2019 IRRIGATION ASSOCIATION SHOW

Subsurface Irrigation Solutions: Forced vs. Responsive

December 5, 2019

11:40 a.m.-12:40 p.m.


Presented by:
Responsive Drip Irrigation
and their Guests

Comparison: Drip Irrigation vs. Plant Responsive Irrigation

- Drip irrigation systems (SDI & SSDI) deliver a set volume of water during cycled intervals regulated by a timer, electronic controller, or manual valves.
- Plant responsive irrigation systems release water & nutrients in response to plant root signals.

RDI RESPONSIVE DRIP IRRIGATION

Current Technology

- Sophistication
- System cost
- Design and installation
- Efficiency
- System issues

RDI RESPONSIVE DRIP IRRIGATION

Sophistication

RDI RESPONSIVE DRIP IRRIGATION

Costs

- System installation
- Water
- Fertilizer(s)
- Amendment(s)
- Energy
- Maintenance

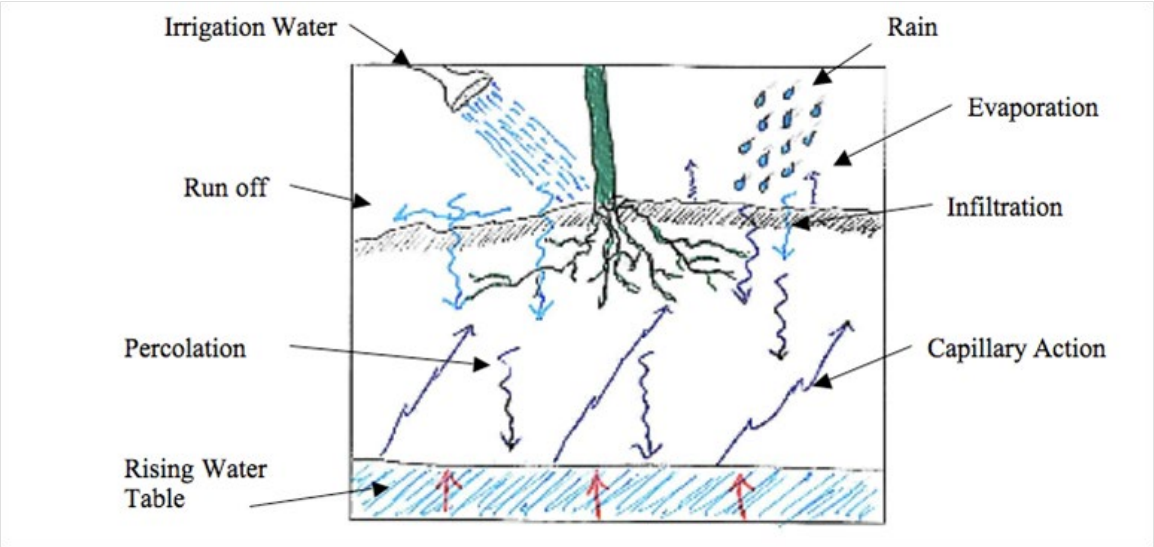
RDI RESPONSIVE DRIP IRRIGATION

Drip Irrigation System Issues

- Improper Design & Installation
- System Clogging
- Soil Percolation/Salt Leaching
- Repairs
- Mechanical Failure
- Variable Efficiency

RDI RESPONSIVE DRIP IRRIGATION

Salt Leaching

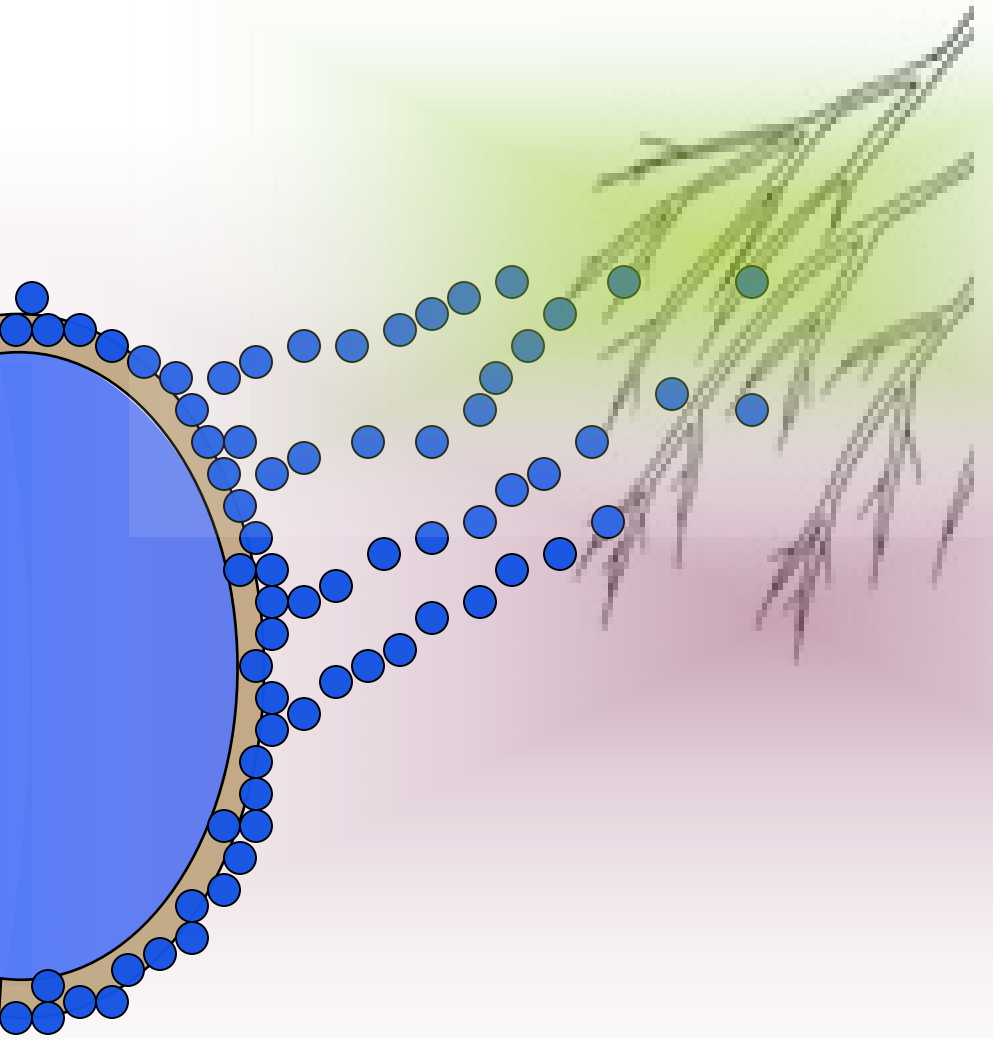


- Movement of Minerals
- Reduction of Plant Growth
- The Cycle
- Water Table
- Major Concern of Growers in US
- Low Flow
- Low Percolation

RDI RESPONSIVE DRIP IRRIGATION

What Does Plant Responsive Mean?

- A plant responsive irrigation system uses “organic chemistry” to release water/nutrients when triggered by plant root signals, which reduces plant stress, thereby producing optimal plant performance in lawn & landscape or agricultural applications.



- Loosely held water molecules
- Breaking the surface tension bond
- Traveling water molecules
- Absorption

RDI RESPONSIVE DRIP IRRIGATION

System Comparisons

	Responsive	*Surface Drip*	*Sub Surface Drip*
Cost	Moderate	Moderate	Moderate
Design & Installation	Easy	Moderate	Moderate
Maintenance	Low	Moderate	Moderate
Maintenance Cost	Low	Moderate	Moderate
Operation	Easy	Moderate	Moderate
Run Off	None	High/Moderate	None
Evaporation	Minimum/None	Moderate	Minimum/Moderate
Percolation	Low	High	Moderate
Disease Level	Low	Moderate	Low/Moderate
Fertilizer Use	Minimal	High	Moderate/High
Clogging	None	High	High
Salt Leaching	Very Low	High	High
Overall Performance	Very High	Moderate	Moderate/High
Water Conservation	Very High	Moderate/High	High

RDI RESPONSIVE DRIP IRRIGATION

- Superior water efficiency
- Less fertilizer & amendments
- Simple design & installation
- Fewer components
- Same or lower system costs
- Minimal maintenance
- Eliminates root intrusion
- Reduces weed growth
- Performs well with various water & soil types
- Eliminates run-off and fertilizer leaching into water source
- Low pressure

Benefits of Responsive Irrigation systems versus Drip Irrigation

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Q&A and Discussion