

# A Survey of Best Management Practices of Swine Farms Across Canada

## Part 2



Ken Engele, BSA, P.Ag.  
Prairie Swine Centre

As a follow up to the to the article in the previous edition of Centred on Swine (Volume 31, Number 2) this article will continue to focus on the adoption of best management practices; and how we are doing as an industry. As stated before, feed cost garner most of attention and rightly so, however we should not lose focus on those things that we do on-farm daily to ensure we are optimizing each phase of our farms. Day-to-day activities can be lost in

all the noise of everything going on in the barn. Ensuring we are doing all the little things right everyday add up to bigger savings than you might think possible.

### How are we doing as an industry?

Two projects funded by Swine Innovation Porc and carried out by Prairie Swine Centre (PSC) and Centre de développement du porc du Québec (CDPQ) examined the adoption of best management practices on farms throughout Canada. The first project audited 24 farms across Canada (2018), with a minimum of two farms in each province, consisting of a questionnaire and an on-site visit. The second project focused on a survey (2023) of pork producers, throughout Canada, of various best management practices implemented in their operations.

Each project had good representation of size and type of operations across the industry. Size of operations ranged from 300 to 6,000 sows, while farrow-to-finish and farrow-to-wean operations represented approximately 80% of respondents, with the balance being wean-to-finish operations. Focus of each project was similar. Each focused on best management practices looking at biosecurity/herd health, feed/feeder management, and personal protection, water use/management, in addition to each phase of production (breeding, gestation, farrowing, nursery, and grower-finisher). We analyzed the results from

each project, measuring the change in the adoption of best management practices across projects.

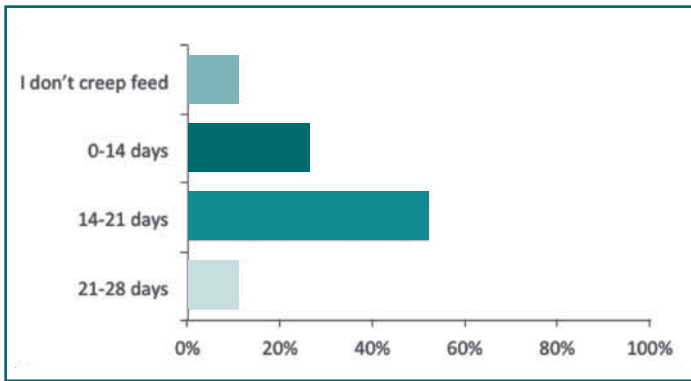
### Personal Protection

Ensuring a safe work environment is the responsibility of every employer and one that the Canadian pork industry takes seriously. Results in Table 1 indicate pork producers are committed to providing the safest workplace possible for their employees. Audit results indicate that dust masks, hearing protection and hydrogen sulphide (H2S) monitors are being used to varying degrees in on farms across Canada.

While all farms that use H2S monitors use them for pit pulling, it is very important to use them in other key day-to-day activities where H2S could arise. Situations includes power washing and entering the manure transfer station; research indicates that H2S concentrations can exceed acceptable limits any time manure is disturbed. Locations of peak H2S concentrations vary within the room, and vary over time. Therefore, it is essential monitors be provided to all swine barn workers at these key times as H2S may be present in higher than anticipated concentrations. While approximately 60% of participating farms offer H2S training, it is very important that recertification does not get lost in day-to-day activities. Training and standard operating procedures should be provided, at least every three years, so workers can learn how to deal with routine operation and emergencies generating high H2S concentrations.

**Table 1. Level of adoption of selected personal protection management strategies.**

Category	Compliant	Somewhat compliant	Not compliant
Are dust mask used in the facility? It is recommended to use dust masks in the facility.	83 %	0 %	17 %
Is hearing protection used in the facility? It is recommended to use hearing protection in the barn.	100 %	0 %	0 %
Are hydrogen sulphide monitors used in the facilities? It is recommended to always use hydrogen sulphide monitors in the facility.	0 %	50 %	50 %
Do you provide training on hydrogen sulphide awareness? It is recommended to provide training regarding hydrogen sulphide awareness.	54 %	4 %	42 %
Do you provide animal handling training? It is recommended to provide animal handling training.	75 %	4 %	21 %



**Figure 1. Average age for creep feeding in farms across Canada.**

### Creep Feeding

Creep feeding is a common practice in swine production, with approximately 90% of farms indicating that they provide creep feed (Figure 2). Most producers generally implement creep feeding 5-7 days prior to the anticipated weaning date. There are a number of perceived benefits including provision of nutrients, higher weaning weight, and improved transition at weaning, however the benefits of creep feed exist when pigs eat the feed. Intake of creep feed is usually low and highly variable among pigs with approximately 30-50% eating creep feed. It is generally higher in smaller piglets with little to no intake observed in larger piglets. The achieved benefit of creep feeding on growth performance in the suckling and/or nursery period remains inconsistent. Finding new or proven strategies to increase the consumption of creep feed is essential on whether or not utilizing creep feed is important to your operation.

Other work has demonstrated the benefits of providing creep feed is related to enhancing exploratory behaviour in piglets (i.e., allowing natural rooting behaviours) and exposure to feed in a dry form than provision of nutrients. Therefore, it is possible that providing expensive creep diets is not necessary to achieve the benefits of creep feed on weaning weight and overall performance, and that simple diets such as a typical lactation diet, would be sufficient. Creep feed is the most expensive diet used in pig production, costing between \$600-1800/tonne. Identification of less expensive alternatives would help to reduce production costs.

Research has shown that piglets visit tray feeders more frequently compared to the standard feeder. In addition, the different presentation of creep feed appeared to increase the percentage of piglets per litter showing evidence of creep feed consumption. A large tray feeder that encourages social feeding and foraging is more effective at attracting piglets to creep than a standard feeder. The manner, in which we utilize creep feed (to attract piglets), can be improved as a whole (Figure 3) as approximately 40% of respondent use some type of tray feeder.

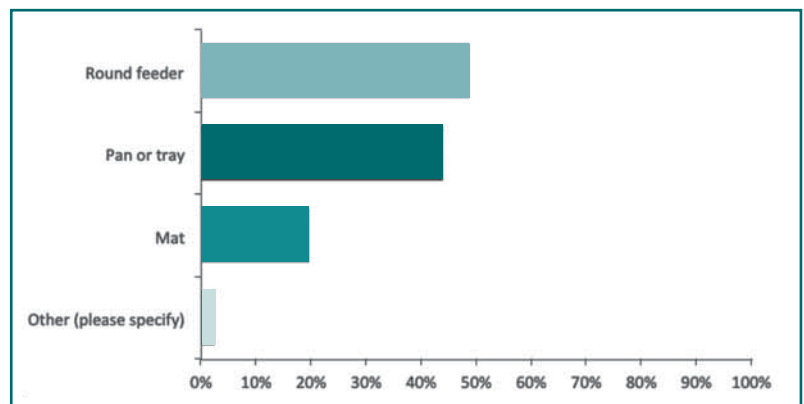
Results from the survey indicate costs associated with creep feed range from \$600-\$2,000/mt. However research indicates that overall there appears to be little benefit of providing creep feed in general or of providing complex, expensive creep feed. Specifically work at PSC indicates piglets showed no preference for simple or complex creep feed. In addition, there was little impact of provision of creep feed on pre-weaning performance, with increased ADG only in the final week pre-weaning. While there was a slight benefit to providing creep feed on growth performance in the first week post-weaning, there was no benefit at the end of the nursery.

### Sorting Pigs

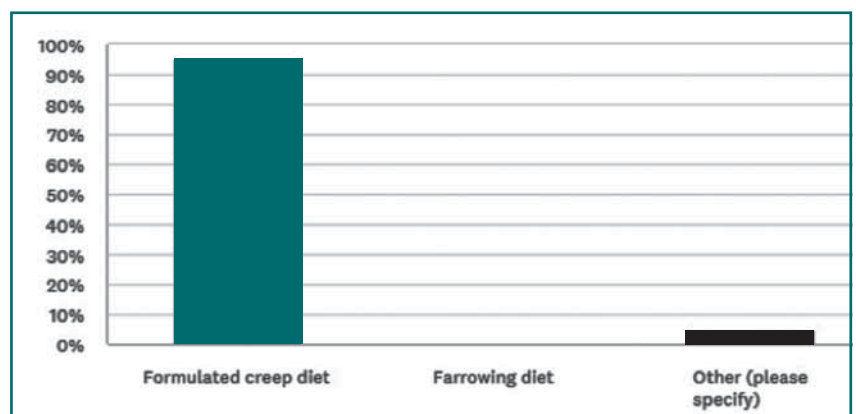
The majority of grower-finisher systems are based on ad libitum feed and water intake. Although access to feed or water may be temporarily limited by another pig, all pigs are able to obtain as much of these resources as they want. As the number of pigs per feeder space increases, pigs adapt their eating behaviour to reduce the effect of this restriction. Pigs increase their rate of eating (gram/min), and decrease their total duration of eating (min/day) when feeder-stocking density (pigs/feeder space) increases. As long as they are able to obtain adequate amounts of feed, dominant pigs respond by eating more quickly rather than increasing their defence of the feeder.

Reducing the floor space allowance of pigs is known to reduce feed intake and average daily gain. When housed in crowded

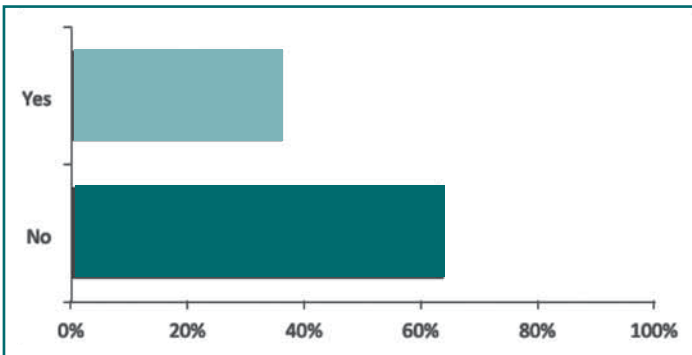
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**Figure 2. Types and adoption of different types of creep feeders used on farms in Canada.**



**Figure 3. Different types of diets used for creep feeding.**



**Figure 4. Percent of pigs sorted by size entering the finishing phase**

conditions, there is a loss in productivity for at least part of the feeding period. The impact of crowding, results in depressed production across all social groups, and is not affected by dominance. Research conducted at Prairie Swine Centre studied the impact of sorting pigs as they enter the grower-finisher phase.

Results from the audit indicate that approximately half of participating farms sort pigs when transferred into the finishing barn. There are multiple factors to consider when deciding to sort or not at this phase. Research indicates that finisher pigs fed ad libitum do not benefit from sorting. However, sorting on the basis of nutritional needs can be effective in cases such as split-sex feeding, as well as for newly-weaned pigs, in order to provide the best diets to each group.

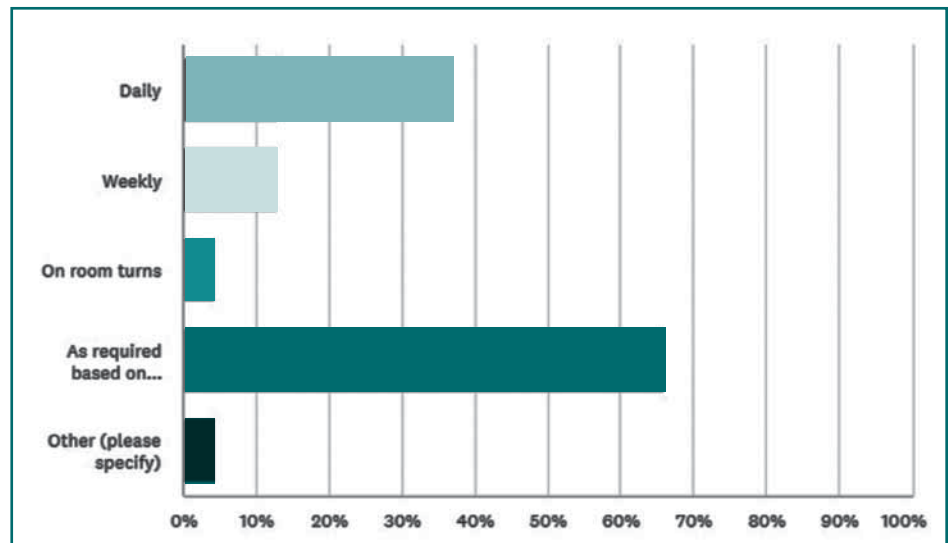
### Feeder Management

As any livestock producer knows, feed costs are always the single biggest factor representing 60-70 percent of the total cost of production. Starting in 2021 widespread dryness seen throughout western Canada resulted in record high feed costs for many producers. Residual effects of these high grain prices carried throughout 2022 and well into 2023. Grain prices increased significantly with wheat and barley prices close to doubling the values seen in the fall of 2020. While we see continued weakness well into 2024 we shouldn't lose sight of the importance daily tasks can have on profitability.

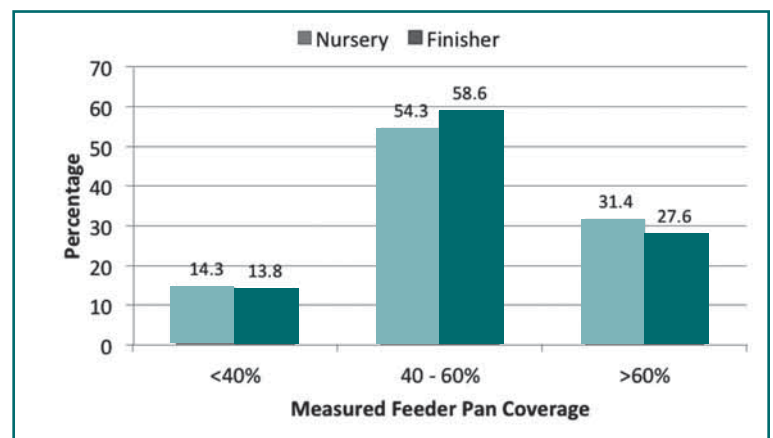
The goal of proper feeder adjustment is to reduce the time spent eating and thus increased feeder capacity. This becomes more important at certain times of the production cycle. For instance closer to market (just before first pull) or in situations where double stocking is utilized at the start of a phase, as the amount of linear feeder space will be challenges in these situations. It is important to base your feeder adjustment on pan coverage and not on feeder setting for a number of reasons.

Age of your feeder. Feeders contain various mechanical parts, and they wear out over time producing different results over an extended period. Diet type has a huge impact on feeder adjustment, as feeding pellets or mash requires different adjustments to achieve the same results. Feeding pellets generally making feeder adjustment an easier task for producers resulting from a more consistent product creating more predictable flow-ability throughout the feed system. Diet changes also affect feeder adjustment. Least cost formulation saves producers money, but results in a variety of different ingredients used at any point in time. Different ingredients have different flow-ability throughout the system, especially when mash diets are used. Therefore, pay attention to feeder adjustment when there are significant changes in ingredients used on your farm. For example shifting from wheat to corn. The general rule of thumb according to many is every feeder every day, which translates into adjusting approximately 10% of your feeders on a daily basis.

We all know that adjusting feeders is not that exciting of a task in the daily list of things that occur on our farms. Figure 5 summaries survey data looking at the frequency of feeder adjustment. A majority of respondents (66%) indicate we adjust



**Figure 5. Average frequency of feeder adjustment on farms throughout Canada.**



**Figure 6. Measured feeder pan coverage on 24 farms across Canada.**

feeders adjust as required. What does this really mean? Does it mean we are adjusting 10% of our feeders each day? Maybe it means adjusting feeders that have an obvious problem such as an empty or over-filled feeder. Most producers have more than enough things to do on a daily and it is easy to avoid what we think are non-essential tasks. Determining the ideal time to schedule feeder adjustment is farm specific, and depends on number of factors that include labour availability and feed cost. I would encourage you to conduct random audits to how well your operations compare.

When it comes to feeder adjustment, how well are we doing as an industry? Figure 6 shows just over 50% of measured feeders achieved an ideal feeder adjustment while 30% and 14% of feeders were over or under adjusted respectively. Why is this important? While over adjustment doesn't impact pig performance, it does increase feed wastage, and under adjustment eliminates feed waste, but will have a negative impact on pig performance. What is the impact on the bottom line of the operation? If we look at a 16-week finishing period that turns 3.25 times/year, and use the information presented in Figure 5. Results indicate there would be 58 and 27 feeders that would be over and under adjusted respectively; this could translate up to \$4.00/pig lost revenue associated with feed wastage.

- 1) 16 pigs/room, 3.25 turns/year = 910 pigs/year
  - a) 16 @ 12 feeders/room = 192 feeders
- 2) Over adjustment @ 30%
  - a) 50 feeders over adjusted (23.5 pigs = 1,353 pigs)
  - b) Equivalent to 5 rooms or 3 - 4 feeders /room
- 3) Too tight @ 14%
  - a) 27 feeders adjusted too tight = 634 pigs
  - b) 2 rooms or 1 - 2 feeders/room

- 1) Over adjustment @ 30%
  - a) 50 feeders over adjusted (23.5 pigs = 1,353 pigs)
  - b) Feed budget 340 kgs - wean to finish
- 2) Every 1% increase in feed wastage = \$1.48/pig
- 3) 1,353 @ 3.25 turns = 4,397 pigs/year = \$6,508
  - a) 3% wastage = \$4.44/pig or \$19,500

## Conclusion

Based on some of the results we can see that little changes can make a big impact on the overall profitability of your operation. While most producers are aware of individual best management practices throughout their barns, day-to-day activities and emergencies sometimes get in the way. Currently there seems to be a margin for improvement as we achieve a 40-50% of measured and surveyed best management practices. I don't think doing 100% of things 100% of the time is possible. If we can move that needle incrementally from 40 to 50% then to 60% can save producers substantial dollars over the long run.

