

Irrigation TODAY

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Crop yield studies

*LEPA & close drop spacing,
subsurface drip & drip irrigation*

*Gothenburg Water Utilization
Learning Center*

Recycling plastics

Drip irrigation: When every drop counts

By Kris Nightengale, MBA, CID

Benjamin Franklin famously wrote, "When the well is dry, we will know the worth of water."

Businesses thrive making good decisions about the bottom line. Farmers benefit taking the long-term view, as significant value is accumulated in land. The past 30 years have demonstrated how valuable water is both in current cash flow and, subsequently, in land value.

To demonstrate how some growers are managing water, the following tells the story of two different farms. The first produces high-value specialty crops in a region relatively unconstrained by water. The other grows commodity crops in a region where no amount of money can create the water that isn't there. Both farms have vastly improved their bottom lines and future values by investing in drip irrigation.

Specialty produce

Jason Ruhlig was raised on the family farm growing specialty produce just outside of Detroit in Carleton, Michigan. Today Ruhlig manages an operation that grows over 35 types of produce ranging from bok choy to zucchini squash. The crops may be worth more at market, but the cost of production and spoilage risk mean every dollar spent adds considerable risk.

Ruhlig Farms chose to invest in drip irrigation 18 years ago to manage labor and crop results more than water use. Drip irrigation was easy to customize to the vast variety of crops, which are typically planted in blocks of less than 10 acres to manage timing harvest with demand.

"We used 40 percent less labor in our automated drip systems than we did using our previous systems," Ruhlig recalled. With

the drip installed under plastic film, no water is lost due to evaporation. Ruhlig said they manage water in the soil much more effectively being able to irrigate both day and night with no added disease pressure.

Ruhlig's decision to go to drip was all about the return on investment. "People are always looking for yield. In produce there is much more to it. For us, the amount of USDA grade no. 1 and larger fruit impacted our results the most! And, our customers got product with a longer shelf life," he said. In total, Ruhlig estimates they have improved the value of their crops through quality by 30 – 40 percent using drip irrigation.

Commodity crop

So, how does drip irrigation make sense as a capital cost worth nearly the value of the land for a commodity crop?

Jeffrey Kitten is one of four brothers who share in the management duties of the Kitten Land Company southeast of Lubbock in Slaton, Texas. The brothers are managing an expansive operation with 5,800 irrigated acres, 3,800 acres of which are irrigated in permanent subsurface drip systems primarily producing cotton. The systems are referred to as "permanent" because growers are managing them with the intention of exceeding 35 years of use before any major components require replacement. Water is in short supply on the southern reaches of the Ogallala Aquifer in West Texas, and subsurface drip is now being used on over 400,000 acres in the region. However, in 1993 when the Kittens put in their first system, very few growers considered drip a serious option.

Kitten recalls how they were still furrow irrigating much of their land when their well water production dropped enough that they could not get water to the end of many rows. It was clear the water wells weren't going to improve, so better options had to be found. "We wanted to grow an



Kitten Farms' cotton fields with row lengths of over 3,000 feet



even, uniform crop," says Kitten. "We had talked to Hubert Frerich and knew drip would work."

Hubert Frerich is well-known on the High Plains as the founder of Eco-Drip and the father of the permanent subsurface drip approach he pioneered in the early 1980s. When asked how the Kittens made the decision to adopt drip technology so far

ahead of the curve, he chuckled and said "You aren't supposed to worry — just go for it!"

Kitten has found drip results to be consistent over the past 24 years. They improved on their flood yields by 50 percent early on as they adopted new systems. He attributes the yield benefit to the uniformity of the crop from drip irrigation.

The capital investment in drip for commodity crops, as well as the extensive infrastructure, is often noted as a detractor to drip irrigation. Kitten said they just haven't found the detractors to be negative influences. "I love drip from a labor standpoint and for its quality and return. We want the water we pump to make as much revenue as possible, with nothing wasted."

Plains farmers know that water is a diminishing resource, and they understand the impact the lack of water has on their land's marketable value. The Kittens are looking to maximize the return they can get on the water they pump today as well as extending the farmable life of the resource. "We need to do as much as we can with as little water as needed."

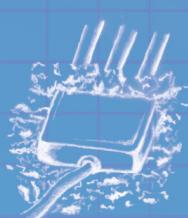
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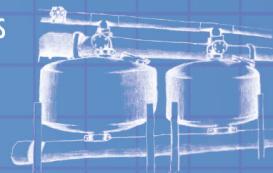
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