



# Subsurface Drip Irrigation - Fertigation System

## What is subsurface drip irrigation?

Subsurface drip irrigation is where the dripline is permanently buried beneath the soil surface, rather than laid on the ground like in traditional drip irrigation, supplying water directly to the roots. The depth and distance the dripline is placed varies on the soil type and the plant's root structure. SDI is also an excellent way to fertilize plants, because the fertilizer can be directly applied to the root zone in a quantity that will benefit the plant best. Water is pumped under low pressure from the source through a filtering system to the tubing. The drippers slowly emit specific amounts of water directly to the root zone of the plant. The controlled, precise output of the dripper

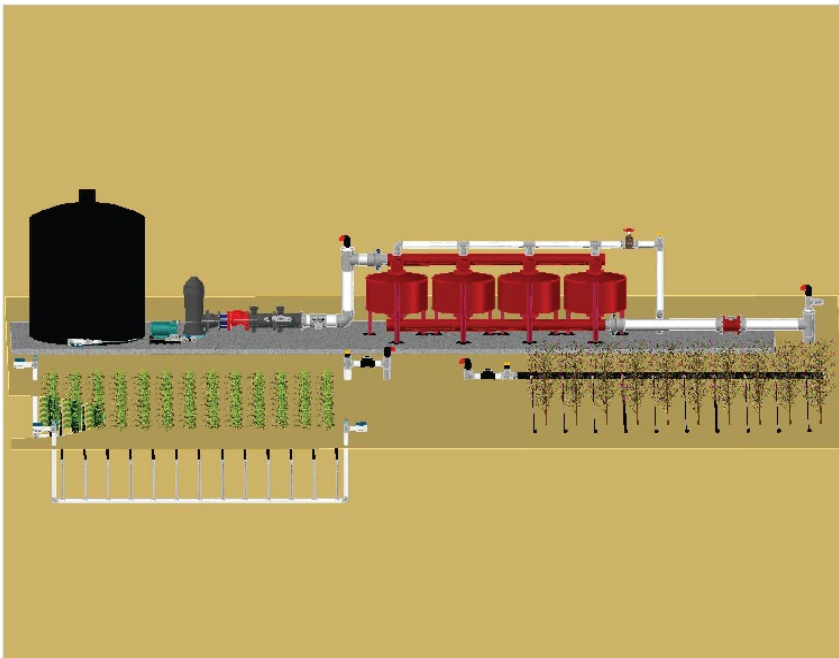
provides water at a rate that allows the plant to uptake most of the water pumped. And, because the water is delivered underground, there is also no loss to evaporation, run-off or wind drift.

## Basic System Layout

- Dripline can be either pressure compensating (hilly terrain) or non-pressure compensating (flat terrain).
- Filters (typically a disc or media filtration system) are the best choice to protect the dripline.
- Fertilizer Injectors inject fertilizer chemicals into the system for better crop performance and to maintain the dripline over the long term.
- Pipeline headers, control, and air release vents completes the system.

## SDI Advantages

- » Eliminates surface evaporation.
- » Reduces crop stress.
- » Extends life of irrigation system.
- » Prevents weed germination.
- » Eliminates herbicide wash-out.
- » Less salts from efficient irrigation.
- » Reduces labor requirements.
- » Reduces maintenance costs.
- » Safe and efficient delivery of fertilizers & chemicals.
- » Reduces animal, human, or mechanical damage.



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## Turning Less Water into Higher Profits

### Reduces Labor Costs

- Drip has very low labor requirements compared to center pivot.
- Labor can be further reduced by automating the drip.
- Provides unrestricted travel for field operations such as spraying & harvesting.

### Adapts to Field Size, Shape, and Contour

- Works on any field size and shape with almost no waste.
- Efficient option to make dry land productive.

### Increase Crop Yield

- Many growers see a minimum of 10% to 20% crop yield increase, and others much more.

### 95% Water Efficiency

- Water is delivered directly to the root zone.
- No loss to run-off, wind, and almost no evaporation.
- Water delivered consistently at rate of plant uptake.
- Drip keeps soil well aerated.

### Reduces Other Costs

- More efficient pumping (10psi to 25psi) reduces energy use.
- System delivers nutrients more efficiently.
- Dry surface reduces weed germination and disease problems.

### Fast Payback and Greater Long-Term Returns

- Higher yields, higher profits right away.
- 4 to 6 years installation payback in most cases. Some systems have paid back in two years!
- Up to 25 years of long-term proven performance.



## Plant Nutrition with SDI Irrigation

### Not ALL Liquid Fertilizers Are Equal

- Standard grade liquid fertilizer products are not made for use in SDI and can cause plugging issues.
- Fertilizer can react with irrigation water resulting in precipitants that can cause plugging issues.
- Only true solution, fertigation-grade clear liquid fertilizers should be used for fertigation applications.

### Fertigation is not limited to just nitrogen

- Liberty Acres manufactures complete nutrients blends that contain N, P, K, Ca, Mg, B, Cu, Mn, Mo, Zn, and Fe.
- Fertilizer blends are manufactured to order and can be custom blended to soil and crop needs.
- Liberty Acres manufactured blends are made from 100% plant available nutrients.

