

Increasing Yields

Efficient Water Use



GROWER NAME
William K. Perry Farms



LOCATION
Tonopah, Arizona



CROPS
Alfalfa



FARM SIZE
4,800 acres



Precision
Agriculture

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/ Challenges



Optimize water usage given the limited availability of water.



Increase stand life to get the most of out the crop year after year.



Revolutionize irrigation techniques to provide stable and enhanced yields.

Bill Perry was born into a farming family but he wasn't sure he wanted to follow in his father's footsteps after college. However, he decided to give it a try and low and behold, he fell in love with it. The Perry Family controls about 10,000 acres in Arizona but due to water cuts they're down to farming about 4,800 acres. They've been farming the land in Tonopah since 2011. In the past they have farmed wheat, cotton, corn and now strictly alfalfa.

The biggest challenge they face has always been water – especially with the situation on the Colorado River. Other issues that they, like many other farmers, must overcome is labor cost and labor shortage, bugs and mother nature.

With the lack of water available it's imperative that they do everything they can to use water as efficiently as possible. 100% of their water comes from privately owned wells pumping groundwater to irrigate their crops.



The yield increase with subsurface drip irrigation is substantial, 40-50% higher than conventional irrigation methods we've used in the past. And although the water savings is about 10-15%, we're getting much more from each cutting and the stand life has increased by 50%. I wish we would have known about Netafim sooner because we would have put that on the first ranch that we did!

Bill Perry



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/ The solution

- Installed a custom-fit solution for the unique needs of this 400-acre portion of the farm.
- Maximized irrigated acres with available water.
- Minimized water losses and waste by converting from flood/furrow irrigation to subsurface drip irrigation
- Provided ability to apply fertilizers as needed at the right time for optimal yield.
- Installed a small pond to help balance the timing of water availability and demand.
- Financial support from Arizona State Irrigation Efficiency Grant and a DLL loan through Netafim (not NRCS)
- Improved irrigation scheduling and management reduces labor requirements and reduces complexities of managing harvest schedules – less headache for the farmers.



/ The results



Water savings

10-15% water savings

Sub surface irrigation reduces water loss from runoff, evaporation, and deep percolation.



Increased production and quality

40-50% higher yields than conventional irrigation methods

Maintains the right soil moisture level for the plant, reducing water stress, pest stress, and leading to higher yields and longer stand life in alfalfa.



Fertilizer Usage

50% increase in stand life

Reduces fertilizer waste by applying at the right time, in the right place, and in the right quantity for the plant.





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