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## **SDI-E Dairy Effluent Irrigation**

Pioneering NRCS Funded Solution

DEVELOPED IN COOPERATION WITH



## What is the System?



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A modified drip irrigation system\* that uses manure nutrients instead of synthetic fertilizers. Allows dairies to grow feed crops with less environmental impacts compared to flood irrigation and conventional drip systems. (\*Note: SDI-E stands for Subsurface Drip Irrigation - Effluent)

## Farmer Benefits

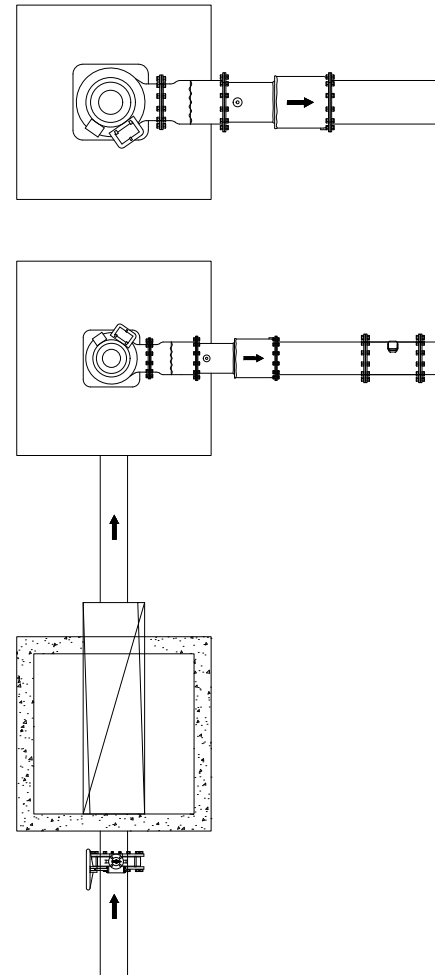
- Increased quality and yields of feed crops
- Reduced need for scarce water resources
- Reduced need for expensive synthetic fertilizers
- Increased water use efficiency
- Reduced risk of polluting nearby water bodies

## Climate Benefits

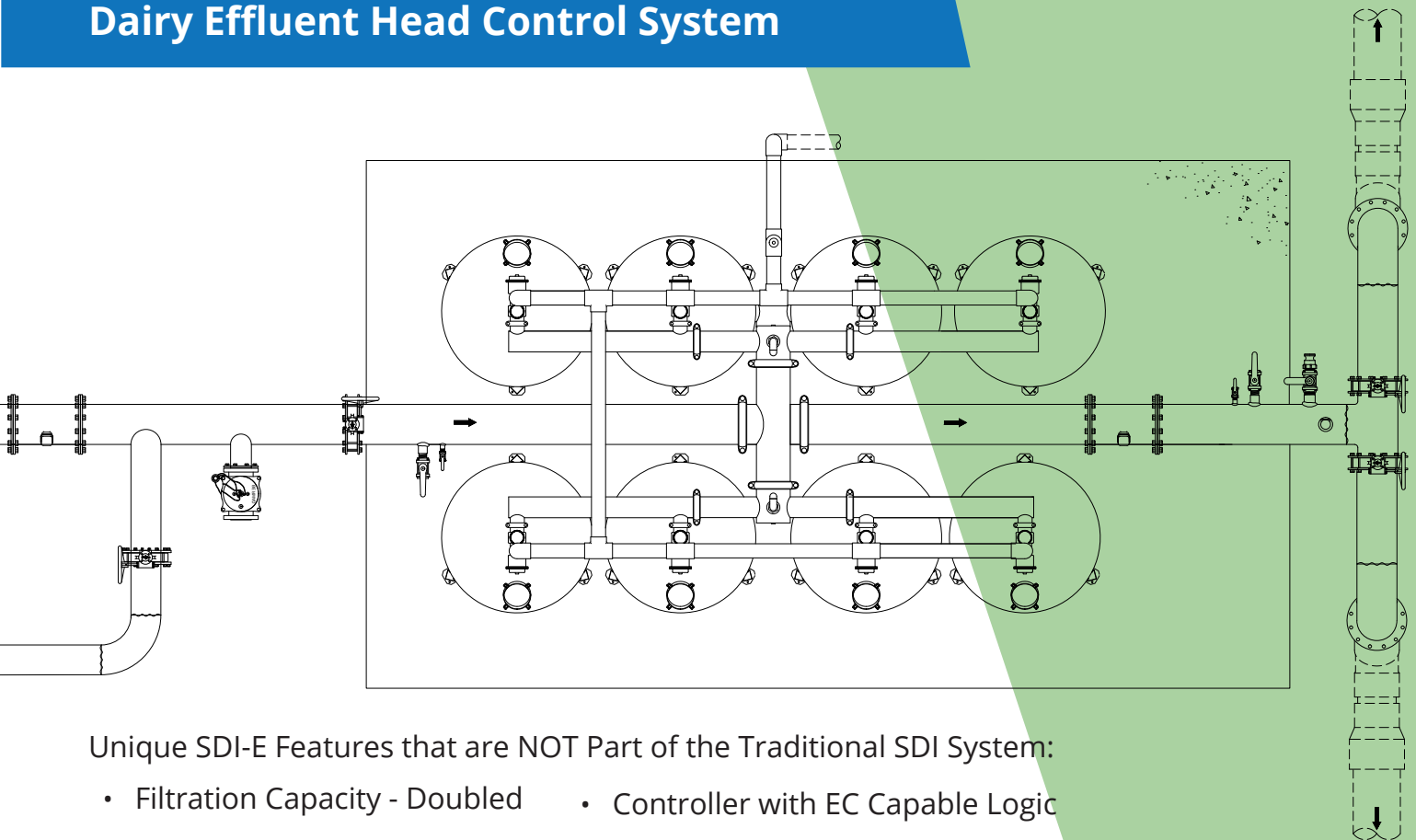
- Reduced water use allows farmers to weather water use during periods of restrictions and droughts
- Reduced nutrient use avoids polluting scarce water supplies
- 90% reduction in GHG emissions (nitrous oxide / N<sub>2</sub>O)

## Keys to SDI-E Success for Dairy Producers

- 5 cows to 1 acre ratio for effective nutrient management
- Use of 2 lagoons or settling ponds to help filter the effluent water
- Netafim's patented water/effluent precision blending controls
- Use of sprinklers or flood irrigation for germination then transition to SDI
- Well engineered effluent water intake system
- Remote monitoring, control and data logging of the system
- Operational focus on proper dripline function and maintenance



# Dairy Effluent Head Control System



Unique SDI-E Features that are NOT Part of the Traditional SDI System:

- Filtration Capacity - Doubled
- 2 VFD Pumps vs. 1
- Controller with EC Capable Logic
- Mechanically Actuated Valve for Patented Precision Blending Control

## Netafim Pilot Results : California Dairy - Corn Feed Crop

Subsurface Drip Irrigation (SDI-E)	METRIC	Flood Irrigation
36.76	<b>YIELD</b> Tons/Acre Adjusted to 70% Moisture	31.86
26.52	<b>WATER APPLIED</b> Inches/Acre Applied All Water Sources	43.14
1.39	<b>WATER USE EFFICIENCY</b> Tons/Acre Per Inch of Water Applied	0.74
0.15	<b>NITROGEN USE EFFICIENCY</b> Tons/Acre Per Pound of Nitrogen Applied	0.05

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# NRCS Funding Process

## Via Approved NRCS Programs



### 1. Ensure Dairy is Prepared and has Appropriate Infrastructure:

- 5 cows to 1 acre ratio for effective nutrient management
- 2 lagoons or settling basins and some type of solid separation system
- The use of sprinkler or flood irrigation to germinate then transition to SDI
- Flexibility with tillage program
- Can still use existing irrigation equipment but will need to adjust for spacing and depth

### 2. Contact Dairy's Local NRCS Office to Confirm the Following:

- Check to see if dairy meets current Farm Bill adjusted gross income requirements and the required paperwork has been filed (if not filed already)
- Dairy will need to complete a Comprehensive Nutrient Management Plan (if not already exists)

### 3. Dairy Works with CalWest Rain to Design and Install the Complete System:

- Danny Briceno (South Valley) 559-537-6846 or Trever Dykstra (North Valley) 559-846-5326
- CalWest Rain designs manure SDI-E system customized for the dairy and setup
- CalWest Rain designs rotating solid separation screen system customized for the dairy

### 4. Schedule Appointment with Local NRCS Office to Complete:

- Apply for manure SDI system 75% cost share funding under; 441 Irrigation System, Microirrigation – SDI, Manure — Bring in quote and design documents
- Apply for rotating solid separation screen under; 632 Waste Separation Facility – Separator, Vibratory or Rotary Screen — Bring in quote and design documents



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**Paso Robles, CA**  
805-226-8990

**Hanford, CA**  
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