NDrip

Revolutionary Irrigation Technology to Mitigate Climate Change Hazards
70% of annual water withdrawals goes to Agriculture

85% of global irrigation is carried out by wasteful flood

Sustainable farming is a global necessity

Source: Aquastat FAO, World bank
Flood Irrigation is No Longer Sustainable

- Water Waste
- Lower Yield
- Fertilizer Overuse
- Greenhouse Gases
- Soil Erosion
- Methane
- Hard Labor

Lower Yield
N-Drip Transforms Flood to Gravity-Powered Micro-Irrigation

Citrus in Yuma, Arizona - Before and after the transition from flood to N-Drip
N-Drip – The only sustainable solution to save significant amount of water

- Uses existing flood infrastructure
- Efficiently irrigate based on gravity power alone
- Operates with natural water without expensive filtration

![Comparison of Flood and N-Drip irrigation methods](image)

- Up to 70% Water saving
- Up to 45% Yield increase
- Up to 71% CO₂ reduction
- Up to 50% Fertilizer usage reduction
Precise irrigation powered by gravity alone, backed by reliable data

N-Drip gravity powered irrigation
- Existing infrastructure
- No pumps
- No filters
- Patented gravity-based technology / no external energy required
- Saves water use and manages water flow
- Reduces CO₂ and methane emissions relative to flood irrigation
- Maximizes yield potential
- Reduces fertilizer use
- Protects soil fertility and reduces land depletion
- Composed of 100% recyclable materials

N-Drip Connect
- Monitor
- Act
- Optimize
- Game-changing sensor and data analytics technology – more accurate and reliable
- Offers crop and soil-specific irrigation and fertilization recommendations
- Simple, easy-to-use application
- Full service supported by teams of agronomist

Combined solution of efficient irrigation and agronomic decision support system to achieve optimal value for growers while directly contributing to UN SDGs
A Picture is Worth 1,000 Words...

Simple and affordable infrastructure vs. pressurized drip

High-pressure Drip
<$2,000 per acre*
Equipment:
filters, pumps, valves

N-Drip
>$500 per acre
Equipment:
water tank, valves

Higher yield vs. flood, using 50% less water

<table>
<thead>
<tr>
<th></th>
<th>N-Drip</th>
<th>Flood</th>
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</thead>
<tbody>
<tr>
<td>Irrigation (AF/acre)</td>
<td>1.53</td>
<td>3.05</td>
</tr>
<tr>
<td>Co2 Emissions (Kg/ton)</td>
<td>54</td>
<td>352</td>
</tr>
<tr>
<td>Yield (Bu/acre)</td>
<td>89.5</td>
<td>72</td>
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</tbody>
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*Not including cost of energy
## Case study: Reducing the carbon footprint in Potato

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
<th>Kg potato</th>
<th>Per acre</th>
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<tbody>
<tr>
<td><strong>Emissions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kg CO₂ eq</td>
<td>Kg</td>
<td>0.364</td>
<td>872</td>
</tr>
<tr>
<td>Kg N₂O</td>
<td>Kg</td>
<td>0.34</td>
<td>1.3</td>
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- 0.5 is the global average based on research published by Poore & Nemecek (2018) - *(Reducing food’s environmental impacts through producers and consumers)*
- 0.1 is the global average based on research published Arezoo Taghizadeh-Toos et al. (2019) - *(Regulation of N₂O emissions from acid organic soil drained for agriculture)*

<table>
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<tr>
<th><strong>Water Footprint</strong></th>
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<tbody>
<tr>
<td>Liter</td>
<td></td>
<td>95</td>
<td>2,280,000</td>
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- 287 is the global average based on research made by Institution of Mechanical Engineers published by The Guardian (2013) - *(How much water is needed to produce food and how much do we waste?)*

| **Nitrogen Input**  |          |           |          |
| Kg N               | Kg N     | 0.005     | 108      |

- 0.005 is the global average based on research published by Magdalena Pierer et al. (2014) - *(The nitrogen footprint of food products and general consumption patterns in Austria)*

| **Nitrogen Leaching** |          |           |          |
| Kg N               | Kg N     | <0.001    | 0.2      |

- 0.005 represent the actual amount of Nitrogen input in soil
Arizona is Home For N-Drip in North America
N-Drip in Arizona

Yuma | 5000 acres

Parker | 3500 acres

Casa Grande | 500 acres

Yuma | 500 acres

Buckeye | 500 acres

Eloy | 500 acres

Tucson | 100 acres

CRIT Team

Head office

Yuma Team

Central Arizona Team
Arizona - Installations & Results

- Over 1,500 acres installed
- Alfalfa fields showing 49% water savings more than 3 acre-feet per acre
Emerging Water Shortage Driver*

1. Water savings sales:
   - Water savings solutions to water utilities
   - Offsetting water savings
   - Public grants-based sales

Sustainable Supply Chain Driver

1. Strategic partnership with PEPSICO
2. Partnership with Consumer Products Goods corporates (CPGs)
3. Harnessing impact-oriented financial institutions

- Irrigation distributors
- Direct sales to growers

* Current focus is on Southwest US
Thank You!
Come N-Drip with Us!