

# **The watering system for a cage-free egg operation**

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Egg farming is undergoing changes worldwide, and legislation may soon prevent the use of battery cages in large markets around the world. Just last November, voters in California overwhelmingly approved a referendum that would prevent the use of cages in egg operations by the year 2015. The European Union has a ban scheduled to go into effect in 2012.

In addition, a number of public institutions, such as universities, throughout the world are demanding cage-free eggs. The demand is forcing more poultry farmers to remove their cages and rework their barns to provide cage-free space and nests.

Moving to cage-free production requires farmers to alter many of the ways they care for their layers. Farmers will have to spend more time walking the house, checking for floor eggs and to determine which nests are being used. They will also have to make sure the birds find the drinkers and feeding areas.

The most appropriate watering systems for cage-free barns are enclosed nipple-type systems. These watering systems are the same as used in broiler operations. The enclosed systems protect the water from pathogens that thrive in the poultry barn environment.

Open systems, such as catch cups, allow all sorts of debris from the barn to get into the water. Catch cups also allow for bird-to-bird cross contamination.

When drinking, hens 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 hen's visit to the drinker lasts no longer than a minute. This means the birds will return repeatedly to the drinkers throughout the day. Hens 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.

Layers 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. Hens, therefore, rely on gravity to draw water into the crop. Producers can assist in this process by carefully monitoring and managing drinker line height.

The drinker height should require the hens 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.

To determine the correct pressure setting for delivering water to the flock, examine litter and manure conditions. Wet litter and manure indicate 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. 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.

Understanding how layers drink and what behavior patterns they exhibit can help producers determine the poultry house practices that yield optimal performance as they transition from cage operations to cage-free production.

*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](http://www.ziggity.com).*