Poultry farmers gain new option for filtering water

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Most poultry farmers know they should filter the water coming into their poultry houses. To forgo filtering is to invite sediment to clog the system and cause nipple-type drinkers to leak, creating wet floors. Additionally, unfiltered water may be substandard and hurt production.

We at Ziggity continually emphasize the need to control litter/pit moisture. Ziggity's systems are carefully designed to deliver just the right water volume without spillage. At the same time it's critical to make certain drinkers do not leak because of sediment. This would negate all of the carefully engineered benefits of the system.

Until recently, there were two types of filtration systems used in poultry operations: one is the 10-inch stringwound design; the other, a media filter or sand filter. Both types have drawbacks and neither was designed specifically for poultry applications.

The Process Advanced Filtration Division of Parker-Hannifin Corp. changed that with its newly introduced FarmGuard™ Filtration System. Ziggity is always looking for ways to ensure optimal watering system performance. This requires that we take a macro look at the poultry operation. While we don't make filters, we feel it very important to educate producers on any aspect of the watering process that affects the flock's performance. It's important that drinkers work properly and we must look at everything that impacts on their performance.

In this article, we will examine all three types of filtration and explain the advances Parker-Hannifin has developed.

The 10-inch filter cartridge is most common on poultry farms. These cartridges have a stringwound design where strands of cotton, polyester or polypropylene are wound into 2.5-inch diameter filters that are put into plastic housings. These filters originally were

designed in the 1930s to filter water for the kitchen sink. Most farmers must go to their home improvement store to find them.

The optimum flow rate for these filters is two gallons a minute; most poultry operations require at least five times that amount of water. The result is the efficiency of the filter is challenged.

Poultry farmers are also oxidizing their water with chemicals like chlorine, hydrogen peroxide, ozone or chlorine dioxide to kill bacteria and to keep biofilm at bay. But while oxidation controls bacteria, it also causes dissolved inorganics, such as calcium, iron and sulfur to precipitate out. These precipitated inorganics become another substance that put a strain on the filter.

Media filters, or sand filters, are very beneficial to farms that have high levels of sediment, as well as algae and bacterial loads that must be controlled. Media filters can handle the high volume of water poultry operations need, and operating costs are not prohibitive. However, sand filters are expensive to install and back washing them is time consuming. And, if they are not well maintained, channels can form in the sand bed. These channels allow more material to pass through the filter.

Gary Hammond, a market development manager for Parker-Hannifin, developed the FarmGuard filter. Hammond stopped at a broiler operation in his home state of Georgia and realized the farmer had a separate filter for each of the poultry houses. "That simply was not economical or efficient," said Hammond. "We developed a filter that can handle the entire operation. That means the farmer must deal with only one filter and not several."

The FarmGuard is 40 inches high and has a 12-inch diameter housing. The filter media is a non-woven pleated polyester. It is 26 inches high by six inches diameter. The filter housing is enclosed with O-ring seals. "The capacity of the system is 100 gallons per minute and the capacity of the filter is equal to 180 stringwound filters. Farmers can wash the filter media with a hose and reinstall it for even longer life." said Hammond.

He said the FarmGuard is 95 percent efficient, compared with only about 50 percent efficiency for stringwound filters.

"The FarmGuard Filtration System dramatically improves efficiency on a poultry farm, and it does it in a very economical way," said Hammond.