



Reducing Water Consumption in Nursery Barns

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Results indicated an average reduction in water disappearance of 33 % when using water bowls compared to conventional nipple drinkers. One of the expected benefits is a significant reduction in manure production.

This article presents the results obtained from an on-farm demonstration activity carried out in a nursery barn in Quebec by the CDPQ (Centre de développement du porc du Québec). A similar project was also carried out in a finishing barn in Saskatchewan by the Prairie Swine Centre. Results obtained from the finishing barn are presented in another article. A project was conducted to validate the effectiveness of water bowls in reducing water wastage in nursery barns. A demonstration site was setup in Inverness, Quebec, where water bowls were compared to (adjustable) nipple drinkers already installed on the farm.

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The difference in water disappearance between drinker types was significant, with results indicating an average reduction in water disappearance of 33 % when using water bowls compared to conventional nipple drinkers. Specifically, average water disappearance was 3.82 l/pig/ day and 2.56 l/pig/day for nipple drinkers and water bowls respectively. For all batches, a reduction between 24 % and 52 % in water disappearance was observed.

Additionally, pig growth performance was not influenced by the watering system used. All piglets were homogenous regardless of the watering system.

Project details

In order to obtain accurate measurements of water disappearance, mechanical water meters were installed in the nursery. A technician assisted the producer in installing the water bowls, fittings and meters in the pens, as well as maintaining and collecting data from the water meter.

Water disappearance of eight batches of pigs in the nursery was evaluated (88 pigs/room distributed in eight pens measuring 4' X 8') between April and December 2017. Pigs remained in the nursery for approximately 6 weeks where they entered at an average weight of 7 kg and exited at 34 kg.

In order to compare the drinking systems under the same room conditions, water bowls were installed in two rooms of eight pens total. Water bowls were installed in four pens in each room, while the four other pens remained unchanged, equipped with nipple drinkers.



Photo: Water-saving bowls, Model TABR1000 (IEL)

This on-farm demonstration project was inspired by a research project focused on water conservation strategies¹ in growing finishing pigs. That research project was carried out by Bernardo Predicala's research team at the Prairie Swine Centre (Saskatchewan). Results indicated nipple drinkers with side panels and troughs with side panels significantly reduced water wastage during the growerfinisher period. A demonstration site was established in order to see if, in nursery, water wastage could be reduced by using water bowls and gather feedback from producers on the use of these systems.

Positive results, but validate needed

Overall, results from this demonstration site reinforce water bowls significantly reduce water wastage compared to nipple drinkers. One of the direct benefits being a significant reduction in the amount of manure produced.

On the other hand on-farm manure management must be taken into consideration to ensure that the potential changes triggered by the new watering system are well managed. Reducing the amount of water wasted could produce more solid manure, which in the long run could lead to complications in manure removal. Therefore, the risk of sedimentation must be properly assessed.

Although results are significant, further commercial on-farm assessments should be conducted, throughout an entire year, considering all seasons. These new tests would also make it possible to document the variations observed.



Above: mechanical water meter (Model M25 made of polymer, diameter of 5/8" X ¾" (Les compteurs d'eau Lecomte Itée))

Producer Feedback

Of course, the producer's appreciation of the equipment is also important.

According to Sylvain Pomerleau, "The project went well. I made the decision to keep the water-saving bowls once the project ended because the system works well. I noticed a reduction in water wastage and the growth of my piglets was not affected. I do not see any problems with the performance of my pigs."



Mr. Sylvain Pomerleau, Ferme Pomerleau et frères, Inverness, Quebec



Photo: Piglets in the nursery

A responsible agricultural sector, concerned with natural resources

Responsible use of water and resources is necessary for all agricultural sectors, both from an environmental and a cost perspective. Reducing water wastage is important for all pork producers. Not only does it reduce costs associated with manure application, it also reduces the area required to spread manure for each production unit.

For Further Reading

¹Developing Strategies for Water Conservation for Producers http://www.prairieswine.com/developing-strategies-for-waterconservation-for-producers/

For more information on this project, please contact Ms. Geneviève Berthiaume, at the CDPQ: gberthiaume@cdpq.ca

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From Innovation to Adoption: **On-farm Demonstration of Swine Research**

The demonstration activity presented in this article was conducted within Swine Innovation Porc's (SIP) Swine Cluster 2 research program. One of the objectives of this program was to accelerate the speed of adoption of new technologies and strategies by end-users : Canadian hog producers.

The results of other on-farm demonstrations carried out within the framework of the SIP program are availbale on CDPQ's website (www.cdpq.ca). Visit the "Research and Development/Technology Transfer" section for more information.

















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