

Checking drinkers

Instructor check when completed

SIGNS OF INADEQUATE WATER INTAKE

The following signs of inadequate water intake may be observed in nursery pigs.

- 1 Group behaviour:
 - Crowding around drinkers particularly at times other than peak feeding
 - Aggression, fighting and uncharacteristic squealing
- 2 Appearance and behaviour of individual pigs:
 - Loss of condition with hollow flanks and abdomen
 - Pale skin and hairiness
 - Severe deprivation: the pig may walk in circles, bump into penning or equipment, fall over and exhibit convulsions and a paddling action with the front legs
- 3 *Incorrect operation of the drinker by the pig may be a cause of inadequate water intake. This occurs when the pig fails to learn how to use the drinker immediately after weaning.*

Signs of incorrect drinker use:

 - Operating the drinker with the tip of the nose and then attempting to suck water up off the floor
 - Biting the drinker sideways and allowing all the water to spray out of the mouth

PREPARATION

- 1 Assemble the following equipment and materials:
 - Tool box
 - Drinker parts
 - Spare drinkers
 - Replacement water filter (if used)



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PROCEDURE

*This procedure assumes that the stockperson is aware of the seasonal target daily consumption for all ages of nursery pigs or that this target appears on the company **Water disappearance chart***

Water disappearance varies considerably between farms depending on drinker type and level of wastage. Each farm should determine its own correct level of water consumption

- 1 Read the water meter at the same time each day and record the reading under **END READING** for the current day on the **Water disappearance chart**
- 2 Write the same figure under **START READING** for the following day
- 3 Calculate the water usage by subtracting the **START READING** from the **END READING** for the current day and write the figure under **WATER USAGE**
- 4 Mark the calculated daily water usage on the **Water disappearance chart** graph
- 5 Enter the room and generally observe all the pigs in the room. If water deprivation is observed in all pens within a room or throughout the building
 - Investigate the water supply system to the room or building for restriction or blockages
 - If the cause cannot be found report the situation to the farm manager or immediate supervisor
- 6 Enter each pen and check if the nipple drinker/s are dripping or leaking or the bowl drinker/s are continually running and overflowing
- 7 If bowl drinkers are present check the water in the cup for contamination with faeces, urine or particles of feed; if present clean and flush out the bowl to ensure that clean water is available
- 8 Operate the nipple or bowl drinker and assess if the flow rate is normal. If in doubt check that the flow rate meets the minimum requirement of 0.8 litres/min



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PROCEDURE (cont'd)

- | | |
|----|--|
| 9 | If the flow rate is below the target level: <ul style="list-style-type: none">➤ Adjust the drinker flow rate/water pressure (if possible)➤ Repair or replace drinker parts or the complete drinker➤ Investigate possible restriction in the supply line to the drinker |
| 10 | If the flow rate is excessive, the nipple is still dripping or the bowl is overflowing after checking: <ul style="list-style-type: none">➤ Adjust the drinker flow rate/water pressure (if possible)➤ Repair or replace drinker parts or the complete drinker as soon as possible to minimise wastage |
| 11 | If the drinker is adjustable check that the tip of the nipple drinker is at shoulder height for the pigs present in the pen and adjust if necessary |
| 12 | Repeat steps 5-11 until all pens have been checked |
| 13 | Repeat steps 5-11 in the afternoon in those rooms receiving medication to ensure that the drinkers are not blocked by particles from the water medication product |
| 14 | Check water filters weekly (if present) <ul style="list-style-type: none">➤ Remove the filter, clean (renew if damaged or according to manufacturers recommendations or local conditions) and replace |
| 15 | If checks on the pigs and the water system indicate that water supply is satisfactory but the daily usage is significantly above or below the target usage, investigate the possible reasons, including: <ul style="list-style-type: none">➤ Below target - water contamination, feed problems, health problem➤ Above target - leaks not identified during inspection, feed problems eg high salt level |



Skill: Checking drinkers

Note to instructor

This is a relatively simple procedure but the key aspect of it is to ensure that trainees are quickly able to recognise the signs of water deprivation in pigs so that they can take the appropriate action. Therefore the opportunity should be taken to demonstrate the visual and behavioural signs whenever a shortage of water in a pen, room or building is recognised

Equipment and facilities

- Tool box
- Drinker parts
- Spare drinkers
- Replacement water filter (if used)

Objective

To ensure that pigs have a readily available supply of clean, fresh water, recognise any signs of water shortage, check that drinkers are functioning correctly and carry out repairs or replacement as necessary

Reasons

Explain to trainee:

- Water is an essential nutrient which makes up 70% of the pig's body mass
- After weaning the pig has to adapt to obtaining water from a nipple or bowl drinker and adequate early water intake is essential to its well being
- A readily-available supply of fresh clean water is necessary throughout the nursery phase to ensure high feed intake resulting in rapid growth
- Daily or twice daily checks on pig behaviour and drinker function is a very important aspect of nursery management

Explain procedure

- Go through the procedure sheet step by step with the trainee
- Encourage questions



Skill:

Checking drinkers

Explain important points

Stress the key aspects of the procedure and explain
Ask the trainee why he/she thinks they are important

- The pig's preferences - point out that pigs prefer fresh, clean water and an open water surface eg. as provided by a bowl drinker. Intake may be enhanced by the addition of flavours or sweeteners. Note that pigs dislike water with a high mineral content or contaminated with faeces, urine, food particles, algae or slime
- Observational skills - note the need for rapid recognition of any signs of water deprivation by observation of the group and individual pigs. This is essential to protect the pig's welfare and prevent loss of production. Point out that water shortage among individual pigs may be due to incorrect operation of the drinker
- Checking and recording consumption - daily recording of water disappearance is used to check that the expected water intakes are achieved - usage below target may indicate that pigs are becoming sick or there is a problem with the supply system; above target may be due to wastage or leakage
- Ensuring that all pigs have access to water - observation of behaviour will indicate whether individual pens, a room or the whole building is affected by water deprivation. Pen problems are most normal and will be identified by checking drinkers. Room or building deprivation will indicate supply problems. Stockpersons must be able to recognise the extent of any problem, its likely cause and know the action to be taken to rectify the situation
- Checking nipple or bowl drinkers - stress the need for checking that drinkers are functioning correctly and have sufficient flow. If this is in doubt it can be checked - note the recommended level of 0.8litres/min. Leaking or overflowing drinkers lead to excess slurry production and increased disposal cost. Any malfunction should be repaired as soon as possible. Note that where bowl drinkers are used, cleanliness must be checked and any contamination - faeces, urine, feed particles - removed



Skill:

Checking drinkers

Explain important points (cont'd)

- Maintaining water filters - point out what water filters do and the need for regular cleaning/replacement to avoid blockages in the supply

Demonstrate

Discuss the signs of water deprivation with the trainee in the building with reference to individual pig appearance and behaviour, group behaviour and drinking behaviour
Go through the procedure for checking and recording water disappearance, then discuss the actions that might be taken if water usage was above or below the expected level
Demonstrate the rest of the procedure for checking pigs and the operation of drinkers, including repairs/replacement as necessary. Show the trainee how to measure drinker flow rate using a graduated container or one of known volume
Go through the procedure for checking and maintaining the water filter if present

Questions

Answer any questions regarding the procedure

Trainee carry out

This part of the session can be done in another nursery building, if available or left until the following day
To reach Competence level 3 the trainee should have experienced and be able to recognise signs of water deprivation in individual pigs, a pen and a whole room or building. They should also demonstrate that they can take the appropriate action in the event of a problem
Ask the trainee to carry out the whole procedure, with help according to Competence level - explain what help you will give:

Level of guidance

1. Give detailed step by step instruction through the whole procedure
2. Give guidance only when asked or when a problem occurs
3. Give no guidance: Trainee to describe what he/she is doing throughout the procedure



Skill:

Checking drinkers

Discuss

- Check off each stage on the procedures sheet
- How did the trainee feel he/she did?
- Which parts of the procedure were omitted or caused a problem?

Problem solve

- Identify procedures not carried out or not done correctly
- Demonstrate them again if necessary
- Allow trainee to repeat them again if necessary

Conclude

- Stress the importance of the task and using the correct procedures
- Refer the trainee to the relevant part of the Trainee handbook
- Thank him/her for their efforts
- Sign the trainee's Achievement record
- Arrange a date/time for training at the next Competence level if appropriate, or the Understanding review



Checking drinkers

Background

Water makes up approximately 70% of the pig's body mass and is involved in temperature regulation, maintaining mineral balance and excretion of the end products of digestion. It is a limited resource which must not be wasted but at the same time must be available to pigs at all times and to be of benefit must actually be consumed by the pig.

The newly weaned pig has been used to consuming virtually all of its food in liquid form (as sow's milk) and must get used to obtaining liquid as water in the nursery pen. This adaptation can be difficult for many pigs and they need to experience the sensation of thirst as a stimulus to finding the water source. Early water intake is essential otherwise dehydration occurs and the pig is more prone to digestive upsets. Most importantly feed consumption is closely related to water intake. As the overall objective of the first few days in the nursery is to encourage high feed intake and therefore rapid early growth, ensuring that pigs not only have a good water supply but are drinking adequately is one of the most important aspects of nursery management.

The pig's preferences:

- Clean and fresh water
- A free water surface e.g. that provided by a bowl drinker
- Water with flavour enhancers or sweeteners added

Pigs dislike:

- Water with a high mineral content
- High pressure spray from the drinker
- Stray voltage - leakage from the electrical system which gives pigs a slight shock as they drink
- Water contaminated with faeces, urine, food particles, algae or slime



Checking drinkers

Background (cont'd)

Drinking patterns:

- Pigs tend to drink more when they are hot to relieve heat stress and further dissipate heat through extra urine output
- Pigs typically drink after feeding and will increase water intake when feed is scarce, presumably to satisfy gut fill
- Pigs are only prepared to spend a limited time each day drinking and will not perform optimally if water delivery rates are inadequate
- If water is contaminated pigs will only drink sufficient to keep themselves alive not to optimise performance

Procedure

The most important aspects of the procedure are as follows:

Observational skills: These form a key part of the procedure. In order to identify problems with water intake it is necessary to understand the signs of water deprivation and pig behaviour under different environmental conditions.

The following signs of inadequate water intake or water deprivation may be observed in nursery pigs:

Group behaviour:

- Crowding around drinkers particularly at times other than peak feeding
- Aggression, fighting and uncharacteristic squealing

Appearance and behaviour of individual pigs:

- Loss of condition with hollow flanks and abdomen
- Pale skin and hairiness
- Severe deprivation: the pig may walk in circles, bump into penning or equipment, fall over and exhibit convulsions and a paddling action with the front legs (often called “salt poisoning”)



Checking drinkers

Procedure (cont'd)

Observational skills (cont'd):

Incorrect operation of the drinker by the pig may be a cause of inadequate water intake. This occurs when the pig fails to learn how to use the drinker immediately after weaning.

Signs of incorrect drinker use

- Operating the drinker with the tip of the nose and then attempting to suck water up off the floor
- Biting the drinker sideways and allowing all the water to spray out of the mouth

Checking and recording consumption: Daily recording of water disappearance may be used to check that nursery pigs are achieving expected water intakes. Water disappearance below target levels may indicate that pigs are becoming sick, a problem with the feed causing reduced feed and water intake or a problem with the supply system. Water contamination will also cause a decrease in intake. Water disappearance above target levels may indicate wastage or leakage. Feed problems may also lead to increased water intake, for example if the salt level is too high water consumption will increase.

Ensuring that all pigs have access to water: General observation of the room as a whole will usually indicate when an individual pen is deprived of water. This type of problem will be addressed when nipple or bowl drinkers are checked individually during routine inspection. Room or building deprivation will indicate supply problems and will become apparent through recording water disappearance or by recognition of the symptoms of water shortage among all the pigs housed.

Occasionally pens at the beginning of the supply line may have higher pressure than those at the end of the line. Both scenarios are undesirable as high pressure will result in excessive spray while operating the drinker which may discourage pigs, particularly timid ones from drinking. On the other hand low pressure may result in water deprivation in some pens.



Checking drinkers

Procedure (cont'd)

Ensuring that all pigs have access to water (cont'd): If there are room or building problems or uneven pressure, the situation must be discussed with the farm manager or immediate supervisor so that the necessary alterations or repairs can be made to the system. Stockpersons must be able to recognise the extent of any problem, its likely cause and be able to take the necessary action to rectify the situation.

Checking nipple or bowl drinkers: In theory pigs receiving water via a nipple or bowl drinker have unlimited access to water. Unfortunately all types of drinkers are prone to blockages and must be checked each day to ensure that adequate water is flowing. If it is felt that the flow rate is below the recommended level of 0.8 litres/min it should be measured. This can be done by using a graduated container and measuring how much water is delivered in 1 minute. Alternatively a container of known volume can be used e.g. 1 litre, and the time it takes to fill measured. The flow rate can then be calculated: for example, if the 1 litre container takes 1min 15 secs to fill, the flow rate is 0.8 litres/min. If the flow rate is restricted then the drinker should be repaired or replaced or any restrictions in the supply line investigated. If drinkers are dripping or leaking or bowls overflowing they should be adjusted or repaired as soon as possible to minimise wastage which increases slurry production and consequently waste disposal costs. Problems with nipple or bowl drinkers - poor flow or no water flow - can also be identified by observation of pig behaviour.

One disadvantage of bowl drinkers is that they can become contaminated, most commonly with faeces, urine or particles of feed deposited in the bowl from the pig's mouth as it drinks. It is obvious that a bowl containing faeces will not be attractive to the pig and it must be cleaned. Perhaps less obvious, water contaminated with feed particles is also less attractive and so these must also be removed, and in both cases the bowl flushed so that fresh clean water is left in it.

Maintaining water filters: Many water supply systems are fitted with filters to remove gross contamination such as large mineral particles especially where water is pumped from a well. Where this is the case filters should be checked weekly and if required cleaned and replaced or renewed to ensure that the water supply is not restricted by a blocked filter.



Skill: Checking drinkers

Question and Answer

Check correct answers

Q: What are the pig's preferences regarding water?

- Clean and fresh water
- A free water surface - eg bowl drinker
- Water with flavour enhancers/sweeteners added

1

2

3

Q: Give two aspects of water or the drinker that pigs dislike (2 from 4)

- A high mineral content
- High pressure spray from the drinker
- Stray voltage
- Water contaminated with faeces, urine, feed particles etc

4

5

Q: What do pigs do if their water is contaminated?

- Only drink sufficient to keep themselves alive, not to optimise performance

6

Q: What behavioural signs may be seen in a group of pigs if they are short of water?

- Crowding around the drinkers
- Aggression, fighting, uncharacteristic squealing

7

8

Q: How does the pig behave if it has severe water deprivation?

- It may walk in circles, bump into penning or equipment, fall over and exhibit convulsions and a paddling action with the front legs

9

Q: If water consumption falls below target levels, what might be the reasons?

- The pigs are becoming sick
- A problem with the feed, reducing feed and consequently water intake
- Contaminated water

10

11

12

Q: If water consumption is above target, what might be the reasons?

- Leaks or wastage from the system
- A problem with the feed eg. high salt level

13

14

continued on next page



Skill: Checking drinkers

Question and Answer

Check correct answers

Q: What problem is caused by line pressure being too high?

- Excessive spray which discourages pigs, especially timid ones from drinking

15

Q: Give 2 ways in which drinker flow rate can be calculated

- Use a graduated container and measure how much water is delivered in 1 minute
- Use a container of known volume and record the time it takes to fill from the drinker

16

17

Q: What is the purpose of a water filter?

- To remove gross contamination such as large mineral particles

18

Total up correct answers

Number of correct answers required

13

Sign trainees record of achievement

If less than 13 correct answers, arrange date for second review

