Ontario

Pork News & Views

Prepared and Edited by the OMAFRA Swine Advisory Team

ONTARIO PORK

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Managing Water Intake

In 2017, on-farm best management practices were audited on a total of 24 farms throughout Canada as part of a national project titled From Innovation to Adoption: On-farm Demonstration of Swine Research. This article is part of an eight-part series reporting on these audits.

PRAIRIE SWINE CENTRE

Among nutrients, water is required in the greatest amount but quite often receives the least attention. Water intake of finisher pigs has been reported to range up to three times feed intake, depending on body weight and feed intake. However, most 'water intake' reported is in the form of water disappearance from drinkers, including water wastage, rather than water actually consumed by pigs. Previous work has shown finishing pigs can waste 25% of water from well-managed nipple drinkers, therefore opportunities exist to reduce wastage when flow rates are adjusted on a regular basis[1]. Actual on-farm water flow rates and nipple drinker heights were measured on 24 farms across Canada, representing each phase of production from gestation to finishing. Note that not all farms had nipple drinkers installed in each phase of production, for example, some producers solely relied on wet/dry feeders without an additional water source.

Table 1 outlines water flow parameters showing ranges measured for low, target, high, and very high values. Recommended flow rates should range between 1.0 to 2.0 L/min for farrowing and 0.5 to 1.0 L/min for all other phases of production, while the target range used in the analysis was expanded from 0.5 to 1.5 L/min for all areas other than farrowing.

Overall water management within audited farms varies across phase of production (Table 2). Generally producers do a better job in managing flow rates within Gestation (pens) and Nursery,

Table 1: Water Flow Rate Recommendations.

Category	Low (L/min)	Target (L/min)	High (L/min)	Very High (L/min)
Gilt Pen	< 0.5	0.5 - 1.5	1.5 - 2.5	> 2.5
Gestation	< 0.5	0.5 - 1.5	1.5 - 2.5	> 2.5
Farrowing	< 1.0	1.0 - 2.0	2.0 - 3.0	> 3.0
Nursery	< 0.5	0.5 - 1.5	1.5 - 2.5	> 2.5
Finishing	< 0.5	0.5 - 1.5	1.5 - 2.5	> 2.5

Prairie Swine Centre. 2000. Pork Production Reference Guide.[2]

Table 2: Measured Water Flow Rates – 24 audited farms.

Category	Low (0.5L/min)	Target (0.5 – 1.5 L/min)	High (1.5 – 2.5 L/min)	Very High (>2.5L/min)
Gilt Pen	5.1%	33.3%	56.4%	5.1%
Gestation	0.0%	59.4%	21.9%	18.8%
Farrowing	15.3%	38.9%	29.3%	16.6%
Nursery	15.2%	56.8%	19.0%	8.9%
Finishing	5.4%	29.3%	54.3%	10.9%

Table 3: Hypothetical water disappearance measurements.

Category	Low	Target	High	Very High
Measured Values**	5.4%	29.3%	54.3%	10.9%
Water Flow Rate (L/min)	0.5	1.0	2.0	2.75
Number of Pigs	324	1,760	3,260	655
Daily Water Disappearance/ Pig (L/pig)	7	7	14	19.25
Total Daily Water Disappearance/Day (L)	2,268	12,323	45,646	12,613
Daily Water Wastage (L/pig)	0	0	7	12.25
Total Daily Water Wastage (L)	0	0	22,823	8,026

*** Refers to the percentage of nipple drinkers that were measured in each respective category. A total of 24 farms were measured across Canada.*

where approximately 60% of the nipple drinkers measured met the target flow rate. The challenge is in Finishing, where approximately two-thirds of nipple drinkers provide flow rates in excess of pig's requirement, with 11% of nipple drinkers being rated very high (>2.5 L/min).

Economics

Table 3 represents a hypothetical situation of a 6,000-head finishing barn. In this case, if 100% of the nipple drinkers were adjusted to recommended flow rates (1L/min) water disappearance would be 42,000 L/day for the facility. However, as shown in the example in Table 3, only 29.3% of nipple drinkers would have been optimally adjusted. For this scenario, we can assume that any water disappearance above the rate of 7 L/day could be avoided. Therefore, the daily water disappearance would increase by 70% (or 30,800 L) to reach a total disappearance of 72,800 L/day. The direct cost of water wastage (30,800 L) associated with manure disposal would translate into approximately $119/day or $41,500 per year if the previous assumptions were met.

Assumptions

6,000 head finishing barn
Average daily water consumption per pig - 7L/day
Duration of finishing period – 350 days/year (18 weeks/batch)
Manure application cost - $0.0175/gallon or $0.00385/litre

The previous example provides potential savings for a hypothetical site; every producer should take the opportunity to assess potential savings related to manure disposal, water use, and pumping costs on a regular basis for their operation.

Category	L/Day
Calculated Water Disappearance	72,849
Target Water Disappearance	42,000
Water Wastage	30,849
Additional Manure Disposal Cost/Day	$119

Conclusion

Finishing pigs can maintain adequate water intake from a variety of drinker types, however water waste from drinkers can be very different depending on drinker type and management. Research has shown well-managed nipple drinkers can help reduce water waste to the same level as bowl drinkers.[1,3] Finally, ensure you regularly check water flow rates, as this will determine time spent at the nipple, water intake and water wastage. Too little is just as costly as too much when it comes to flow rates.

For Further Reading

[1]*Water Usage and Wastage from Nipple Drinkers (English) http://www.prairieswine.com/water-usage-and-wastage-from-nipple-drinkers/*
[2]*Pork Production Reference Guide (English) http://www.prairieswine.com/wp-content/uploads/2010/07/2000_Prairie_Swine_Reference_Guide.pdf*
[3]*Effects of nipple drinker height and flow rate on water wastage in grower and finisher pigs (English) http://www.prairieswine.com/reducing-water-wastage-from-nipple-drinkers-by-grower-finisher-pigs/*
[4]*Recommended Flow Rate & Height of Nipple Drinkers (English) http://www.prairieswine.com/recommended-flow-rate-height-of-nipple-drinkers/*
[5]*A Checklist for Water Use (English) http://www.prairieswine.com/a-checklist-for-water-use/*

Ken Engele
Prairie Swine Centre
ken.engele@usask.ca

Maximizing Performance of Sow Lactation

The following is a summary of Chantal Farmer's presentation at the London Swine Conference held on March 26 and 27, 2019. Dr. Farmer is a research scientist with Agriculture and Agri-Food Canada in Sherbrooke, QC.

Growth of suckling piglets is highly dependent on milk and colostrum production from the sow. Stimulating mammary glands can be used to improve milk production in sows. Changes in diet that can stimulate hormonal production need to be contemplated. One third of sows cannot produce sufficient amounts of colostrum for their entire litter. Therefore, it is crucial that attempts are made to improve sow lactation performance. Once a sow's lactation starts, prolonging the colostrum to provide more essential immunoglobulins and bioactive nutrients is very important. A recent study shows that one injection of a high dose of oxytocin to the sow in the 12 to 20 hours following birth can prolong the colostral phase (see below for details).

Feed restriction after 90 days of age until puberty will negatively affect mammary development, so feeding in un-restricted amounts, including feeds with certain plant extracts that provide estrogenic or hyperprolactinemic properties will aid in stimulating mammary gland development. Dietary supplementation with 10% flax seed beginning on day 63 of gestation until weaning had effective results on mammary development in the female offspring of the treated sows at puberty. This proved interesting because it shows that there is an in-utero effect and demonstrates that there are ways to stimulate mammary development in gilts. More dietary changes that can enhance mammary development is shown in Table 1. Changing body composition during pregnancy by converting their protein and energy intakes is very important. If a gilt is carrying too much extra weight

Table 1: Enrichment options.

Treatment	Treatment period	Effect on parenchyma	References
10% flaxseed	In utero (day 63 gestation to end lactation)	31%↑ parenchymal weight	Farmer et al. (2007)
2.3 g/day of genistein (to ↑estrogens)	90 to 183 days	44%↑ parenchymal cell number	Farmer et al. (2010)
Ad libitum feeding vs. 25% feed restriction	90 days to puberty	46%↑ parenchymal weight	Sorensen et al. (2002)
Ad libitum feeding vs. 20% feed restriction	90 days to puberty	36%↑ parenchymal weight	Farmer et al. (2004)
Ad libitum feeding vs. 33% feed restriction	90 days to 5½ months	52%↑ parenchymal weight	Sorensen et al. (2006)
24 vs. 36 mm BF[1] at end of gestation via changes in energy and protein	Gestation	240%↑ parenchymal cell concentration	Head and Williams (1991)

BF = backfat thickness

(36 mm backfat) or is underweight (12 to 15 mm backfat) this can negatively affect the development of mammary tissue. Maximizing feed intake during the first lactation is crucial; sows who are fed either more protein (65 vs. 32 g of lysine/day) or more energy (17.5 vs. 12 Mcal ME/day) will have an increase in mass of functional mammary gland development

A project was carried out at the Sherbrook Research and Development Center of Agriculture and Agri-Food Canada that studied 61 primiparous sows to compare lactation lengths of 2, 7, or 21 days in first lactation. In the second parity, the effects of treatment on piglet growth and milk composition was determined. In both lactations the litters had 12 piglets of average body weight within 12 hours of farrowing. Only 12 teats were made available to the piglets and surplus teats were taped. During the second lactation, the same 12 teats were made available and the litters were weighed at birth and on days 2, 7, 14, 21, 31 and 56. The piglets were weaned on day 21 of lactation to measure dry matter, fat, protein and lactose contents. Most know that if a teat is not sucked in the first lactation, it will produce less milk in the second lactation, but Farmer's question was, how long the teat must be sucked in order to avoid lower production later on? The study found that if a teat is suckled for just 2 days in the first parity, the milk yield will not decrease in the second parity. This was shown by sows who have a 21 day lactation in first parity, consuming more feed in the first week of the second lactation, but not maintaining that consumption rate in later lactation. This was found to not be associated with a greater piglet growth rate or changes in milk composition. Therefore, there is no advantage to leaving piglets for more than 2 days on a teat in terms of milk yield from that teat in the next parity.

Farmer considers colostrum the elixir for life for newborn piglets. Colostrum contains hormones, growth factors, enzymes, vitamins and minerals; it is the sole source of energy for piglets and also provides passive immunity from the mother via the transfer of immunoglobulins. All of these things are essential for proper development of the piglets. The lacteal secretions that are produced approximately 24 hours following the birth are considered colostrum, then it becomes transition milk until 72 hours postpartum, at which time it becomes milk. The difference between the three is the significant changes in milk composition such as decreased protein, immunoglobulins and growth factors. Fat, lactose and energy content is increased. The amount of colostrum produced by each sow varies and is affected by circulating concentrations of various hormones. Oxytocin plays an important role in milk quality and early lactation by affecting the amount of space between mammary cells and delaying the tightening of junctions between mammary epithelial cells, therefore allowing more large molecules such as immunoglobulins to pass directly from the sow circulation to the colostrum.

A further study was conducted at the Sherbrooke Research and Development Centre of Agriculture and Agri-Food Canada to test how oxytocin prolongs the colostral phase in sows. Twenty Yorkshire X Landrace sows of second parity

were divided into two treatment groups where they received either saline injections or a very high dose (75 IU) of oxytocin 4 times in early lactation. Eight hours after the first oxytocin injection they saw differences in the milk composition due to the treatment. The milk – post treatment contained more proteins, immunoglobulins G and A, IGF-1 and energy compared to the milk from the sows with the saline injections. These differences were transitory because they were no longer present on day 4 of lactation. The weight gain of the piglets did not have any drastic changes between treatment groups, although there were lower rates of pre-weaning mortality in litters from sows who received oxytocin. Farmer added that the number of litters used was not large enough to be able to draw any conclusions as to the effect of treatment on animal performance. Consult your veterinarian before making changes to your oxytocin protocols.

Farmer concludes by mentioning that nutrition of prepubertal and late pregnant gilts will affect their mammary development. However even though advances were made in understanding the nutritional control of mammogenesis in pigs, much remains to be learned before the best nutritional strategy to enhance mammary development can be determined.

You can refer to the London Swine Conference Proceedings to find the full article by Chantal Farmer. Proceedings can be found at www.londonswineconference.ca.

If you would like to watch presentations from the London Swine Conference, videos will be uploaded in the near future to the London Swine Conference YouTube channel. Find the link at the website above.

Summarized by:
Ava Lass
Summer Livestock Assistant, Swine

OPIC Career Days

Ontario Pork Industry Council (OPIC) is hosting three career days this summer:

HR – Legal Rights and Responsibilities
Review of agricultural employment regulations, employees & technology, terminating employees
Monday June 10, 2019, Exeter Arena, Exeter Ontario, 1:30-4:00pm
$25.00 per person or $20.00 for OPIC members

Health and Safety Days
Ministry of Labour, WHIMIS, barn fire safety, rural property rights, fire extinguisher training, animal & people safety. Both Health and Safety days are the same content.
Wednesday July 10, 2019, Waterford Community Center, Waterford Ontario 9:00am-4:00pm
Tuesday July 16, 2019, St. Joseph Catholic Church, Parish Hall, Listowel Ontario 9:00am-4:00pm
$50.00 per person or $40.00 for OPIC members

The career days are suited to farm managers, barn managers and barn employees. Participants will be provided with everything needed to complete the course, and a lunch. **Registration is required as there are limited spots available**.

To Register Contact Donna Kaczmarczyk: **Tel:** 519-272-1532 **Fax:** 519-272-2215 **Email:** dkaczmarczyk@southwestvets.ca. Watch the OPIC website for more Career Days to be posted: www.opic.on.ca.

A Report on Previous Seminars

For some time the Ontario Pork Industry Council careers team has acknowledged that human resources and training for Ontario hog farms was an item of interest and importance. OPIC has been working on ways to determine the best steps moving forward to help support and provide the industry and its producers with helpful resources. The team was challenged to narrow the scope of the training, take the issues step by step, and let the courses progress naturally with open conversation.

The first seminar held for the HR Speaking series was mainly focused on Temporary Foreign Workers. This session had industry experts present on the process, best practices and first hand experience with the TFW program. The OPIC careers team has also created a guide booklet available to all participants.

The remainder of the previous HR Speaking series were focused on employee recruitment and management support for producers and industry partners. Two of the speaking sessions were focused on employment retention and managing employees. Industry leaders presented their best practices for keeping and attracting top candidates. The meetings also discussed processes for terminating employment and dealing with challenging employees.

The "Legal rights and responsibilities" seminar was a slightly different session where an agricultural employment lawyer outlined the requirements under the seven existing regulations, using examples of real life situations where the employment act applies to agriculture. Participants also received a Manual on all the employment regulations that apply to the pork industry – this collaboration between Ontario Pork and OPIC last year provided a great level of resources for Ontario

pork producers.

The "Health and Safety" series was a full day event that was created to cover a wide variety of concerns and training for barn managers and owners. The sessions included the Ministry of Labour training, WHIMIS certificate training, fire extinguisher hands-on demonstration, barn fire safety and prevention, rural crime and property protection, and finally animal and human health concerns in the barn. It was a jam-packed day and both days were sold out last year and will be offered again this coming year.

Feedback from the Health and Safety training days identified that First Aid emergency training would be very useful for Ontario pork producers. OPIC has now worked with a first aid trainer to create a "hog specific" emergency first aid training program and has certified 59 people so far this year.

With information from Andrea DeGroot, OPIC. For more information visit www.opic.on.ca

Toys for Group Housed Sows

Both the Code of Practice for the Care and Handling of Pigs and the new Canadian Pork Excellence program require that pigs of all production stages be provided with enrichment. In 2018 we included two different articles on enrichment for pigs in Pork News & Views; the first in August 2018 called "Environmental Enrichment to Improve Pig Health and Performance" and the second in December 2018 called "Enrichment for Nursery Pigs". I highly recommend reading these previous articles if you have not yet done so!

As producers and industry representatives have become more aware of enrichment requirements, and more commercial products have become available as 'pig toys', we began receiving questions such as "what is the best enrichment option for my pigs?", "can I use commercial pig toys with group housed sows?" and "how long do commercial pig toys last?".

Every barn is different, and what works for one may not be the best option for another. Producers need to evaluate all possible options and determine what they would prefer to use. For example, natural items such as wood blocks can make great enrichment items for sows, but they can also cause some splintering and could potentially end up in the manure pit or caught in the sows' mouth. Many producers use wood successfully, whereas others have had issues. Other natural options include rope or burlap, which pigs of all ages love! However, as pigs can be quite destructive, they do not last very long (although they are much cheaper than commercial toys). Since natural items tend to not last very long, many producers are considering the use of commercial toys. They cost more but may last longer.

We couldn't find a lot of information on commercial toys for group housed sows, so we decided to test a few different ones out on farm. With the help of a South Western Ontario producer, and donated toys from several different companies, we installed commercial toys into a sow barn with electronic sow feeding and monitored how long the toys lasted, general interest levels in the toys, and if there were any challenges encountered with the different toys. Table 1 shows the different toys that were installed in the barn.

The barn had 2 large group pens, 150 gilts in one pen, and 240 sows in another. In addition to that, we also used a few smaller pens containing 10 gilts or sows located beside the large group pens. The farm has Topigs sows and DNA semen and a Nedap ESF system. Three toys were suspended in the large sow pen, and 2 toys were suspended in the smaller gilt pen, all in open areas of the pens away from feeders and drinkers. Single toys were suspended in the small pens, with 2 toys suspended in the gilt training pen (one on each side of the ESF training system).

Toys were suspended from ceiling trusses using ¼ inch zinc chain, 4" eye screws (5/15") and ¼" quick links. Toys were attached to 2' of chain using a quick link. This was then attached to 5' of chain hanging from the ceiling. By using a quick link 2' above toy height, the toys could easily be adjusted up or down, and removed if needed, without having to reach the ceiling. Shortly after the trial began, quick links at toy level and mid-chain were replaced with carabiner style clips, as sows were able to loosen the quick links easily. Approximate cost for the hanging setup (chain, eye hook and links) was $28 per toy, which is reusable long-term.

Barn staff were asked to observe interactions with the toys daily and keep records of how long the toys lasted. They were also asked to record any challenges they came across with the toys.

Results:

Bite-Rite Blue: This toy was installed in the large sow pen, as well as in one side of the gilt training pen. The sows used this toy and groups were observed interacting with it multiple times daily. When it was first installed, the chew sticks lasted about 3 weeks, at which point they were replaced. When replaced, they lasted only 2 days, as the sows had figured out they could easily destroy them. The cone itself held

up well throughout this time, but barn staff were worried if there were no chew sticks left, the cone wouldn't hold up for long.

Porky Play: This toy was originally installed in a small pen with approximately 10 sows, as well as in the gilt training pen. Barn staff noted that the pigs were not interacting with this toy very often, possibly due to lack of space in the pens for pigs to play properly. The toy was then moved to the large sow pen where it held up well; however, barn staff reported it was used less frequently than some of the other toys available to them. The sows did play with the chain hanging below (attached to) the toy.

Tri-Star: This toy was installed in the large gilt pen. Within the first hour of putting the toy in the pen the gilts were able to remove all of the chew sticks from the central disc. The barn staff decided to leave the chew sticks off of the toy as they didn't want them ending up in the manure pit. The gilts regularly interact with the disc portion of the toy and the chains hanging from it. Sows can chew and bite the toy, and at the time of writing this article it has held up for 3.5 months and is still in good condition.

Yellow Ball: This toy was hung in the large sow pen. The toy comes with a plug at the top, but we drilled a small hole in the bottom and then used airplane cable to create a hanging system through both of the holes, which was attached to the chain above. For the first week or so the sows were very interested in the ball, as they could toss it up in the air and play with it as a group. Over time interest levels decreased, likely because they could not chew or bite it. However, there were always some pigs that still played with it. At the time this article was written the ball was in great shape, 3.5 months after it was added to the pen.

Small Ball (Anti-Bite Ball): This toy was hung in the large gilt pen, and it came detached from the chain within the first hour of hanging. The staff re-tightened it and it has remained in place ever since (3.5 months so far). The usage for this toy is about the same as the yellow ball and Tri-Star toys, used moderately by the gilts. The gilts are able to put the entire ball into their mouth and chew it. The rubber has gradually decreased in size, but there are no signs of cracking or destruction, and there is still plenty of ball left.

Easyfix Astro: This toy was hung in the large sow pen. According to the barn staff, this was the toy that got used the most. The toy lasted about 1.5 months before the sows has completely chewed off the rubber projections. The eye hook that the toy came with needed to be bigger and longer with a lock nut in order to successfully hang it without it coming off, something that was easily fixed on farm.

Easyfix Luna 142: This is the only toy that we tried that wasn't suspended from the ceiling. We put one in with a boar located in the boar station,

Table 1: different commercial toys that were installed in the group housed sow barn

			
Toy Name	Bite-Rite Blue	Porky Play	Tri-Star
Toy Description	Hanging plastic cone with replaceable rubber chew sticks. Blue size designed for finisher pigs.	Hanging plastic toy with antimicrobial protection. Available in different scents.	Hanging plastic disc with replaceable chew sticks.
Donated By	Glass-Pac	Ketchum Manufacturing	Farmers Farmacy
Retail Price*	Toy = $44 Sticks = $6.21	$21.95	Toy = $21.95 Sticks = $1.75

**Prices may vary from those listed in table*

and the other went into the large sow pen. The sows and boar all actively played with it, however in the group pen only one sow could play with it at a time, so the barn staff preferred the hanging options as more sows could interact with the toys. The Luna lasted for about 3 months in the sow pen. There were two challenges that occurred with the Luna. First, the toy would occasionally get stuck at the window of the boar station, and when sows went to play with it they were being detected as in heat due to their tags being in the RFID zone. Second, sows figured out that they could put the toy in the door of the ESF feeder to keep it open, creating issues with the ESF feeding system.

Future Cow Calf Ball: This toy was hung in the large sow pen. There was very little interest at all in the toy, and thus the barn staff removed it and hung one of the other toys in its place. The sows were also able to remove the toy from the chain (which also happened when we hung this toy in a finisher pen on another farm).

General Observations: When the toys were first installed the sows couldn't leave them alone. With multiple different toys in each pen, we watched sows go from one to another to check them all out. Over time interest levels decreased slightly in the toys, but each time a member of the OMAFRA swine team visited the farm there was at least 1 sow playing with each toy. In general, we found that sows and gilts preferred toys with chewable projections over balls or discs, but the balls and discs were also used regularly. The sows liked to be able to get their mouth around the toy to chew it. The barn staff and farm owner were happy with the reaction of the sows to the toys and will continue to monitor durability on the toys that were still in tact after 3.5 months.

So, which toy is best? That is a tough question to answer! We found that sows played with all of the toys offered to them. Some lasted longer than others, which could be due to the level of interaction and the nature of the shape of the toy. Some of the toys are designed to be chewed and destroyed, whereas others are meant to last longer. We recommend that if you are considering commercial toys for your sow barn, get a few different ones and give the sows some options on which they want to play with!

Acknowledgements:
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For more information, contact:
Laura Eastwood,
OMAFRA Swine Specialist
laura.eastwood@ontario.ca
226-921-5819

Table 1: (continued)

				
MS Schippers Yellow Ball	MS Schippers Anti-Bite Ball	Easyfix Astro	Easyfix Luna 142	Future Cow Calf Ball
30 cm polyethylene plastic ball which can be hung or filled with sand and used on the ground.	Small polyurethane rubber ball that can be hung or mounted.	Natural rubber suspended toy designed for finishing pigs and sows.	Natural rubber spiked ball designed to go on the floor o the pen. Green size designed for finishing pigs and sows.	Extra strength vinyl suspended ball designed for group housed calves.
Farmers Farmacy	Farmers Farmacy	Easyfix	Easyfix	Easyfix
$19.95	$11.50	$31	$51	$120

Ontario

Swine Budget – April 2019

Compiled by Jaydee Smith, Swine Specialist, OMAFRA *jaydee.smith@ontario.ca*

Income ($/pig)	Farrow to Wean	Nursery	Grow-Finish	Farrow to Finish
Market Pig @ 101% of Base Price $193.73/ckg, 110 index, 103.38 kg plus $2 premium				$224.51
Variable Costs ($/pig)				
Breeding Herd Feed @ 1,100 kg/sow	$13.80			$15.13
Nursery Feed @ 33.5 kg/pig		$16.78		$17.69
Grower-Finisher Feed @ 283 kg/pig			$85.59	$85.59
Net Replacement Cost for Gilts	$2.78			$3.05
Health (Vet & Supplies)	$2.16	$2.10	$0.45	$5.03
Breeding (A.I. & Supplies)	$1.80			$1.98
Marketing, Grading, Trucking	$0.90	$1.50	$5.76	$8.33
Utilities (Hydro, Gas)	$2.35	$1.38	$2.13	$6.17
Miscellaneous	$1.00	$0.10	$0.20	$1.40
Repairs & Maintenance	$1.26	$0.61	$2.15	$4.19
Labour	$6.27	$1.85	$4.00	$12.83
Operating Loan Interest	$0.31	$0.40	$1.32	$2.09
Total Variable Costs	**$32.64**	**$24.73**	**$101.61**	**$163.46**
Fixed Costs ($/pig)				
Depreciation	$4.22	$2.04	$7.18	$13.95
Interest	$2.36	$1.14	$4.02	$7.81
Taxes & Insurance	$0.84	$0.41	$1.44	$2.79
Total Fixed Costs	**$7.42**	**$3.59**	**$12.64**	**$24.55**
Summary of Costs ($/pig)				
Feed	$13.80	$16.78	$85.59	$118.41
Other Variable	$18.84	$7.95	$16.01	$45.05
Fixed	$7.42	$3.59	$12.64	$24.55
Total Variable & Fixed Costs	**$40.06**	**$28.32**	**$114.24**	**$188.02**

Summary	Farrow to Wean	Feeder Pig	Wean to Finish	Farrow to Finish
Total Cost ($/pig)	**$40.06**	**$70.01**	**$144.08**	**$188.02**
Net Return Farrow to Finish ($/pig)				**$36.49**
Farrow to Finish Breakeven Base Price ($/ckg, 100 index) includes 101% Base Price & $2 Premium				**$161.96**
Farrow to Finish Breakeven Base Price ($/ckg, 100 index) excludes 101% Base Price & $2 Premium				**$165.34**

This is the estimated accumulated cost for a market hog sold during the month of April 2019. The farrow to wean phase estimates the weaned pig cost for November 2018 and the nursery phase estimates the feeder pig cost for January 2019. For further details, refer to the "2019 Budget Notes" posted at http://www.omafra.gov.on.ca/english/livestock/swine/finmark.html.