

Rainwater to safe drinking water for livestock at a farm in Ohio, USA

Rainwater



System Design Specifications

Application: Rainwater to potable
Location: Cooper Farms - Ohio, USA
Commissioned: 2009
System: 4x Upstream NC 1.5-50
Flow: 15 to 60 gpm (57 to 227 L/min)
Minimum UV dose: 40 mJ/cm²
Minimum UVT: 50%

Inadequate groundwater supplies prompted Cooper Farms in Ohio to begin harvesting and reusing rainwater in 2009 as a supplement to its potable supply and to reduce its demand on the local groundwater system.

Since one of the key uses for the rainwater is to provide drinking water for livestock, Cooper Farms started exploring options to implement a multi-barrier treatment process with disinfection that could provide reliable, safe water. Rainwater can acquire numerous contaminants and pathogens as it is collected, so treating it to potable water quality standards is essential for preventing disease outbreaks and death among livestock.



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———— Cooper Farms

UV Pure disinfection provides peace of mind even for low-quality water

Upon recommendation from Flag City Water Systems, a local UV Pure representative, Cooper Farms installed a treatment system that includes chemical-free UV Pure disinfection for its ability to handle low UV transmittance (UVT) water quality, a typical characteristic of the rainwater that is collected and stored in a retention pond at the site.

“We worked closely with UV Pure to design and install a water treatment system that meets Cooper Farms’ needs,” says Brad Longberry, CEO of Flag City Water Systems. “Even after pond water is filtered, UVT can still be quite low, so the ability to consistently deliver a high UV dose under these conditions was a very important consideration for us when selecting UV Pure’s system with Crossfire Technology for this application.”

The system at Cooper Farms is designed to treat source water to a potable standard. Currently, a small amount of well water is pumped into a retention

pond, which is supplemented by harvested rainwater. The blended stream first passes through a microfiltration system that uses a specialized five-micron filter to remove organics, and then the filtered water is dosed with chlorine.

“Once chlorination is complete, the water requires additional disinfection, which is provided by the UV Pure system,” Longberry says. “UV disinfection inactivates pathogens like Cryptosporidium, Giardia, and Legionella, which can be resistant to chlorine. Proper UV disinfection also provides a second layer of protection to enhance the treatment system’s performance and reliability since the chances for a potential disease outbreak are always very real for Cooper Farms.”

Final disinfection is performed by a variable-flow UV Pure system consisting of four Upstream NC 15-50 reactors sized to handle flows from 1.5 to 60 gpm (57 to 227 L/min) with UVT as low as 50%.

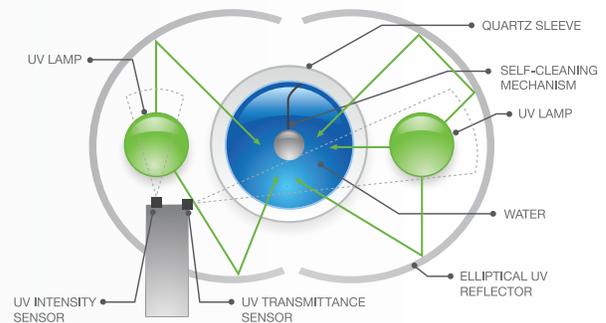


Crossfire Technology targets pathogens from every angle

UV Pure’s Crossfire Technology incorporates elliptical reflectors that reuse light energy to deliver a high UV dose that targets pathogens from 360 degrees.

Dual smart UV sensors in each UV Pure reactor continually monitor UV lamp output and water quality to ensure the highest level of treatment is consistently delivered to protect Cooper Farms on an ongoing basis. If either of these parameters does not meet the set specifications, the system will sound an alarm, notify the operator, and automatically shut down.

“Overall, our partnership with UV Pure has been excellent,” Longberry says. “As a UV Pure distributor for the last 20 years, Flag City has received great technical support and fantastic systems in a timely fashion.”



For UV Pure sales and service in Ohio, contact Flag City Water Systems.



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