



AUDITING

On-Farm Best Management Practices



Overview

- **From Innovation to Adoption: On-Farm Demonstration of Farm Research**
 1. Management practices that enhance sustainability (sow housing, water, enrichment)
 2. Low cost feeding strategies for sows
 3. [Auditing on-farm best management practices](#)
 4. Rapid assessment of trailer cleanliness
 5. Communication activities



Auditing BMPs

- 24 farms audited throughout Canada
- Size of operations - 300 to 5,500 sows
- Types of operations: Farrow-to-finish, Farrow-to-wean, & Wean-to-finish
- Included stall and group sow housing systems

Areas of Focus

- 8 Areas of focus
 - Biosecurity, Personal Protection & Training, Washing Procedures
 - Gestation, Farrowing, Nursery, Finishing
 - Water Use & Management
- BMPs were developed on research recommendations
- Implementation Scale – Easy to Adopt

Personal Protection & Training

Are dust mask used in the facility? <i>It is recommended to use dust masks in the facility.</i>	83 %	0 %	17 %
Are hearing protection used in the facility? <i>It is recommended to use hearing protection in the barn.</i>	100 %	0 %	0 %
Are hydrogen sulphide monitors used in the facilities? <i>It is recommended to always use hydrogen sulphide monitors in the facility.</i>	0 %	50 %	50 %
Do you provide training on hydrogen sulphide awareness? <i>It is recommended to provide training regarding hydrogen sulphide awareness.</i>	54 %	4 %	42 %
Do you provide animal handling training? <i>It is recommended to provide animal handling training.</i>	75 %	4 %	21 %



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Personal Protection & Training

- Huge differences between Western & Eastern Canada on H₂S awareness & training
 - Little to no recognition of H₂S in E. Canada
- Limited use of H₂S monitors
 - Used for pulling pit plugs

TRAINING

- H₂S monitors should be used when pulling pit plugs, power washing & entering the transfer station



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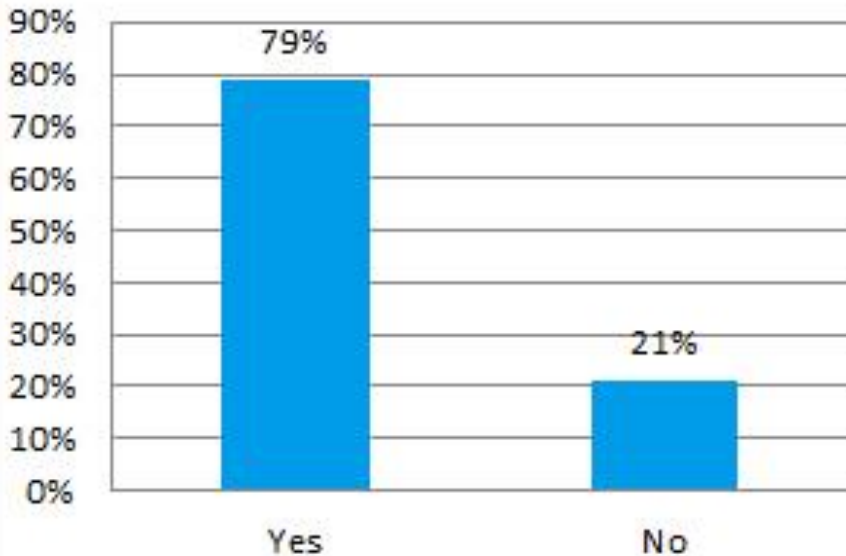
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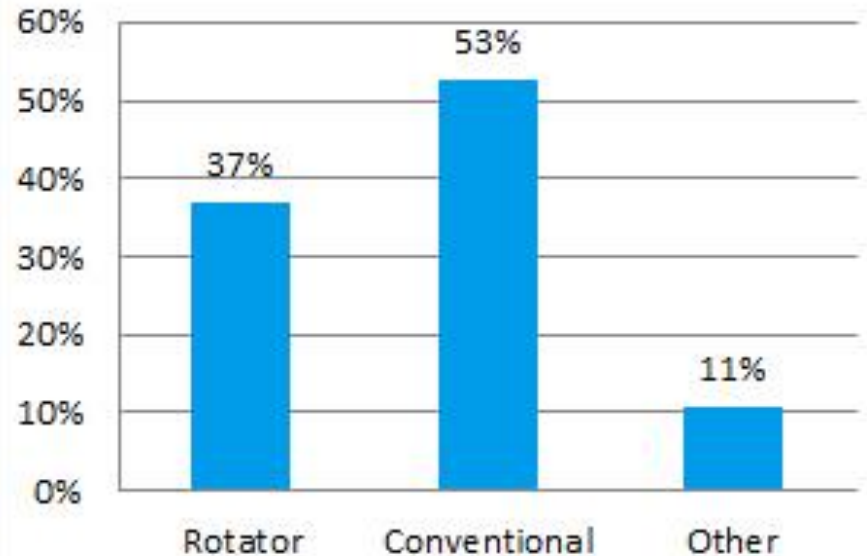
Washing Procedures

- Do you pre-soak rooms? Nozzle selection

Do You Pre-soak Rooms?



Type of Washing Nozzle Used

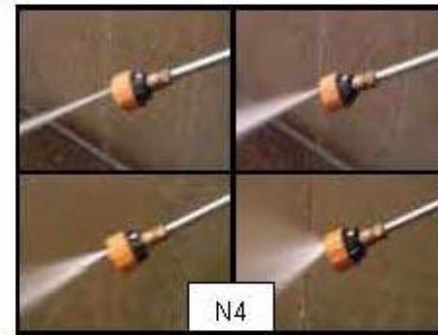


Washing Procedures

- Pr
- ca
- sp
-
- Co
- wl
-



Figure 2. Four different types of pressure-washing nozzles used: conventional nozzle (N1), Y-nozzle (N2), water broom (N3), and 4-in-1 nozzle (N4).



regardless of flooring type

ed

doors



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Washing Economics

	Full Slat	Partial Slat
Soaking	\$0.54	\$0.56
No Soaking	\$0.52	\$0.65
Difference	\$0.02	-\$0.09

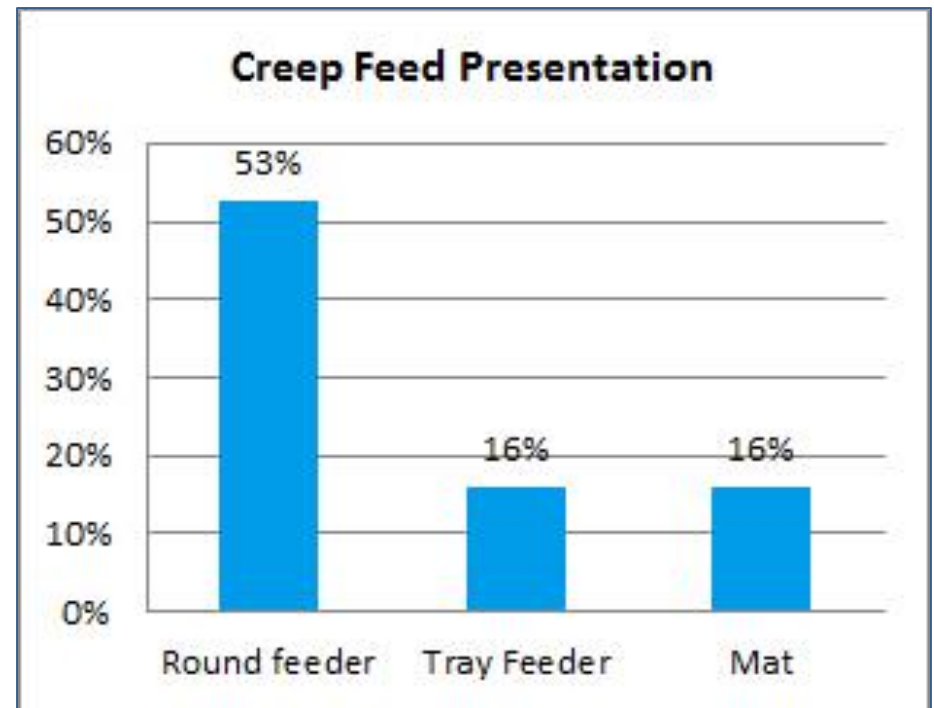
*cost per pig sold

Nozzle Type	Cost/pig
Conventional	\$0.79
Other	\$1.46
Difference	-\$0.67

Farrowing

- Do you creep feed? How is it presented?

89% of producers utilize creep feed 5-7 days prior to weaning



Creep Feeding

- Providing creep feed did not affect piglet body weight at weaning (3 vs. 4 week)
- Creep feed increased performance at the nursery exit when piglets consumed it
 - What % of pigs consume creep in farrowing
 - Not all studies show a positive influence of using creep feed



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Creep Feeding Presentation

- Higher frequency of piglet visits at a tray feeder compared to a standard feeder
 - Increased number of piglets consuming creep 19% (29.6% vs. 48.7%)
- Exploratory behavior is important
 - Expensive creep diets usually fed (Stage 1)
 - Diet type may not be important

Creep Feed Economics

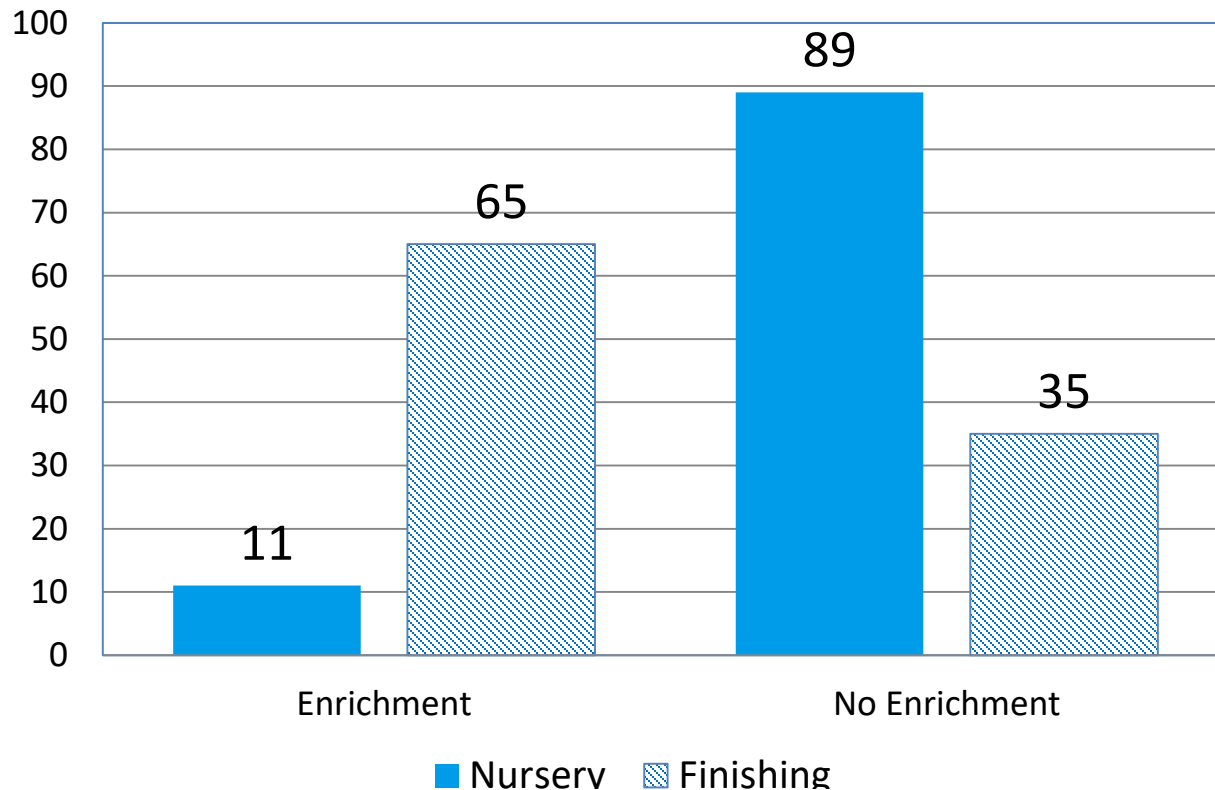
- Days on creep – 7 days
- Creep disappearance/pig – 14 g/day
- 24 litters/week with 12 pigs/litter (14,976/year)
- Total creep disappearance – 1,468 kgs/year
- Stage 1 (\$604/mt) - \$887/year
- Farrowing (\$306/mt) - \$449/year (**\$437 saving**)
- Creep Feeders (\$12 - \$56/feeder)

Creep Feeding

- Re-evaluate whether or not creep feeding is an effective strategy for your operation and how it's presented

Enrichment

- According to the 'Code' – pigs must be provided with multiple forms of enrichment



Enrichment

- Why is enrichment important?
 - Improve animal performance (ADG, FCR)
 - Reduce the frequency of abnormal behaviour
 - (tail-biting, aggression)
 - Broaden the range of behaviours
 - Increase the number of normal behaviours
 - Boost positive use of the environment
 - Reduce stress in the animals

Enrichment Economics

- Installation Cost
 - Chain, mounting hardware - \$37/pen
 - Labour (2 hours, \$25/hour, 12 pens) - \$4.17/pen
 - Total - \$41.17/pen or \$494/room
- 282 pigs/room, 3.25 turns/year, 917 pigs/year
- One time cost \$0.54/pig
- \$160/pig = 3 pigs/year = 0.32%
- 1% change = 9 pigs/year = \$1,440 (3x)

Enrichment

- Lots of positive benefits associated with enrichment use
 - Cheap, simple and effective
 - Biosecurity
 - 6s of Enrichment



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Water Management

- Research on (well managed) nipple drinkers indicate 25% water wastage in finishing pigs
 - nipple drinker, standard flow rate (**700 ml/min**) and height (**5 cm higher** than the **shoulder height** of the smallest pig)
- Commercial farms, water wastage from a nipple drinker is reported as high as ??????



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Water Management

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



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Water Management

- Average daily water disappearance (600 sow farrow-to-finish)

Category	Inventory	L/day	Total L/day
Gilt Pen	30	8	240
Gestation	474	15	7,110
Farrowing**	96	20	1,920
Nursery	1,411	3	4,234
Finishing	4,426	7	30,979

44,482



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Water Management

Category	Low	Target	High	Very High
Gilt Pens	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%



239 pigs



2,885 pigs



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WATER Economics

Category	Target (L/day)	Actual (L/day)
Gilts	240	390
Gestation	7,110	11,013
Farrowing	1,920	2,895
Nursery	4,234	5,371
Finishing	30,979	52,842
Total	44,482	72,512

28,030 litres/day wastage or \$33,756/year, \$2.35/pig



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Water Management

- Go home and check your nipple drinkers

Take Home Messages

- What bad habits becomes normal on a day-to-day basis?
 - Periodic audits
- Out sight out of mind
 - Biosecurity, hydrogen sulphide
- Start small
- There's few home runs but lots of singles
 - Little things add up to big value

Acknowledgements



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Remember as days get colder animals are attracted to the warmth of cars so check wheel arches or other hiding places.



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