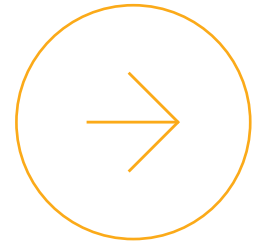


Reducing litter moisture under drinkers



Replacing worn or leaking drinker nipples

How worn or leaking drinker nipples can affect litter conditions

Wet litter under drinker lines can be caused by several factors, but may indicate drinker nipples are at the end of their lifespan and need replacing.

One thing to keep in mind is the difference between spillage and leakage. Spillage occurs when chickens use the drinkers and is affected by drinker height, waterline pressure and nipple flow rates. Leakage is associated with worn/leaking drinkers, biofilm, scale build-up, obstructions, damage from corrosive chemicals or incorrect pressure—all of which prevent the drinkers from sealing and cause ongoing issues if not managed effectively.

Daily observations and drinker line checks will help you quickly identify leaking and worn drinkers. Understanding when to replace drinker nipples can be challenging. Every grower knows drinker nipples should last for at least 5 to 10 years, but they might start showing signs of wear and tear before then.

There is no 'set date' for drinker nipples to be replaced, but after 5 years they should be evaluated annually for wear and changes to flow rates. Hopefully these evaluations will reveal signs that they need to be replaced before a major leak occurs. Drinker nipple longevity depends on usage, wear and tear, nipple brand/model/batch, cleaning frequency and chemicals used to sanitise and clean the drinker system.

Management actions

Before replacing suspected worn or leaky drinker nipples, check the line pressure and height and ensure the drinker system is clean and has been recently flushed.

Look for signs of leaking

Look at the catch cups and litter for signs that it is time to replace drinker nipples:

- If only a few catch trays have water, inspect the specific nipples for obstructions, damage, cracks or wear and consider replacement.
- If the whole drinker line has water in the catch trays consider changing pressure, cleansing and flushing the line or scheduling replacement of all the nipples (or the whole line).
- If there are circles of wet litter under drinker nipples, try to unblock the nipple and see if it will seal. If not, replace it.
- If the litter underneath the drinker lines is always getting damp or caked, try reducing the pressure to decrease spillage and make the litter drier. If this doesn't work, consider replacing the nipples.

Some growers have reported that replacement of worn or leaky nipples has reduced litter caking by 50% to 90%.



**Queensland
Government**



**AgriFutures®
Chicken Meat**

Comparing flow rates of new and old nipples

One way to assess if your drinker nipples are wearing out is to compare their flow rate with 'newer' ones (ideally unused 'spare' nipples that were purchased at the same time as the old ones). To compare old and new nipples:

- Replace a drinker nipple with a 'newer' one.
- Measure the flow rate of it and several neighbouring drinker nipples. A procedure to measure the flow rate from nipples can be found in the resources section.
- Record the flow rate (ml/min), date, shed number, drinker line details, position of the nipple along the line and water pressure (height of water in the sight tube).
- Repeat the flow rate measurement:
 - at multiple places along the drinker line
 - on other drinker lines
 - at multiple pressures (relevant to different stages of each batch).
- Compare the flow rate between the old and new drinker nipples.

If there are differences in flow rates it may be possible to adjust drinker line pressure settings to provide your chickens with the water flow they require for their age. If the flow rates of the old drinkers are noticeably higher or lower than those of the newer drinker, or if they have inconsistent flow rates, it is likely the nipples are nearing the end of their life and replacement should be considered.

Replace worn and leaky drinker nipples

Replacement should be considered if drinker nipples show signs of wear, age or leaking (e.g. worn pins, cracks, thick scale build-up, full catch cups or wet circles in the litter underneath).

Other management actions

If the litter underneath the drinkers is damp or caked, it may be possible to manage the additional water being applied from worn/leaky drinkers by increasing evaporation from the litter or replacing the wet litter at regular intervals by:

- tilling/conditioning
- changing ventilation and heating settings to increase air speed at the litter surface or air exchange from the shed or reducing relative humidity
- replacing or top-dressing litter under the drinkers.

Grower's experience

Some growers routinely use rakes or machinery to shift damp litter to the side of the drinkers. This encourages the chickens to 'work' dry litter back under the drinkers and allows more water to evaporate from the wet litter and be ventilated away.

Refer to fact sheet *Litter tilling*.

More resources

- Drinker management video on the Chicken Meat RD&E YouTube site <https://www.youtube.com/watch?v=rb4kYlo3mw>
- Procedure: How to measure drinker flow rate
- Aviagen: How to measure nipple drinker flow rates http://en.aviagen.com/assets/Tech_Center/BB_Resources_Tools/Broiler-Mgt/AVBR-Howto8-MeasureNippleDrinkerFlowRate-18.pdf
- Cobb broiler management guide, page 18 https://www.cobb-vantress.com/assets/Cobb-Files/4d0dd628b7/Broiler-Guide_English-2021-min.pdf

Contact

Mark Dunlop
Department of Agriculture and Fisheries (Queensland)

mark.dunlop@daf.qld.gov.au

AgriFutures Australia Project No. PRJ-011502
AgriFutures Australia Publication No. 23-065



Learn more
www.agrifutures.com.au/chicken-meat



AgriFutures[®]
Chicken Meat