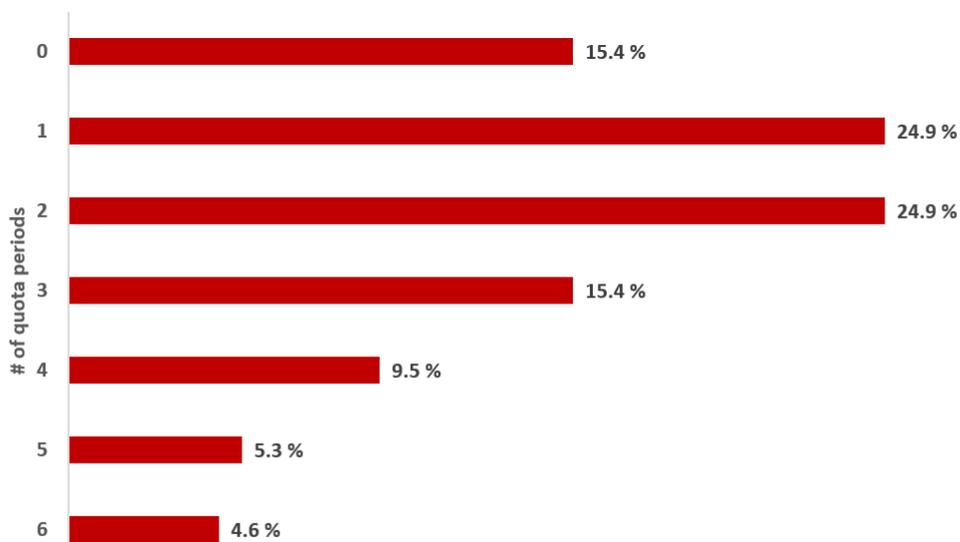


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Farmer-members were first asked if they experienced a chick quality issue in their most recent quota period. Almost 45 % (44.1 %) of farmer-members reported that they had experienced a chick quality issue in their most recent quota period. This is considerably higher than the incidence of 27.5 % reported by farmer-members in the 2012 Chick Performance Survey.

Farmer-members were also asked to report how many chick quality issues they had in the last 6 quota periods. Eighty five percent of farmer-members reported a chick quality issue in at least 1 of their last 6 quota periods. More than 1/3 of farmer-members (34.8 %) reported chick quality issues in 3 or more quota periods of the last 6. Almost 5 % of farmer-members reported having a chick quality issue in every one of the last 6 quota periods. The results are presented in Figure 6.

Figure 6 – Number of quota periods that farmer-members had chick quality issues in the last 6 quota periods



As a follow-up to the question “Did you have a chick quality issue in your most recent quota period”, farmer-members who answered “Yes” were asked what the issue was. Multiple responses were permitted for this question. The majority (> 90 %) of farmer-members reported high mortality and culling with yolk sac/bacterial infection reported as the most common cause (62.2 %). Uneven chicks were reported by more than 55 % of farmer-members. Leg issues were commonly reported, both within the first two weeks (45.5 %) and after the first two weeks (33.9 %). Responses are summarized in Table 1 below. As a point of reference, the first six reasons listed in the table were provided as survey options whereas the last two were not provided as survey options but were provided by individual farmer-members.

Table 1 – Reasons for chick quality issues reported by farmer-members

Reason	# of responses	% of farmer-members
Yolk Sac/Bacterial infection	145	62.2 %
Uneven chicks	130	55.8 %
Leg issues in first 2 weeks	106	45.5 %
Leg issues after first 2 weeks	79	33.9 %
Starve outs/Dehydration	75	32.2 %
Other disease conditions (after first 2 weeks)	49	21.0 %
US chicks	5	2.1 %
Miscellaneous	7	2.5 %

Total # of responses **595**

Farmer-members were also asked what parameters they use to define good chick quality. Multiple responses were also permitted for this question. The responses are provided in Table 2. Low mortality & culling, alertness & vigour and no bacterial infection were the most common responses at 98.1, 96.8 and 82.6 %, respectively, however, these responses were provided as part of the survey so a higher response rate would be expected for these reasons. Ten percent of farmer-members also identified “other” reasons, including weight/size uniformity, water and feed consumption and no leg issues.

Table 2 – Parameters used by farmer-members to define good chick quality

Reason	# of responses	% of responses
Low mortality & culling	525	98.1 %
Alertness & vigour	518	96.8 %
No bacterial infection	442	82.6 %
Other	56	10.5 %

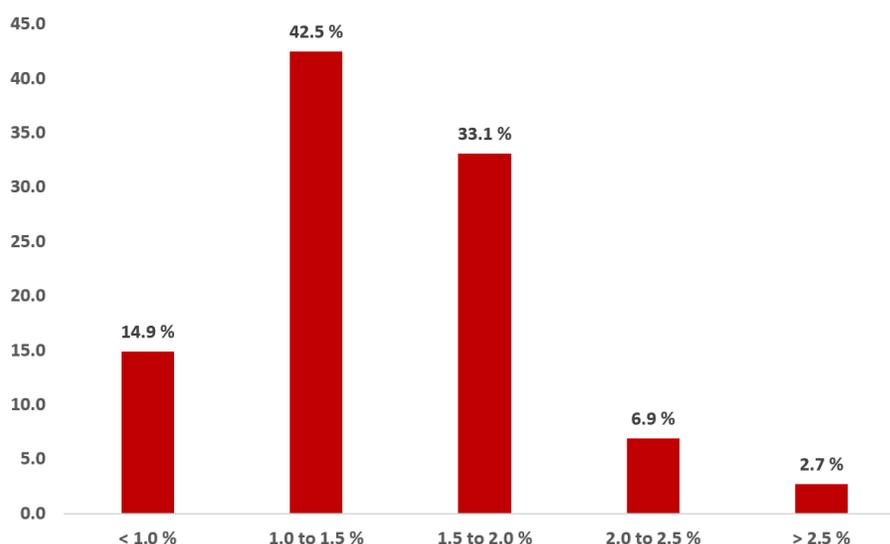
Total # of responses **1541**

While low mortality & culling is a quantitative measure, it is not necessarily a reliable method of assessing chick quality. It is considered a “lag” method because chick mortality does not peak until day 3 or 4 after placement. At this point, there is very little that can be done. Quantitative measurements of chick quality that can be implemented from the time the chicks arrive on the farm are more reliable because remedial measures can be implemented more quickly.

Given that almost 97 % of farmer-members reported that they use chick alertness and vigour (a qualitative or subjective measure) as an indication of chick quality, it appears that there is an opportunity for farmer-members to adopt more “quantitative” methods of chick quality assessment. Quantitative methods of assessment are more repeatable and reliable and less subject to individual interpretation.

Ninety-eight percent of farmer-members reported that low mortality & culling were used to define good chick quality so it was of interest to determine what level of 10-day mortality & culling farmer-members feel is indicative of a chick quality problem. The results are presented in Figure 7.

Figure 7 – Level of 10-day mortality & culling that is indicative of a chick quality problem



The majority of farmer-members (42.5 %) reported that 10-day mortality & culling between 1.0 and 1.5 % is indicative of a chick quality problem. However, more than 40 % of farmer-members reported that chick quality is not an issue unless 10-day mortality & culling levels reach 1.5 % or higher and almost 10 % of farmer-members believe that chick quality is not an issue until levels reach 2 % or higher. Also of interest is that almost 15 % of farmer-members indicated that 10-day mortality & culling levels of less than 1 % indicate a chick quality problem. While an Ontario benchmark for 10-day mortality & culling is yet to be established, it is likely that levels of less than 1 % are not realistic and that levels of greater than 2 % are not stringent enough. In the 2012 Early Chick Performance Survey, slightly more than 66 % of farmer-members indicated that 7-day mortality between 1.0 and 1.5 % is indicative of a chick quality issue however it is important to note the two surveys are not based on the same mortality measurement (e.g. 10-day vs 7-day).

4) Barn Environment & Husbandry Practices

Farmer-members were asked how they prepare their barns prior to placement of chicks to ensure optimal results. Multiple responses were permitted. Seven different responses were provided as survey options however farmer-members were also given the option of providing “other” responses. Of the 7 survey options provided, the following four were selected most often. More than 95 % of farmer-members selected all 4 of these options as part of their pre-placement barn preparation –

- pre-heat the barn
- ensure the drinkers are working
- put chick paper down with feed
- measure air temperature

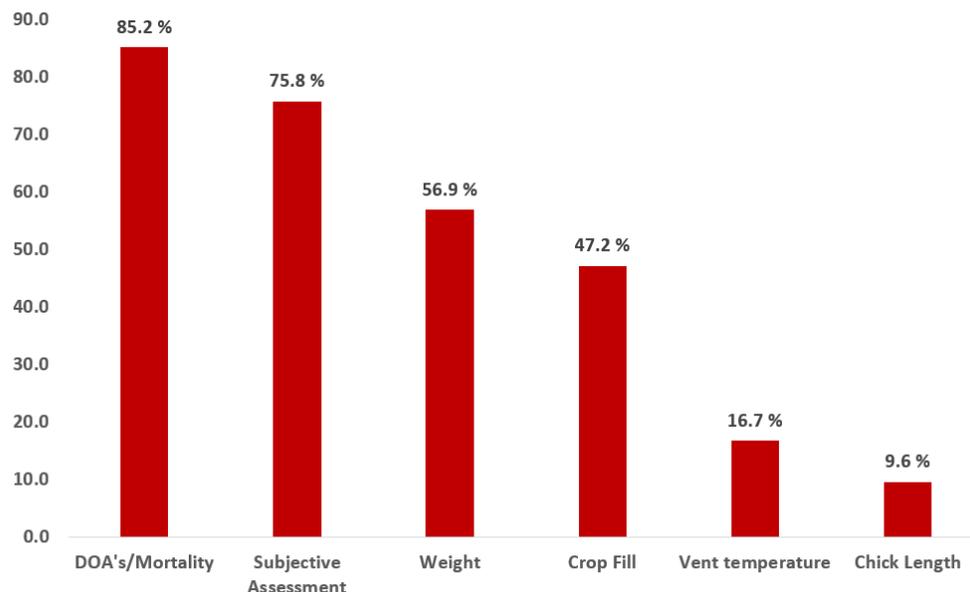
While more than 95 % of farmer-members reported that they measured air temperature prior to placement of chicks only 56 % of them reported that they measured the temperature of the litter. Litter temperature is an important determinant of chick comfort. Results are presented in Table 3.

Table 3 – Farmer-member barn preparation prior to chick placement

Reason	# of responses	% of responses
Pre-heat the barn	528	98.7 %
Ensure the drinkers are working	527	98.5 %
Put down chick paper with feed	523	97.8 %
Measure air temperature	509	95.1 %
Measure relative humidity	411	76.8 %
Measure light intensity	329	61.5 %
Measure litter temperature	297	55.5 %
Other	98	18.3 %

Farmer-members were also asked how they assess the quality of their chicks following placement. The results are presented in Figure 8. The most common method of assessing chick quality was based on the level of DOA's and mortality – more than 85 % of farmer-members responded that they assessed chick quality this way. This was closely followed by subjective assessment which was selected by more than 75 % of farmer-members. As mentioned earlier, using mortality as the “only” or the “initial” means to assess chick quality is not recommended because there is generally a lag before chick mortality will spike (e.g. day 3 or 4) if there is a chick quality issue. Subjective assessment by itself is not a reliable method of assessing chick quality but in combination with one or more “quantitative” methods of assessment, it does have some value. Fortunately, less than 5 % of farmer-members reported that they only use subjective assessment to evaluate the quality of their chicks (e.g. they do not use any quantitative measures of assessment).

Figure 8 – Farmer-member assessment of chick quality following placement



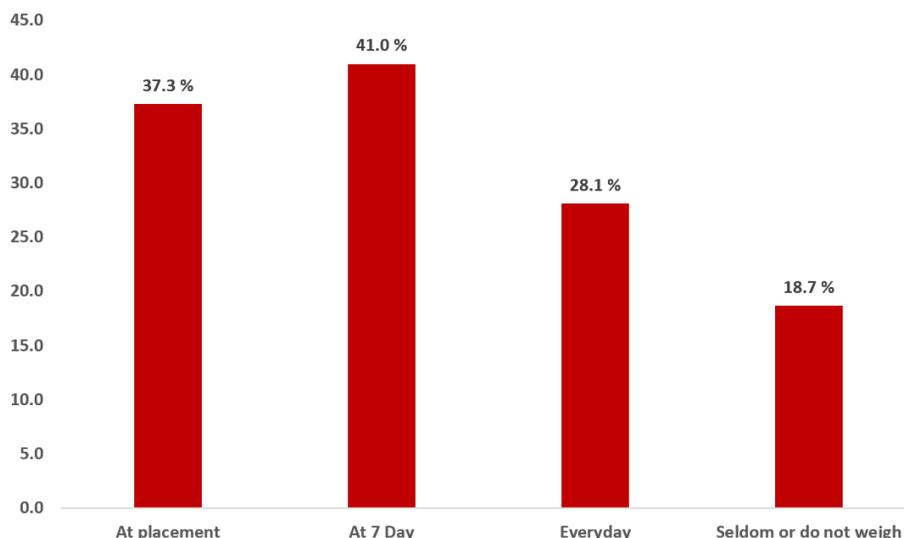
Quantitative methods of assessing chick quality are the most reliable because interpretation of chick quality is based on numbers (data) and also because the method of measurement tends to be well-defined and repeatable. Examples of quantitative methods of assessing chick quality include weight, crop fill, vent temperature and chick length. These methods are considered “lead” measures (as opposed to “lag” measures) in that they can be measured early (within the first 24 hours after placement) and can be predictive of future performance. The proportion of farmer-members using quantitative methods of assessment was generally low ranging from just under 10 % of farmer-members using chick length to just over 55 % of farmer-members using weight to assess chick quality.

Further analysis was done to determine how many quantitative methods of assessment farmer-members are using to assess chick quality following placement. The results are summarized below:

- no quantitative assessment – 4.7 % of farmer-members
- 1 quantitative method of assessment – 29.3 % of farmer-members
- 2 quantitative methods of assessment – 29.7 % of farmer-members
- 3 quantitative methods of assessment – 23.4 % of farmer-members
- 4 or more quantitative methods of assessment – 12.9 % of farmer-members

Farmer-members were also asked when they weigh their chicks. Almost 20 % (18.7 %) of farmer-members reported that they do not weigh or seldom weigh their chicks. Of those farmers that do weigh their chicks, 28 % report that they weigh every day suggesting that they have electronic scales in the barn. Approximately 38 % of farmer-members reported that they weigh chicks at placement and 41 % reported that they weigh chicks at 7 days. Almost 45 % of farmer-members weigh chicks at placement and at 7 days or have electronic scales which allows for calculation of 7-day weight gain, a key performance indicator of flock performance. Results are presented in Figure 9.

Figure 9 - Proportion of farmer-members weighing chicks

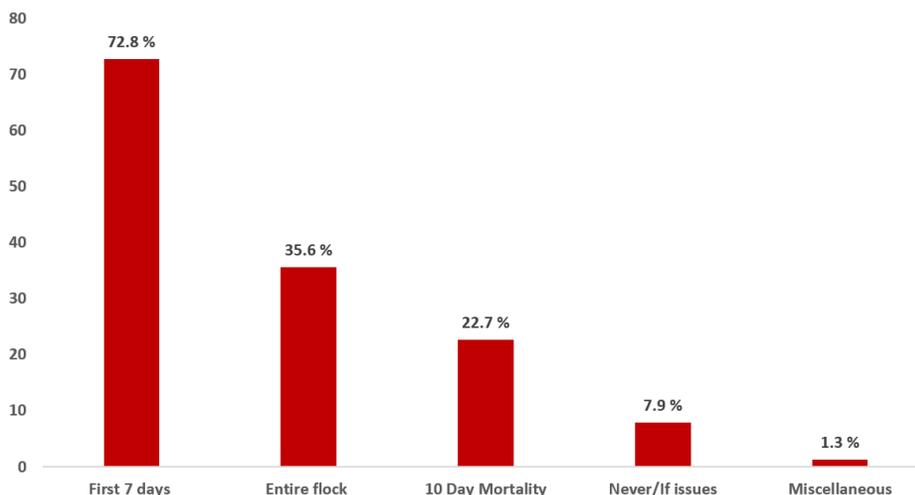


5) Flock Performance: Assessment, Reporting & Communication

The purpose of the Flock Performance: Assessment, Reporting & Communication section of the survey was to better understand the communication and reporting that hatcheries are providing to their farmer-members.

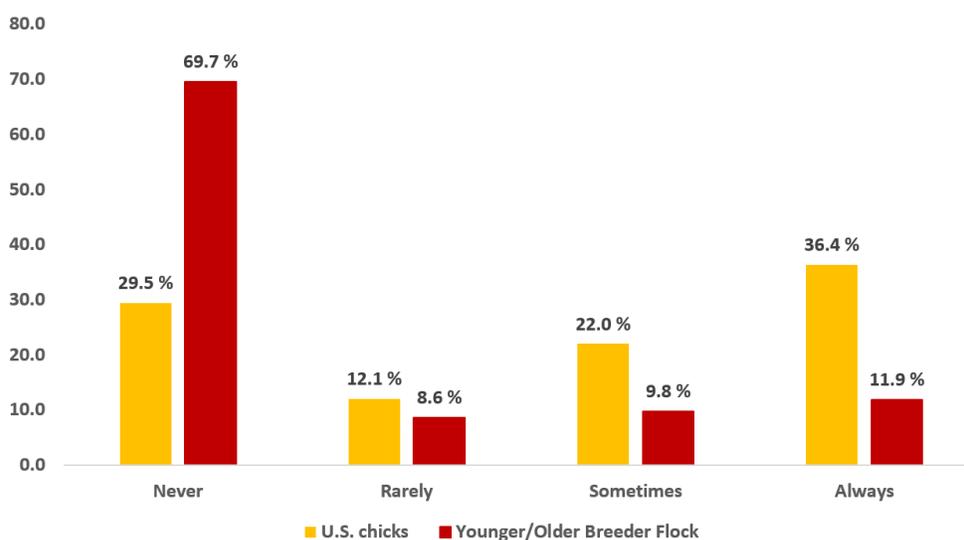
The first question asked in this section was if your hatchery requests mortality data, what do they request? Almost 75 % of farmer-members reported that their hatchery requests 7-day mortality and more than one-third (35.6 %) reported that their hatchery requests entire flock mortality. Only slightly more than 20 % of farmer-members reported that their hatchery requests 10-day mortality. Further, almost 8 % of farmer-members reported that their hatchery doesn't request mortality data at all or only requests it if there is a chick quality issue. Results are presented in Figure 10.

Figure 10 - Hatchery requests for mortality data



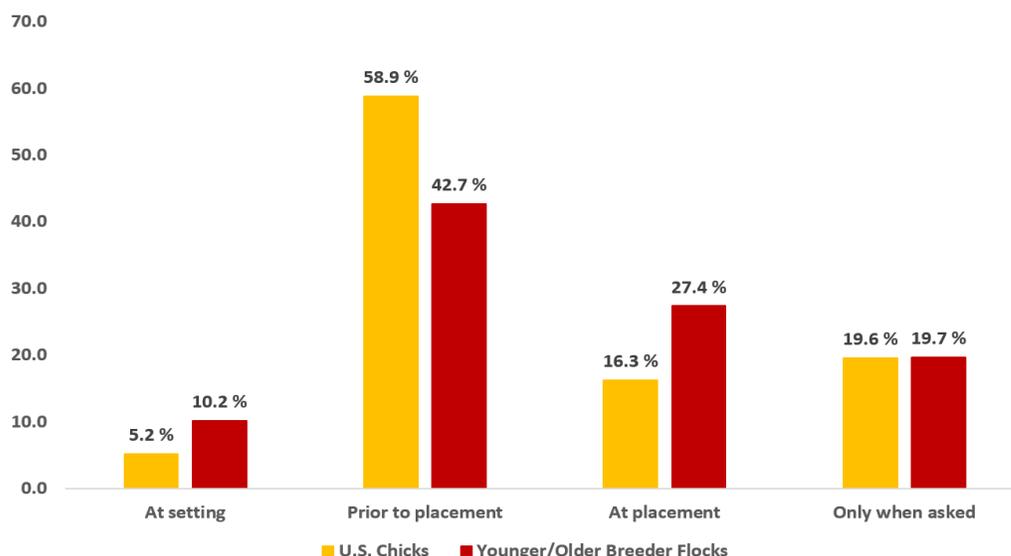
The next two questions asked of farmer-members related to “advance” communication by the hatchery on farmer-members receiving U.S. chicks and chicks from younger or older breeder flocks. Possible responses were “Never”, “Always”, “Sometimes” or “Rarely”. Overall results for both questions are presented in Figure 11. More than one-third of farmer-members reported that they were always notified by their hatchery in advance of receiving U.S. chicks but less than 12 % provided the same response for advance notification on chicks from younger or older breeder flocks. In fact, almost 70 % (69.7 %) of farmer-members said they never receive advance communication from their hatchery if they are receiving chicks from younger or older breeder flocks.

Figure 11 –Farmer-member response on advance communication of U.S. chicks and chicks from younger/older breeder flocks



Farmer-members were also asked if they do receive advance communication from their hatcheries on U.S. chicks and chicks from younger/older breeder flocks, when do they receive it? More than 60 % of the farmer-members who said they received advance communication from their hatchery on U.S. chicks reported that their hatchery provided the communication prior to placement (e.g. “At setting” plus “Prior to placement”). Fewer farmer-members selected these responses for advance communication on chicks from younger/older breeder flocks, although this number was higher than expected at 52.9 %. One in 5 farmer-members reported that their hatchery only provided this information when asked. Results are presented in Figure 12.

Figure 12 – Farmer-member response on timing of advance communication on U.S. chicks and chicks from younger/older breeder flocks



Farmer-members were also asked if their hatchery always provides a copy of the Chick Delivery Report at the time of placement. Almost 98 % of farmer-members reported that they always receive this report. Adoption of this report has significantly increased the amount of information that farmer-members receive regarding their chicks, however, the intent of this question was to provide an opportunity for farmer-members to comment on additional information that they would like to receive from their hatcheries. Almost three-quarters of all farmer-members reported that there is no additional information that they would like to receive from their hatcheries. In contrast, in the 2012 Early Chick Performance Survey, the majority of farmer-members expressed an interest in receiving additional information from their hatchery however the 2012 survey was conducted prior to the adoption of the Chick Delivery Report.

Those farmer-members who expressed interest in receiving additional information from their hatcheries were asked what type of information they would like to receive. The top 5 responses received were –

- Breeder flock identification and history – 26.6 %
- Known issues with the chicks on other farms – 16.1 %
- U.S. chicks and eggs – 14.5 %
- Hatchery variables including time of hatch and hatch window, hatching issues, cull rate and delivery truck temperatures – 13.7 %
- Timeliness and transparency of information – 11.3 %

Further, farmer-members were also asked if there were other times that they would like communication from their hatcheries. Responses to this question resulted in some overlap with the previous question, however, some additional insight was provided. The most common responses to this question were as follows –

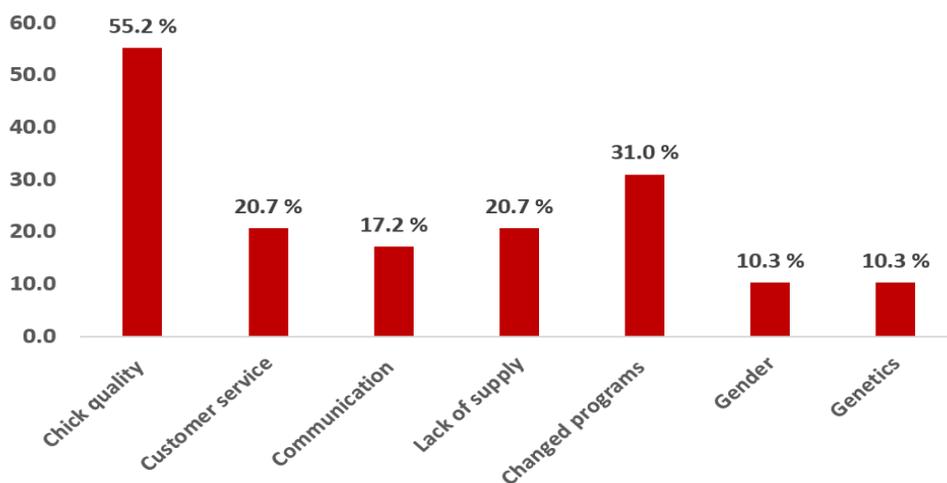
- Known issues with the chicks on other farms – 38.0 %
- U.S. chicks and eggs – 19.9 %
- Breeder flock age (in advance) – 17.5 %
- Changes to chick order/held chicks/placement delays – 15.2 %

6) Hatchery Service

The purpose of the Hatchery Service section of the survey was to better understand the level of service provided by hatcheries, the incidence of farmer-member settlement requests as well as the degree of satisfaction with settlements and the extent to which farmer-members have commercial supply agreements with their hatchery.

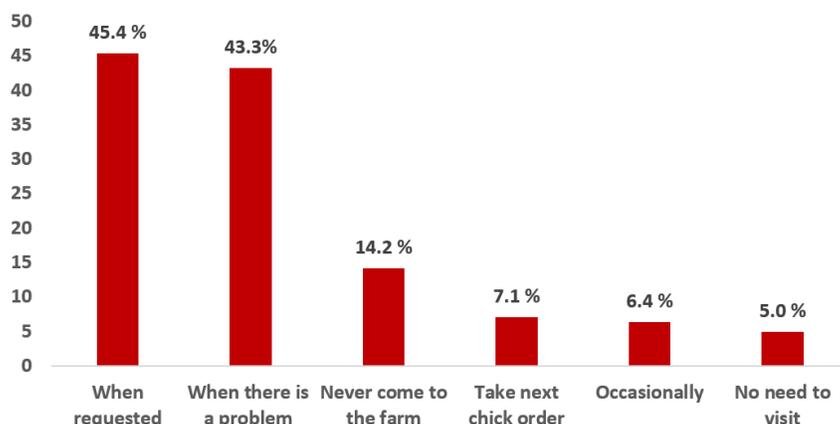
Farmer-members were asked if they have changed hatcheries in the last 6 quota periods. Only 6 % of farmer-members reported that they had changed hatcheries in the last 6 quota periods. This is likely a reflection of the fact that a number of Ontario hatcheries are currently running at or close to capacity. When farmer-members who had reported changing hatcheries were asked why they had changed, the most common reason was chick quality issues (55.2 %). Changed programs was the reason cited by 31 % of farmer-members even though this was not provided as a response in the survey. Full results are presented in Figure 13.

Figure 13 – Farmer-member response on reasons for changing hatcheries in the last 6 quota periods



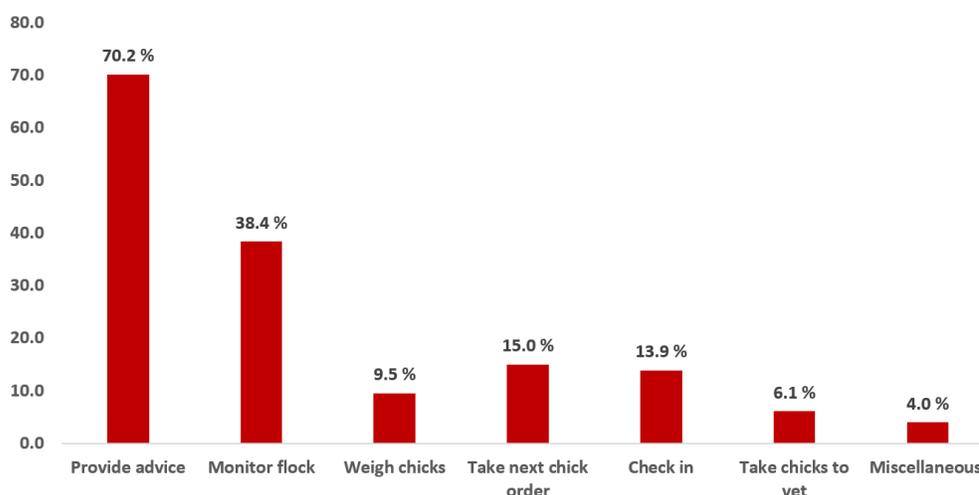
Farmer-members were also asked if their chick representative visits the farm or contacts them each quota period regardless of a problem. Almost three quarter's (72.8 %) of all farmer-members responded "Yes" to this question. Those farmer-members who responded "No" to this question were asked when does their chick representative visit the farm or contact them if not every quota period. Almost 90 % of them (88.7 %) responded that their chick representative visits "When requested" or "When there is a problem". Results are presented in Figure 14.

Figure 14 – Farmer-member response on when their chick representative visits the farm or contacts them if not every quota period



Farmer-members were also asked what their chick representative does when they come to the farm for a routine visit. “Provide advice”, “Monitor flock” and “Weigh chicks” were provided as responses although farmer-members were also provided with an “Other” option. Almost three-quarters (70.2 %) of farmer-members reported that their chick representative provided advice when visiting the farm while slightly less than 40 % reported that they monitored the flock. Responses are presented in Figure 15.

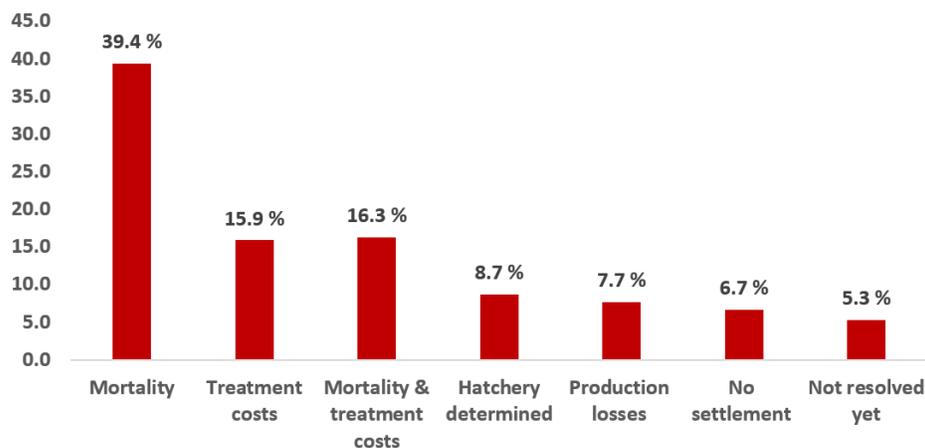
Figure 15 – Farmer-member responses on what their chick representative does when making a routine farm visit



Farmer-members were asked if they had requested a settlement from their hatchery in the last 6 quota periods and if so, how it was determined. Almost half (48.6 %) reported that they had requested a settlement from their hatchery in the last 6 quota periods. When asked how the amount of the settlement was determined, farmer-members provided a range of responses but the most

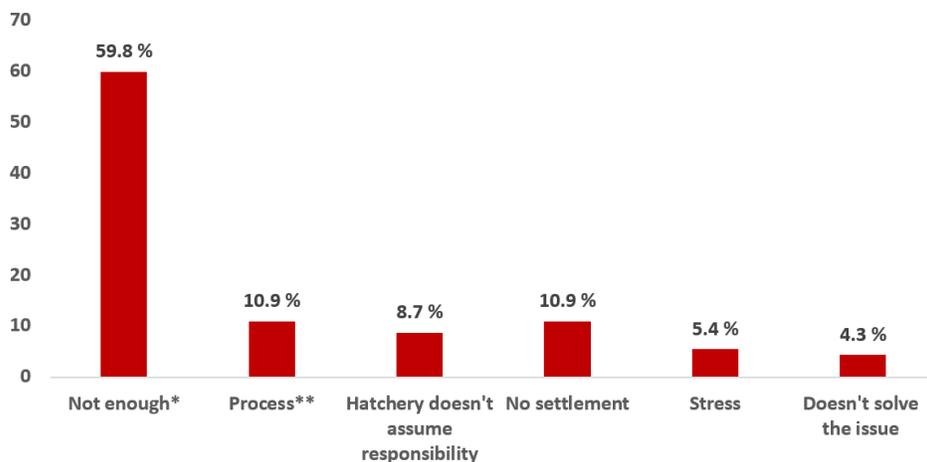
common response (39.4 %) was that it was based on the level of chick mortality. However, some farmer-members reported receiving compensation for treatment costs (15.9 %) or chick mortality + treatment costs (16.3 %). Just over 5 % of farmer-members reported that they had not received a settlement (6.7 %) or the settlement was not resolved yet (5.3 %). Results are presented in Figure 16.

Figure 16 – Farmer-member responses on how settlements with their hatchery were determined



Farmer-members who had requested a settlement were also asked if they were satisfied with the settlement. Just over half (54.4 %) of farmer-members said they were satisfied with their settlement. Those who were not satisfied with their settlement were asked to explain why they were not satisfied. Specific responses were not provided to survey respondents for this question. Farmer-member responses were categorized into one of six categories outlined below in Figure 17.

Figure 17 – Farmer-member responses on their reason for dissatisfaction with their settlement



Almost 60 % of farmer-members reported that they were dissatisfied because the amount was not enough. More specifically, the amount was not enough to cover lost productivity, the on-going costs of a poor flock or the extra labour and feed required. Close to 11 % of farmer-members reported that “process” was the reason for their dissatisfaction. More specifically, these responses were related to

the amount of paperwork and the length of time the settlement process takes. A small number of farmer-members (4.3 %) related their dissatisfaction to the fact that receiving a settlement does not solve the issue of poor chick quality.

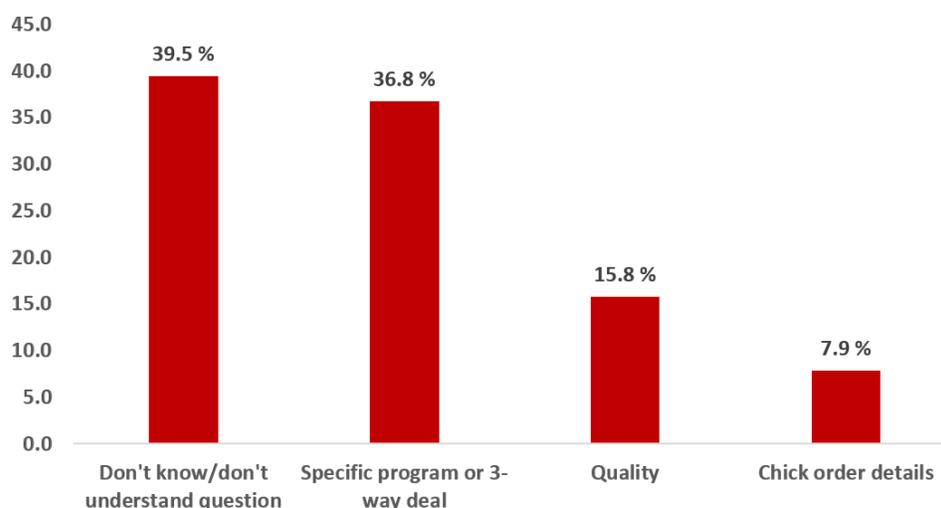
Farmer-members who reported dissatisfaction with their hatchery settlement were asked if they had notified OBHECC of their dissatisfaction. Almost 95 % of farmer-members said that they had not notified OBHECC. Lack of awareness (29.4 %) and trust in the process (20.6 %) were cited by ½ the farmer-members as the reason for not notifying OBHECC of their dissatisfaction. Various other reasons were cited and are summarized below in Table 4.

Table 4 – Farmer-member reasons for not notifying OBHECC of their dissatisfaction with their hatchery settlement

Reason	# of responses	% of responses
Awareness	47	29.4 %
No point	33	20.6 %
Rather deal with hatchery	10	6.3 %
Too much effort	10	6.3 %
Concerned about hatchery relationship	7	4.4 %
Problem not bad enough	6	3.8 %
Not resolved yet	5	3.1 %
No issues	42	26.3%

The final question asked of farmer-members in the Hatchery Service section was if they had a commercial supply agreement with their hatchery. Only 7.3 % of farmer-members reported that they have an agreement with the hatchery. When asked what the terms and conditions of their agreement was, approximately 40 % of farmer-members indicated that they did not know or did not understand the question. The remainder cited specific program or 3-way deal, chick quality or chick order details. Results are presented in Figure 18.

Figure 18 – Farmer-member responses on the terms and conditions of commercial supply agreements with their hatchery



Additional Information -

Farmer-members also had the opportunity to provide additional comments or suggestions on Chick Supply Optimization at the end of the survey. Two-thirds of farmer-members provided additional comments which can be summarized into the following categories:

- Chick quality and supply issues – 41.1 %
- Hatchery and processor issues – 27.7 %
- Satisfied with chick quality – 17.5 %
- Breeder flock issues – 6.7 %
- CFO-related – 5.8 %
- Brooding management – 1.2 %

These comments and suggestions were also reviewed to determine what other concerns were raised on chick supply optimization that had not been covered in the survey. Following is a summary:

- Chick supply assurance and supply shortage
- Quality-based pricing and high chick cost
- Chick transportation and placement issues
- Better breed selection
- Proper vaccination of breeder flocks
- Improved hatchery infrastructure and technology
- Hatchery personnel on-farm biosecurity non-compliance