



## GROWSTREAM™ — THE WORLD'S FIRST AND ONLY PLANT-RESPONSIVE IRRIGATION SYSTEM

By Ms Jan Gould

**A** disruptive new irrigation technology, based upon organic chemistry, is poised to rock the irrigation industry, forever changing the way the world irrigates. After more than a decade of research and development, Responsive Drip Irrigation commercially released Growstream™, the

world's first “smart” irrigation tubing that communicates directly with plants to regulate irrigation delivery. This plant-responsive technology is the most innovative approach to hit the market, since drip irrigation was released over a half-century ago.

Using the understanding of plant physiology and organic

chemistry, Growstream's “smart” subsurface irrigation tube interacts and responds to chemical signals released by plants' roots. This patented, chemically-infused microporous tubing holds water and nutrients until root exudates are emitted that trigger the release of water. Growstream's plant-



responsive system provides a slow-release delivery of water that matches the roots' absorption capacity. Since the plant is self-regulating its water delivery, there is less stress on the plant, resulting in higher yields in agriculture. Lawn and landscape require far less water and achieve superior results. This plant-responsive method of irrigation demonstrates superior efficiency over all currently available subsurface drip systems, using 30-50% less water.



Growstream's water release continually fluctuates, responding “real-time” to plants' needs and changing weather conditions. The chemical responders of this system's patented tubing allow each plant to pull the water that it needs, so the system can support varying plant types on a single line. Along the same tube, different crops or plants with variable water needs (xeriscape to water-thirsty plants) are able to receive irrigation at variable release rates to meet their demands.

Growstream's tube has millions of microscopic openings along its surface to release water. The system has no emitters to clog or malfunction. The system does not require filtration. However, a 40-60 micron filter may be used if sludge is pulled from wells or ponds. The system is

easy to install and maintain. The installation cost is the same or less than the current sub-surface irrigation. Any repairs to the system can be made in minutes.

This plant-responsive technology operates at extremely low pressure (<4 psi), so it will work in remote locations with a rain barrel or a raised reservoir. With this minimal operating pressure, the system can deliver water to plants in row lengths of over 1200 feet. There is no need for electronic components—just a water source. The system is simply a water pressure regulator, fittings and the tube. There are no solenoids, valves, controllers, timers or other electronic devices.

The water source can be a well, a river, brackish water, tap water, reclaimed water, etc. The system is self-regulating

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and provides more water to the plants (as they “call” for it) when it is hot and dry. High temperatures do not affect the system's efficiency. Responsive Drip Irrigation, LLC offers irrigation system solutions to meet the needs for varying applications. They have developed enhancements and system solutions to facilitate grounds management of large properties and commercial farms, capturing data measurements to provide remote monitoring. This results in a perfect blend of organic chemistry and modern technology.

This irrigation system can supply water-soluble fertilizers and micronutrients directly in the rhizosphere of

the plants, so plants can be grown in non-arable land and sandy soil. White cabbage was grown in sand and crushed shell, using Growstream to deliver water with low concentrations of diluted nutrients to the root zone of the plants. Traditional surface drip could not sustain quality cabbage growth in the sand, even with more water and fertilizers.

Growstream™ is a green technology that works organically to communicate with plants. It's capable of growing plants in the harshest of environments, while using minimal amounts of water. In the past, man's mistakes have had long-lasting consequences on the balance

of nature. Growstream is not just about sustainability, but regeneration. This technology will preserve and regenerate our planet for future generations. All of this indicates that Responsive Drip Irrigation, LLC may be poised to become the next 800 pound gorilla of the sub-surface irrigation market around the world.

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*For more information about RDI: Visit their website at: [www.responsivedrip.com](http://www.responsivedrip.com) or call them in the U.S. at: (+1) 941.792.9788.*

*Responsive Drip Irrigation, LLC, 6404 Manatee Ave. W. Suite N, Bradenton, FL 34209  
Company email is: [info@responsivedrip.com](mailto:info@responsivedrip.com)*

