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BROILER TIP . . .

CONSIDERATIONS IN POULTRY DRINKER LINE MANAGEMENT



One of the basic needs of poultry is unlimited access to clean water. The U.S. poultry industry has for the most part adopted totally enclosed drinker systems, reducing contamination from foreign debris, such as shavings, feed, and feces. Another benefit of enclosed drinker systems is minimal water leakage onto the floor. Birds obtain water from the enclosed systems by pushing a metal pin that in turn pushes the internal mechanism of the drinker system, allowing water to pass through. Drinker systems should be monitored daily and have routine maintenance performed to maximize water flow and minimize water leakage. The following are factors and tasks that should be considered in a successful drinker line management program.

Water line management tips

PUTTING KNOWLEDGE TO WORK

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Well and pump capacity

The number of houses and birds per house should be considered when sizing well, well pump, and water pipes. The system should be able to provide enough water for bird consumption and to meet evaporative cooling system requirements on the hottest day of the year with market age birds. General rules on broiler farm water usage and pipe sizing have been reported by [Czarick, 2007](#).

Level the drinker lines

Un-level drinker lines can lead to air locks and reduce drinking opportunities for birds. This could result in restricting access for birds in areas where the drinker system is too high and result in water wastage where it is too low.

Minimize restrictions

Water filters reduce drinking water particulates, but should be sized so that they do not restrict water entering the house. Any valves that are used on the water panel should also be sized so they do not restrict water flow. Proper pipe sizing must be assured during house construction to guarantee maximum water availability.

Remove trapped Air

Any trapped air should be removed from the line. Installing air vents/standpipes in conjunction with performing a high pressure flush will remove trapped air from the water line. Air locks can restrict water availability. High pressure water flushing will remove air locks from the line. To prevent air locks, there should be no high points between the two ends of the drinker line, and midline air vents/standpipes should be installed on lines that are longer than 150 feet.

Perform regular flushing

A high pressure flush should be conducted after running ANY product through the water line. This will remove residual contaminants and limit bacterial growth. In addition, flushing the water line will provide cooler water to birds which may stimulate water consumption. Water lines should be flushed between flocks as the water in the lines will have been sitting for several days.

Sanitize regularly

Bacteria and fungi can be introduced into the drinker line over time at the well, from bird usage and through introduction of other materials through medicators. There are a wide variety of products available for drinker sanitation. Approved products for drinker and water sanitation as well as bird consumption should be used. Special care should be taken to use these products according to the instructions on the label so that bird water consumption is not reduced and that the drinker equipment is not damaged. Using the correct sanitizer is important because sanitizers can be affected by water pH, hardness, mineral content and biofilms and other organic material. In order to ensure maximum product efficacy, information about the quality of the water being treated should be considered. A variety of products are available and some are listed in Table 1.

Table 1. Some Products Available for Cleaning Water Lines¹

Agri Zone Flush	Citric Acid	PWT
Agri Quat S	Hydrogen Peroxide (35%)	Sodium Hypochlorite (12.5%)
Anthium Dioxide	HydroLine	Sodium Hypochlorite (2.5 %)
Aqua Max	Iodine	Sterilex
Acetic Acid	Oxy Blast	Z-Series
Aqua Vite	Proxy Clean	

¹ Use of trade names does not imply endorsement by the authors or The University of Georgia to the exclusion of others not mentioned

Manage height according to bird age

Drinker line height should be increased as the birds grow. On the day of placement the drinker line height should be adjusted so that the pin is at the eye level of the bird. As birds age the line height should be adjusted so that pin is slightly above the birds head requiring a slight upward angle to activate the pin. Birds should not have to strain to reach the pin.

Manage water pressure according to bird age

Pressure dictates how much water the bird gets when the drinker pin is activated. High pressure will provide more water than low pressure. At placement, water pressure should be low to allow the chicks to easily activate the drinker pin and prevent water wastage onto the litter. Pressure must be increased as the birds age to meet bird water demand. Litter condition under the drinkers should be monitored when determining water pressure. If the litter is too damp, lower the pressure.

Change water filters regularly

As particulates accumulate in the filter, water pressure will drop. Water pressure should be monitored prior to and after the water filter. Filters must be changed when pressure drops to maximize drinker system operation.

Conducted routine water tests

Water quality can change over time. These changes can reduce the efficacy of water line sanitation products and may impact the performance of products used to treat water. Water tests should be conducted annually. Consider testing water during periods of drought or high rainfall to ensure that water quality has not changed.

Operate drinker system according the manufacturer's guidelines

Drinker systems are designed to provide birds unrestricted access to water. All drinker manufacturer's provide guidelines for their products and these should be followed to ensure optimal performance. A study comparing five different drinker systems found no differences in broiler performance when the systems were operated according to the manufacturer's guidelines ([Cornelison et al. 2005](#))

References

Cornelison, J.M., A.G. Hancock, A.G. Williams, L.B. Davis, N.L. Allen and S.E. Watkins, 2005. Evaluation of nipple drinkers and the lott system for determining appropriate water flow for broilers. University of Arkansas Extension Service Avian Advice 7(3).

http://www.uark.edu/depts/posc/pdfs/avianadvice_fa05.pdf (accessed 6/15/09)

Czarick, M., 2007. Broiler farm water usage and pipe sizing rules of thumb. University of Georgia Cooperative Extension Service Poultry Housing Tips 19(6).

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<http://www.engr.uga.edu/service/extension/ventilation/tips/2007/vol19n8.pdf> (accessed 6/15/09)

Choretime drinker management procedures

http://www.choretimepoultry.com/product_documents/MW929M_Nipple_Watering_Quick_Reference_Sheet_02_2007.pdf (accessed 6/15/09)

Val-Co drinker management procedures

<http://www.valcompanies.com/assets/files/en/man/MAN21-01C-EN.pdf> (accessed 6/15/09)

Ziggity drinker management procedures

http://www.ziggity.com/pdf/cont/cont_document_pdf_pdf_5.pdf/Broiler_Applications.pdf (accessed 6/15/09)



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