SDI-E
Subsurface Drip Irrigation
For Dairy Effluent Water
Application

TURNING WASTE INTO VALUE
A Circular Economy Model
Driving Sustainability in Dairy Manure Management

SUSTAINABLE MANURE MANAGEMENT SOLUTION

2020 U.S. Dairy Sustainability Award for Outstanding Community Impact

AWARD-WINNING

SUSTAINABLE MANURE MANAGEMENT SOLUTION

GROW MORE WITH LESS
**SDI-E** An innovative subsurface drip system that utilizes advanced filtration and proprietary, patent-pending technology developed by Netafim to blend dairy wastewater with fresh water enabling consistent and reliable application of dairy effluent as a nutrient-rich fertilizer. This process not only re-uses water, but also recycles manure as a natural crop nutrient and soil builder, reducing the need for commercial fertilizer.

### Turning Waste Into Value

**BENEFITS**

- **Increased crop uniformity and yields**
  - With SDI, water and nutrients are used more efficiently reducing input costs, producing a more uniform crop and higher yields.

- **Increased water use efficiency**
  - Water loss through evaporation, runoff and deep percolation are virtually eliminated.

- **Reduced need for scarce water resources**
  - Allows Dairy Farmers the ability to weather extreme drought

- **Reduced risk of polluting water bodies**
  - Reduced nutrient use avoids polluting water supplies

- **Reduced need for synthetic fertilizer**
  - Dairy Farmers save by utilizing the already available organic on-farm nutrients.

- **Reduced greenhouse gas emissions**
  - Studies show approximately 70-90% fewer greenhouse gases were released, when dairy effluent water was applied through an SDI system.

To learn more about SDI-E, visit netafimusa.com/effluent.

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**Project Partners**

**Making an Impact**

- Sustainable Conservation
- WUD
- Western United Dairies
- De Jager Dairy
- McRae Dairy
Netafim’s patented system precisely blends the right ratio of effluent and fresh water for maximum nutrient uptake reducing the need for synthetic fertilizers to grow feed crops. Unique system features of our SDI-E system include:

- Electronically Actuated Valve
- Controller with EC Capable Logic
- Doubled Filtration Capacity
- 2 VFD Pumps

### Key Factors

#### SUCCESS

- **5 Cows to 1 Acre Ratio** for effective nutrient management
- The use of two lagoons or settling ponds to help filter the effluent water
- Netafim’s patented blending controls for fresh/effluent water blending
- The use of sprinklers or flood irrigation for germination then transition to SDI
- Optimized and engineered effluent water intake
- Operations focus on dripline maintenance

### Pilot Results

#### SUMMARY

<table>
<thead>
<tr>
<th>YIELD</th>
<th>WATER USE EFFICIENCY</th>
<th>WATER APPLIED</th>
<th>NITROGEN USE EFFICIENCY</th>
<th>NITROGEN APPLIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tons Yield/Acre</td>
<td>Tons Yield/Acre/Inch of Water</td>
<td>Inch of Water Per Acre</td>
<td>Tons Yield/Acre/lbs of Nitrogen</td>
<td>Ibs N Applied Per Acre</td>
</tr>
<tr>
<td>2.57%</td>
<td>38.13%</td>
<td>-35.16%</td>
<td>47.22%</td>
<td>-44.78%</td>
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### Funding

- **EQIP NRCS**: Contact your local NRCS office for an application.
- **SWEEP CFDA**: Contact your local CFDA office for an application.
- **NETAFIM FINANCIAL SOLUTIONS**: Visit netafimusa.com/financial-solutions

### System Design

For system design your **Authorized Netafim Digital Farming Dealer**, versed in the local aspects of crop irrigation with SDI, will help determine what system configuration is best.