

Understand broiler drinking behavior to achieve better flock performance

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For a broiler flock to thrive, it must have access to clean, fresh water. But, producers also need to understand poultry drinking behavior to manage their watering system for maximum performance.

When drinking, chickens peck the trigger pin with short, quick jabs. The drinker discharges water in varying amounts, depending on how the bird activates the drinker. A light peck releases less water than an aggressive knock.

On average, a chicken's visit to the drinker lasts no longer than a minute. This means the birds will return repeatedly to the drinkers throughout the day. Chickens prefer to eat and drink when other birds are present at the feeders or drinkers. This behavior, called "social facilitation," explains why chickens perform better in groups than individually.

Chickens need access to sufficient water to obtain maximum performance. The reason: nature designed chickens to swallow whole seeds and bugs. Water in the crop softens the feed so that digestion can occur. Without the water, dry feed forms clumps in the crop that can press on the bird's carotid artery, decreasing blood flow to the brain. This can cause paralysis and possible death.

Poultry anatomy complicates matters. A split in the upper hard palate of the beak allows air into the nasal passages and prevents the chicken from forming a vacuum in its mouth. Chickens, therefore, rely on gravity to draw water into the

crop. Producers can assist in this process by carefully monitoring and managing drinker line height.

Producers need to pay special attention during the first few days of a new flock. On the first day, place the chicks close to the drinkers. For nipple-type systems, the end of the trigger should be just slightly higher than eye level. Also, provide sufficient lighting, enough to attract chicks to the metal pins.

By the second or third day, producers should begin to raise each line slightly with a goal of having the chicks peck at about a 45-degree angle.

As the birds age, continue to raise the drinkers. By four weeks, the drinker height should require the birds to peck at about a 50- to 55-degree angle. (Imagine a line drawn from the bird's feet to its beak.) Do not locate the drinker line so that the birds peck straight in or downwards at the trigger pin. This limits water consumption and causes wet litter conditions. Again, maintain at least a 45-degree drinking angle.

Chickens can drink only so fast and only so much. Producers cannot force them to drink more. A common misconception in the poultry industry says that increasing the pressure in an enclosed watering system increases the amount of water the birds consume and therefore increases feed consumption. A bird's beak can only hold so much water during the pecking and drinking process and any water discharged greater than this will spill and wet the litter.

Another myth in the industry says producers can determine how much water a chicken consumes by using a flow-rate formula in combination with a special tool for measuring flow rate. Any such formulas or tools measure only water dispensed by the drinker and do not indicate how much the bird drinks and how much spills onto the litter. Additionally, such tools operate by lifting the trigger pin

and holding it open for a set time. That bears no resemblance to how birds actually drink — by pecking.

To determine the correct pressure setting for delivering water to the flock, examine litter conditions. Wet litter under the drinkers indicates the pressure is too high and the drinkers discharge more than the birds can drink. In this case, the producer should reduce pressure until the litter starts to dry. Wet litter results in ammonia releases and unhealthy conditions in the poultry house.

Completely dry litter indicates the birds may not have access to sufficient water because of low pressure. This can result in less feed intake and reduced weight gain. If litter under the drinkers is completely dry, increase pressure by two inches/five centimeters per day until a slight dampness develops. Then stop. Increase pressure as litter readings allow.

Ideally, producers should strive for litter that is just slightly damp. This maintains the litter in friable condition.

Understanding how birds drink and what behavior patterns they exhibit can help producers determine the poultry house practices that yield optimal performance.

Ziggity Systems, Inc. is the only manufacturer 100 percent focused on poultry watering for improved performance. For more information, write Ziggity Systems, Inc. at 101 Industrial Parkway, P.O. Box 1169, Middlebury, Indiana 46540-1169 USA, call +1 574.825.5849, fax +1 574.825.7674, or visit its Web site at www.ziggity.com.

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