



RDI RESPONSIVE
DRIP
IRRIGATION



GrowStream

**THE WORLD'S FIRST AND ONLY
PLANT-RESPONSIVE
WATER DELIVERY SYSTEM**

2019 COMPANY AND PRODUCT OVERVIEW

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**THE
SMARTEST
MOST
WATER
EFFICIENT
IRRIGATION
SYSTEM
EVER
MADE**

EXECUTIVE SUMMARY

Responsive Drip Irrigation (RDI) has developed a new method of water delivery that will completely reset the standard for irrigation systems. RDI is introducing GrowStream™ the world's first *plant-responsive* irrigation system. Using technology based upon organic chemistry, GrowStream™ is a "smart" subsurface irrigation tube that interacts and responds to chemical signals released by plants' roots. GrowStream™ allows the plant to self-regulate its water delivery, resulting in unmatched plant performance, water savings, and money savings versus all existing forms of forced irrigation.

For over a decade, RDI has been quietly testing, refining, improving, and protecting its technology and product. This report provides an overview of RDI's history, extensive testing, and critical achievements- all leading to the launch of GrowStream™ for the agriculture, greenhouse, nursery, retail, and landscape industries.

GrowStream™ can use a range of water types- including wells, rivers, brackish water, tap water, and reclaimed/recycled water. It can also supply fertilizer and micronutrients directly to the plant roots. GrowStream™ will lead to an unprecedented conversion of previously non-arable land for crop production to increase global food supply while drastically reducing the use of earth's most valuable resource: water.

- 1 | INTRODUCING PLANT-RESPONSIVE TECHNOLOGY
- 2 | COMPANY TIMELINE
- 3 | EARLY RESEARCH AND DEVELOPMENT
- 4 | TESTING IN COMMERCIAL AGRICULTURE
- 5 | TESTING IN COMMERCIAL LAWN AND LANDSCAPE



GrowStream

**A NEW ERA
OF CONVERTING
NON-ARABLE LAND
INTO FOOD CROPS
IS HERE.**

1 | INTRODUCING PLANT-RESPONSIVE TECHNOLOGY



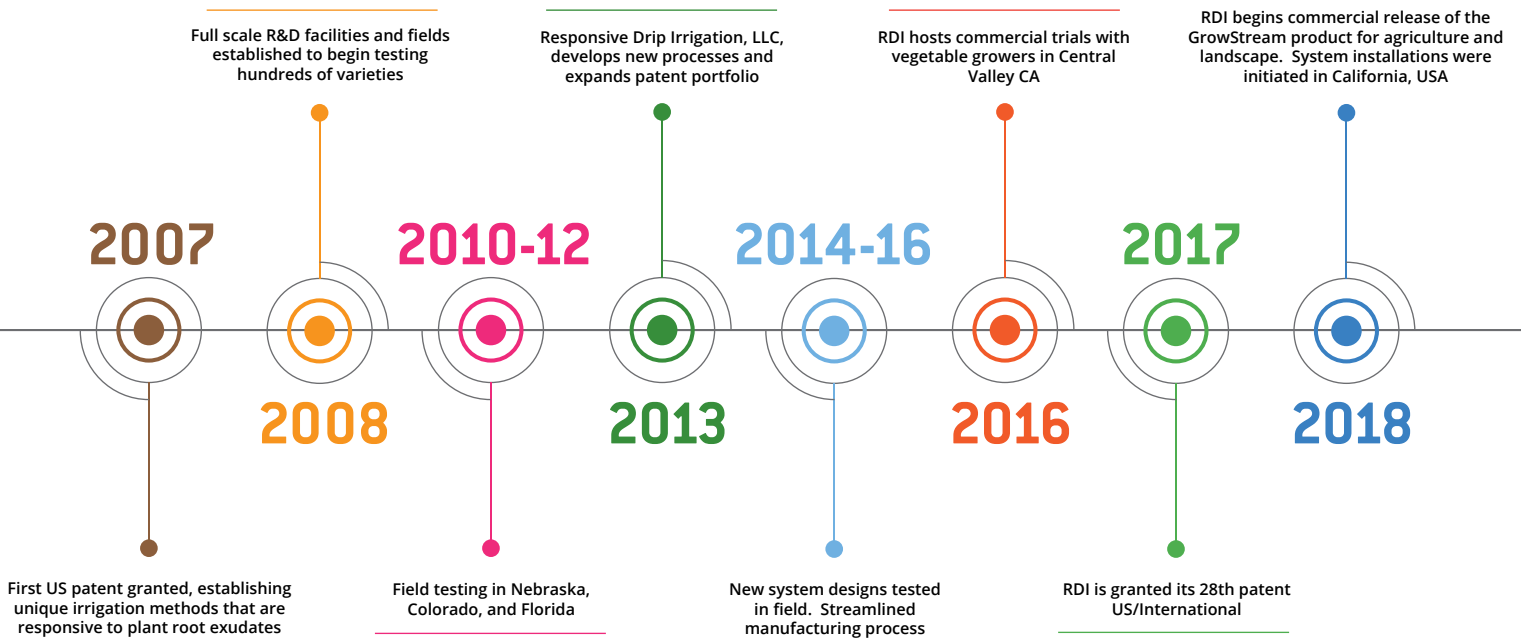
When crops and plants need water and nutrients, they emit root exudates that allow them to uptake what they need from the surrounding soil.

The patented RDI system responds and interacts with these root exudates, allowing water and nutrients to be released out of the billions of "smart micropores" in the GrowStream™ tubing. When the plant is satisfied, it stops producing root exudates- and GrowStream™ stops releasing water.



Plant variety, stages of growth and development, and weather conditions like temperature, sunshine, rain, wind, humidity... all contribute to how much water and nutrients each plant root demands. Like an underground reservoir, GrowStream™ allows each and every plant to draw what it needs- dynamically, 24/7.

2 | RDI - COMPANY TIMELINE



3 | EARLY RESEARCH AND DEVELOPMENT



2008 began full scale R&D.

Hundreds of internal trials were performed to analyze the technology and its interaction with root exudates. Numerous plant species were tested in variable environmental conditions.

Root intrusion is eliminated with RDI.

The millions of micropores along RDI's responsive tube release water on demand for the plants, eliminating root intrusion. No more emitters to clog. The roots grow near RDI's responsive tube, promoting a symbiotic relationship with the plant roots, eliminating excess water loss and run-off.





Cabbage grown in crushed shell.

Soil conditions were very poor, with no existing nutrients. Test showed that RDI could effectively deliver both water and nutrients directly to the plant roots despite poor soil conditions.

Mixed plant variety and demand.

Trial tested RDI's responsiveness and ability to meet water/nutrient demand for a diverse group of ornamental plants with variable water needs ranging from xeriscape to water-thirsty plant species irrigated by a single tube/line.



Varied testing environments.

Trials were conducted in greenhouses, nurseries, and outdoor field trials. Test protocols required daily data collection of water usage, measurement of nutrients and additives, observations of plant growth, development and yield. These measurements were compiled and analyzed to optimize performance and establish best practices. Hundreds of plant varieties have been tested. All species thrived with GrowStream™ while consistently using significantly less water and fertilizer while promoting plant health and higher yields.



A close-up photograph of several green leaves, likely from a plant like kale or chard, covered in numerous small, glistening water droplets. The leaves are vibrant green with prominent veins. A thin, purple stem is visible in the upper left. The background is dark, making the green leaves and white droplets stand out.

GrowStream

**SAVES 30-50% vs
CONVENTIONAL DRIP
IRRIGATION AND
REDEFINES THE
STANDARD FOR
WATER EFFICIENCY.**

4 | TESTING IN COMMERCIAL AGRICULTURE

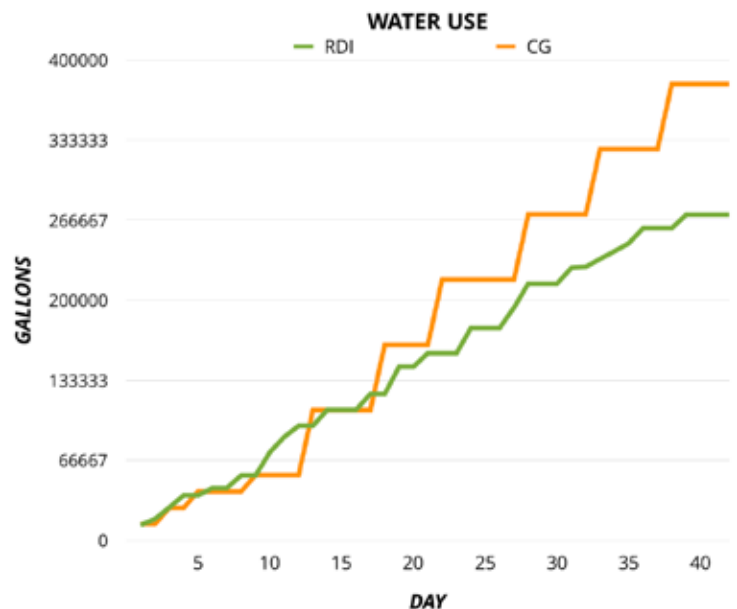


2017 | Organic Romaine Monterey County, CA

RDI conducted a trial with a commercial lettuce grower in Monterey County, CA to produce organic romaine hearts.

Grower established transplants with sprinkler applications and then switched to drip irrigation. RDI was able to show 29% water savings, and does not require sprinkler applications to establish plants. Grower also applied two equal applications of organic fertilizer as standard practice in Control Group 2 (CG2). RDI and another control group (CG1) received only the first application which was done preplant.

With less water and half the fertilizer, RDI plants grew larger and produced a higher quality yield than both control groups.



RDI shows superior growth and development vs. both CG1 and CG2 with less water and only half the fertilizer.



GrowStream

**INCREASES CROP
YIELD BY REDUCING
STRESS AND
ALLOWING EACH AND
EVERY PLANT TO
SELF-REGULATE ITS
WATER DELIVERY.**

An aerial photograph of a coastal town. On the left, there are residential buildings with red-tiled roofs, swimming pools, and palm trees. A road with several cars runs horizontally across the middle. To the right of the road is a sandy area with some vegetation, leading to a rocky coastline where waves are crashing. The ocean is a deep blue color.

GrowStream

**REDUCES OUTDOOR
WATER USE IN
LANDSCAPES
AND ELIMINATES
FERTILIZER RUNOFF
TO CREATE MORE
SUSTAINABLE CITIES
AND RESTORE THE
ENVIRONMENT.**



RDI[💧]

R E S P O N S I V E
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