

Hot Weather and Poultry Drinker Placement

In hot weather you may hear to frequently change out the water in your drinkers to help keep your birds cool. While giving fresh, clean water to your birds is a great practice, and usually the water coming from our taps or spigots is cooler than the water in the drinkers, it is more important to be mindful of where we place our drinkers. The water in them often heats back up faster than we may realize. Just as it feels hotter to us in the sun compared to the shade, the water in drinkers placed in the sun will heat up faster. In general, it is better to place our drinkers in the shade than out in the sun to keep the temperature cooler.

TEMPERATURE SHADE VERSUS SUN

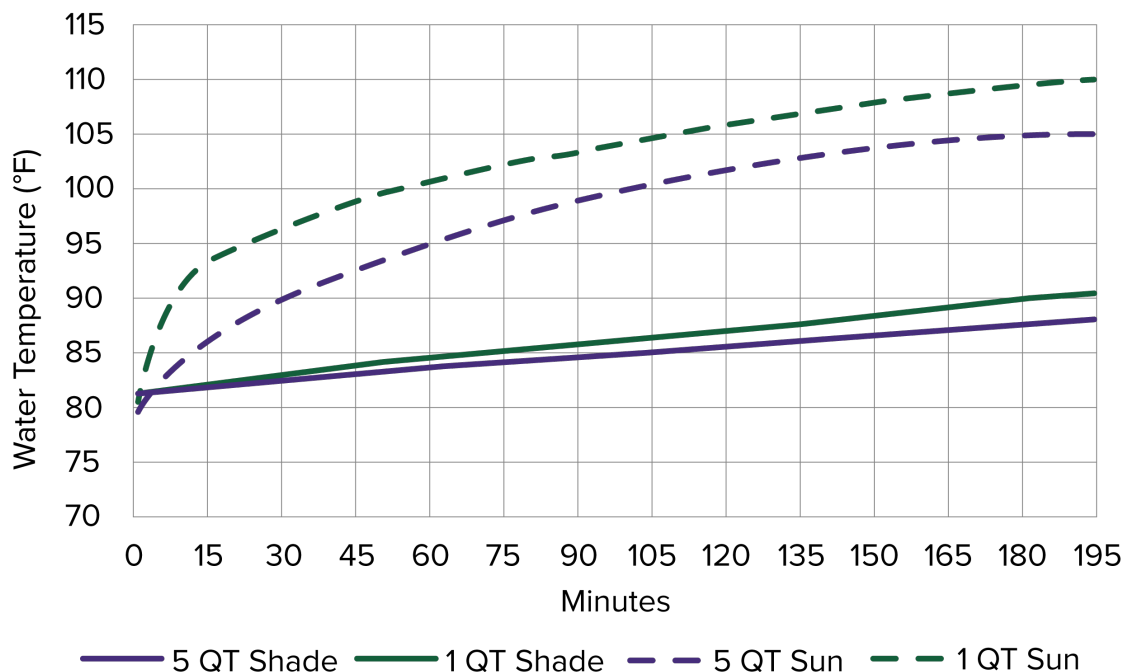
To show this, four common commercially available poultry drinkers (two 1 quart and two 5 quart) were filled with water at the same time and two drinkers (one of each size) were placed in the sun and two placed under a covered barn. Water temperature was recorded for the next few hours.

As you can see from the graph below, the water in all the drinkers began to heat up, however the ones in the shade stayed cooler longer. After over three hours, the drinkers in the shade reached the same temperatures that the drinkers

in the sun reached after only seven and 26 minutes (1 quart and 5 quart respectively).

Also, another key point that this graph illustrates is that in general, the larger the volume of water the drinker holds, the longer it takes to heat up. This has to do with the thermal mass and ratio of volume to surface area. Put simply, larger drinkers will tend to stay cooler longer, and this can be useful to remember when trying to keep your bird's water cool.

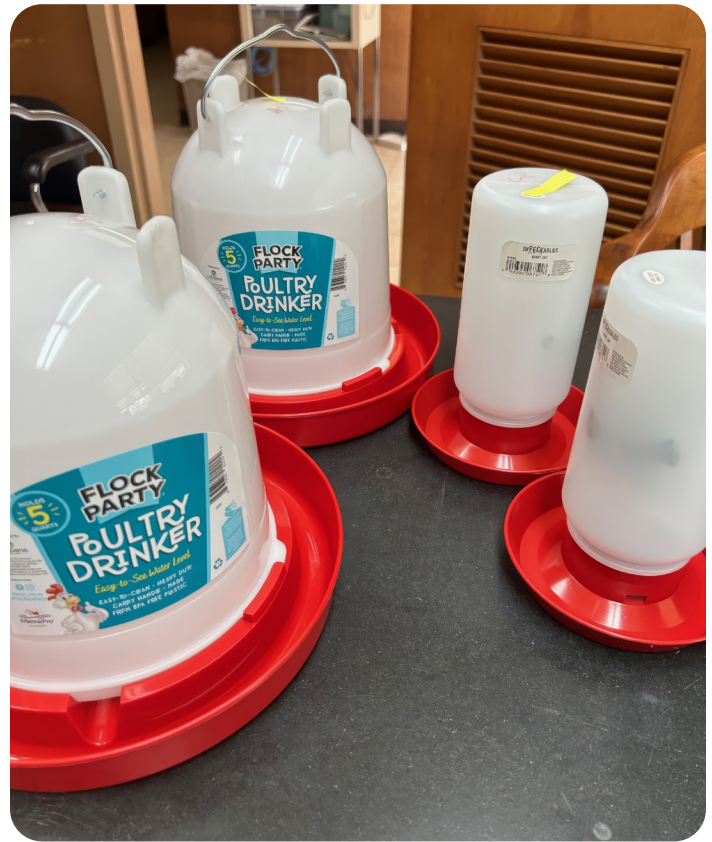
Water Temperature Shade vs Sun



IDEAL TEMPERATURE



A temperature logger was placed inside each poultry drinker.



Two sizes poultry drinkers were tested. Photos by Will Strickland

Generally the ideal drinker water temperature for poultry is considered to be a range, not a specific number. Water colder than 41 F may cause birds to reduce their water intake. As the water gets closer to their body temperature (about 106 F), water intake can also be reduced, and birds may eventually refuse to drink if it is too hot. This can be especially problematic as birds pant when they are heat stressed. They evaporate water from their air sacs (their

lungs), to help dissipate heat, and therefore their water needs increase. Water temperature between 65-85 F is often considered adequate. We should be mindful with chicks that we do not provide water that is too cold as chicks have a difficult time regulating their own body temperature, hence why we use brooders. We don't want to risk chilling the chicks with water that is too cold, but this range is adequate for chicks, too.

ICE IN YOUR DRINKERS

Some people may be tempted to put ice in their drinkers. While this can help to lower the temperature, remember this should usually be avoided with chicks to keep from chilling them. The ideal range is not near freezing temperatures. Putting ice or icepacks in a drinker reservoir is not like adjusting the handles of your faucet to get the right temperature in your sink. The resulting temperature will be based on the ratio of water and ice and the initial temperature of both. That is not to say the correct ratio and

temperatures cannot be found, but it is not as simple as just putting ice in your drinkers.

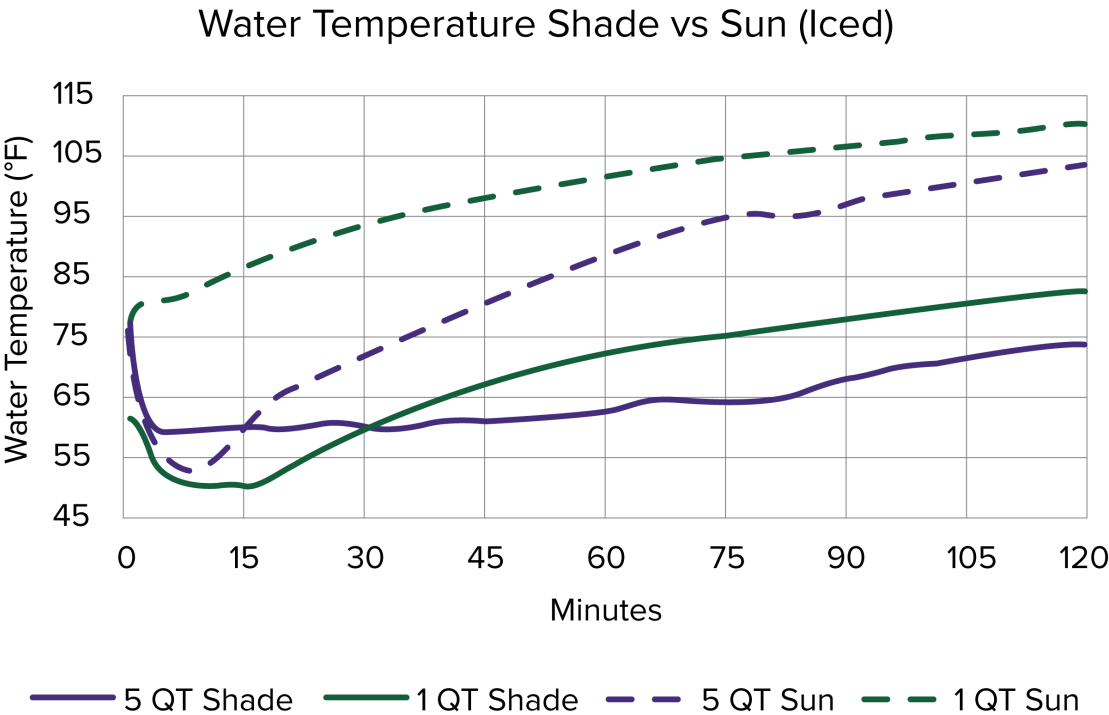
Additionally you may be surprised how quickly the ice melts and the drinker heats up, especially in the sun. This usually results in it not being worth the time or hassle. A better practice would be to insulate your drinker to slow the rate that the water temperature increases.

On the same day as the previous drinker temperature test, the drinkers were dumped after lunch and refilled with ice and water and the temperature recorded. As you can see from the graph below, the initial temperatures in the drinkers varied and the temperatures quickly rose, especially for those drinkers in the sun.

From this it is apparent that while replacing your bird’s water is a great practice, the placement of the drinker itself is important to consider when trying to keep your birds cool in the summer heat.



*Poultry drinkers were placed under a covered barn, left, and in the sun to monitor temperature changes.
Photos by Will Strickland*



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