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Water quality and management in the Australian pig industry

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Pork CRC Project 2A-118: Drinking Water Survey 2017

Farm: _____ **Location:** _____ **TM:** _____ **Date:** __/__/17 **Current temp:** ___ ^{0}C

Part 1. Source(s) of drinking water available for use

Check with farm manager to obtain responses to these questions:

	Source(s) of drinking water available (one or more)	**Currently being used?**	**% total volume water used/year**	**Impact a dry season has on farm drinking water supply and/or quality**	**Photos taken** (with permission)
1	Mains supply / River / Irrigation channel / Dam / Bore	Yes / No	%	High / Moderate / Low / Nil	☐ Yes ☐ No
2	Mains supply / River / Irrigation channel / Dam / Bore	Yes / No	%	High / Moderate / Low / Nil	☐ Yes ☐ No

Water Sample from Source: ***Use testing equipment to collect water samples***

Water Sample collected from main water source?	Please tick: ☐ Yes ☐ No	**Identify Collection Location:**	
Rate the hygiene standard:	Very poor/ Poor/ Average/ Good/ Very Good/ Excellent	**Water temperature**	° C

Part 2. Drinking water availability in Grower Pig Pens (Shed _____)

In any particular grower shed, select a pen furthest away from the main drinking water pipe supplying the shed.

Main water pipe supplying shed	Type: PVC / Metal / Other Specify:	Diameter (mm):	
Water pipe supplying the pen	Type: PVC / Metal / Other Specify:	Diameter (mm):	
Are water pipes insulated?	Yes / No / Partially Comment:		
Pig age & live weight on pen entry and exit	**Entry:** _____ weeks _____ kgs **Exit:** _____ weeks _____ kgs		
Pen's dimensions	metres wide X metres long	**Usual No. of Pigs in Pen**	_____
Number of feeders in pen	_____	**Number of drinkers in pen**	
Type of drinker	Nipple / Bite / Bowl / Trough	**Height of drinkers above floor**	_____ cm or m
Distance between drinkers	_____ cm or m	**Distance between drinkers & feeders**	_____ cm or m
Distance between drinkers and feeders	_____ cm or m	millimetres	
Level of drinker cleanliness (Circle): Poor / Fair / Good / V Good / Excellent		**Amount of spillage around drinkers**	High / Moderate / Low / Nil
Any leaking pipes or drinkers?	No / Yes Comment:		
Any drinkers not operating properly?	No / Yes Comment:		
Drinker flow rate*	millilitres / minute	**Water temperature**	° C
Photos taken (with permission)	Please tick: ☐ Yes ☐ No		

* Run measuring container provided under drinker for 20 seconds, note volume and multiply by 3

Water Sample from Grower Pig Shed assessed in Part 2: ***Use testing equipment to collect water samples***

Water Sample collected?	Please tick: ☐ Yes ☐ No	**Identify Collection Location:**	

Part 3.Drinking water system cleaning and maintenance regime

Check with farm manager to obtain responses to these questions:

How often are flow rates of drinkers in pens checked?	Daily / Weekly / Fortnightly / Monthly / Quarterly / Sporadically / Never
How often is the complete water line (including drinkers, pipes and header tanks) cleaned and flushed?	Daily / Weekly / Fortnightly / Monthly / Quarterly / Sporadically / Never
Describe procedure used (materials and chemicals used)	
If drinking bowls or troughs are used in pens, are they thoroughly cleaned between each batch of pigs?	Yes / No Comment:
Describe procedure used (materials and chemicals used)	
Are header tanks covered to prevent entry/contamination by birds etc.?	Yes / No Comment:

Part 4. Water quality testing

Check with farm manager to obtain responses to these questions:

How often is the farm's drinking water tested at a laboratory?	Quarterly / Half-yearly / Yearly / Sporadically / Never
When was the most recent test done?	Month: / Year:
Which water testing laboratory was used?	Name:
What specific analyses were done? e.g. pH, salinity, hardness, minerals, microbiological?	

Part 5. Water treatment system

Check with farm manager to obtain responses to these questions:

Is drinking water routinely treated in any way?	Yes / No
If Yes, please ask these questions:	
Describe the particular type(s) of treatment system used (circle one or more)	Activated carbon filtration Reverse osmosis (RO) Ion exchange water softening Sediment filtration Distillation Aeration De-aeration Continuous chlorination Ultraviolet radiation (UV) Ozonation Ultra, micro and nano-filtration Other - detail
When was the system installed?	Year:
Approx. capital cost	$
Has the system been upgraded since it was installed?	Yes / No If Yes, provide details
What was the main motivation for installing the system?	
What benefits has the system provided in terms of pig health and performance? (Please be as quantitative as possible)	
Photos taken (with permission)	Yes / No

Part 6. Water use to administer medications

Check with farm manager to obtain responses to these questions:

Does the farm have a water medication system, which enables antibiotics and other additives to be administered to pigs via drinking water?	Yes / No
If No, why not?	
If Yes, please ask these questions:	
When was the system installed?	Year:
Which pigs can be medicated via water? (circle one or more)	Weaners / Growers / Finishers/ Dry sow / Lactating sows
What dosing equipment is used? (circle one or more)	Overhead tanks for batch mixing Water powered proportional pumps e.g. Gator, Dosatron Electric powered, computer controlled dosing pumps e.g. Select 640 Other
What water-soluble antibiotics are administered to pigs via the water medication system?	
What other water-soluble additives are administered to pigs via the water medication system?	
Which veterinarian advises the farm on water medication use? Does the Vet recommend water quality checks before advising which medications to use?	
In your experience, what are the main strengths / advantages of medicating pigs via drinking water?	
In your experience, what are the main limitations / challenges of medicating pigs via drinking water?	
Photos taken (with permission)	Yes / No