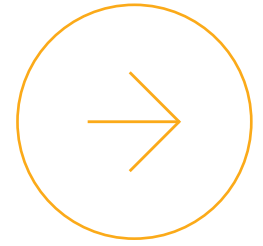


Reducing litter moisture under drinkers



Drinker pressure and height

Why should you adjust drinker pressure and height?

While it's normal for some water to spill when chickens drink, it's important to ensure the litter below drinker lines does not get too wet. Regular adjustment of drinker pressure and height can reduce spillage and prevent litter from caking.

Adjusting drinker pressure and height is unlikely to reduce leakage, which occurs when there are worn or damaged drinkers, obstructions or incorrect pressure that prevents them from sealing. Leaking drinkers will drip water even when the chickens aren't drinking from them.

Pressure settings may need to be adjusted as drinkers age or corrode, or if there is a build-up of biofilm or scale. If litter underneath the drinkers is too wet, consider reducing the pressure until it dries.

Drinker lines should be sanitised, cleaned and regularly flushed to prevent a build-up of biofilm, sediment or scale. Find out more in fact sheet *Flushing and cleaning drinker lines*.

If drinkers still leak after cleaning and flushing, investigate if they are worn or damaged and consider replacing them. Find out more in fact sheet *Replacing worn or damaged drinkers*.

Management actions

The correct water flow rate will enable chickens to grow to their full potential while preventing excess spillage. Recommendations for water requirements, drinker height and pressure for specific breeds can be found in broiler management guides/handbooks or provided by integrators.

Adjusting drinker line pressure

Monitor and adjust the drinker line pressure at least once a week. You need to provide chickens with enough water, but not so much that the litter underneath the drinkers becomes wet.

Restricting water intake will affect chicken growth rate and other performance indicators, but this may not be apparent until the end of a grow-out.

Recommended drinker flow rates for meat chickens (adapted from Aviagen Inc. (2018) and (Cobb-Vantress Inc., 2021))

Bird age (days)	Water flow rate (ml/min)	
	Ross® 308	Cobb® broilers
0-7	20	40
8-14	60-70	50
15-21	60-70	60
22-28	70-100	70
29+	70-100	90

Check the pressure by looking at the height of water in the sight tube at the end of each line. Use a measuring cup and stopwatch to check the water flow rate is suitable for your chickens' stage of growth. A procedure for measuring flow rate is also available.

Catch trays and litter conditions provide a daily indication about flow rate.

- Moist catch trays and slightly damp litter indicate the pressure is correct.
- Dry catch trays and litter may indicate the flow rate is too low.
- Wet catch trays and litter indicate the pressure is too high.



If the water pressure is low and the litter under the drinkers is still wet, consider using medium-flow nipples so more pressure can be put into drinker lines while achieving the same or a lower flow rate. Medium-flow nipples have been adopted by some growers with sealed concrete floors who find drinker management more important than it was with earth floors. More information about medium-flow nipples is available in fact sheet *Medium-flow drinker nipples*.

Tips from a grower on adjusting pressure and height

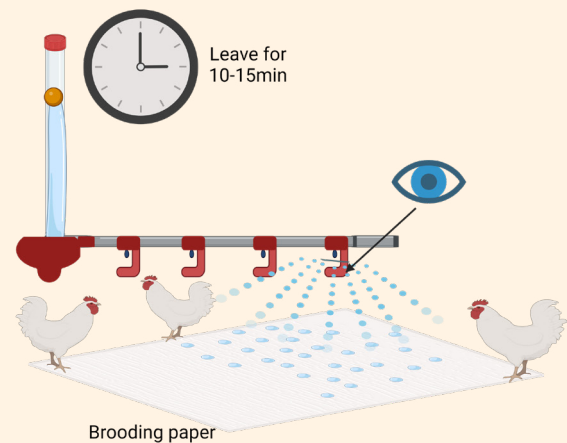
- Look at the condition of the catch cups. They should be moist (not dry) and shouldn't have any water in the bottom of them.
- Measure flow rates from the drinkers and set the correct pressure for the chickens' needs.
- Only a few people, such as the farm manager or second in-charge, should adjust drinker heights and pressures.
 - Adjust heights at least every 2 days so the chickens stretch up with their neck and lift their breast slightly while keeping their feet on the litter.
 - Adjust the pressure 3 to 4 times during the batch to ensure there is enough water flow but not enough to cause splashing.
- Get all farm staff to check drinkers and chicken drinking behaviour whenever they're in the sheds so any issues can be detected and fixed quickly.
- Carefully watch the chickens drinking from the nipples to ensure there is no squirting or splashing—this is easiest where light shines into the shed (for example, through a fan).

Harry, Southeast Queensland grower

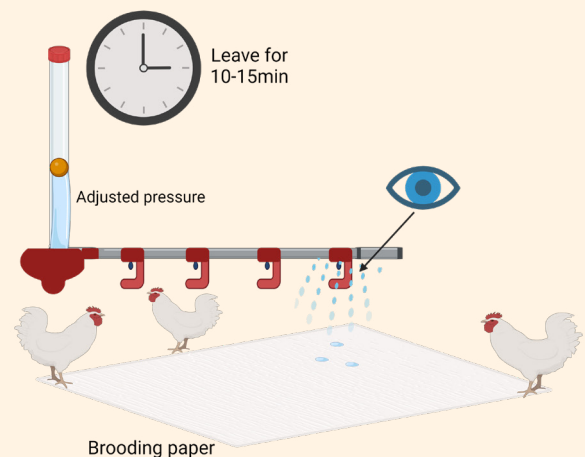
A grower's quick and easy technique to identify water oversupply from drinkers

This easy and quick observation technique helps identify how much water the drinkers are spilling and splashing onto the litter every time the chickens take a drink.

1. Place sheets of paper (used for brooding) under the drinkers.
2. Leave for 10 to 15 minutes.
3. Observe any splashing from water on the paper.
4. Check and modify the drinker system, replacing drinker nipples to a lower flow, or adjust the pressure.



Adjust pressure and **Repeat**



Adjusting drinker line height

Drinker height should be adjusted daily (or every few days) to reflect chickens' growth and ensure minimal spillage from their beaks. Litter under the drinkers must be at an even depth before chick placement so drinkers are not too high or low. Ensure each drinker is level (the same height above the floor along its full length).

A grower's quick and easy techniques to start each batch with perfectly level drinker lines

1. When setting up the shed before placement, lower the drinkers until they are just about touching the ground. Walk along the lines and adjust the height, then raise them back up to the correct height.

OR

2. Make up a height indicator using a broom handle, piece of PVC conduit or similar by attaching a cable tie and leaving the tail attached. Slide the cable tie up or down for the height you want.

After spreading sawdust and setting up the shed for placement, lower drinker lines to the correct starting height. Walk along each drinker line with the height indicator to get the drinker lines an equal height above the litter surface.

Steve, retired Southeast Queensland grower

In sheds with an unlevel or sloping floor, you need to compromise between achieving even drinker height (to prevent birds spilling water) and levelness (to achieve even water pressure along the line).

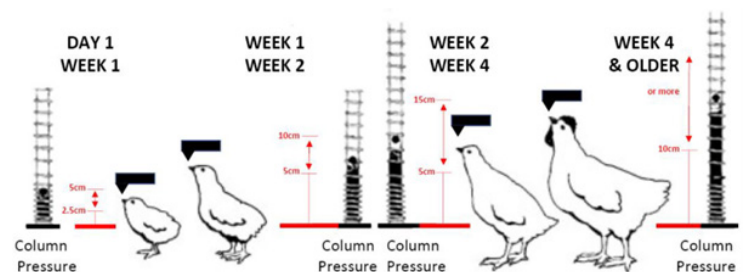
If the shed floor is level, low spots in drinker lines can cause chickens to reach sideways to drink, spilling water on the litter. Low spots can also be associated with higher pressure due to increased water height (as seen in the sight tubes).

Refer to broiler management guides or handbooks for drinker line heights. The figure below provides general drinker height and pressure settings for different stages of growth. Consider the specifications of the drinker nipples installed in your sheds to ensure the pressure set achieves the flow rate your chickens need. Measure the flow rate occasionally to make sure it is right.

Nipple drinkers should be set at the chicks' eye level for the first few hours of age then, in the early stages of brooding, just above head height. Ensure the chicks are reaching but not straining, with their feet remaining flat while drinking.

Important observations

- If chickens are tilting their head to the side, the drinkers are too low.
- If chickens are straining to reach the nipples and their feet aren't flat on the ground, the drinkers are too high.



General guidance for drinker height and pressure settings as the chickens grow.

Source: Industry best practice manual for water quality management and sterilisation on-farm, AgriFutures Australia (2020). Adapted from Cobb broiler management guide, 2016.

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
- Procedure for adjusting drinker line pressure based on litter conditions
- 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
- Broiler signals <https://www.broilersignals.com/en/>

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