

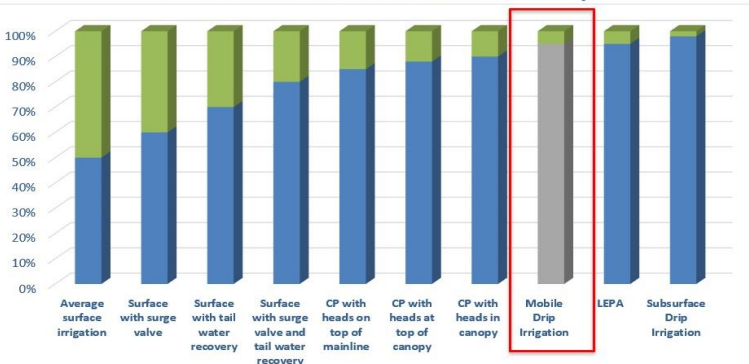
# Mobile Drip Irrigation (MDI) Updates

The Mobile Drip Irrigation research at K-State started in 2015 due to the overwhelming interest by farmers as represented by the SW Research Advisory Committee. Various private and public entities contributed to the activities and studies conducted in the research station as well as in various Water Tech Farms. Here are some information that we have learned to date.

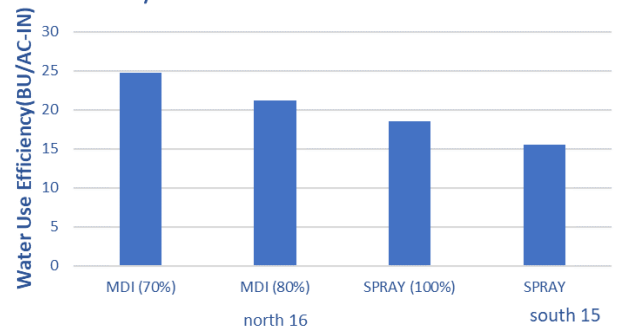
## Application and Water Use Efficiencies

- Better than spray on center pivot but not as good as subsurface drip irrigation (SDI).
- Measured 35% less soil water evaporation than spray nozzles before the crop canopy fully covers the ground.
- In some years, this savings in evaporation shows up as an inch more water in the soil profile after harvest.
- Numerically, MDI has advantage in water use efficiency over spray nozzles.

The Race for 100% Efficiency



ILS/WaterPACK Farm Data-2018

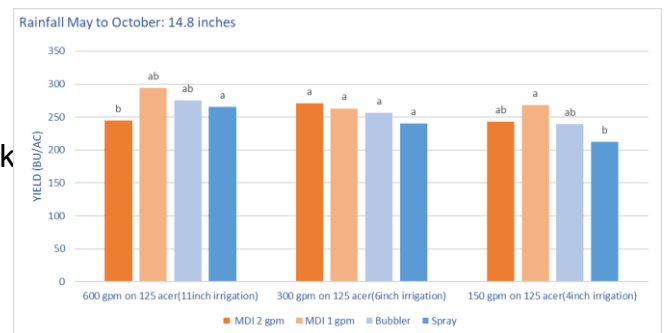


Results at SWREC MDI plots showed that the use of highly efficient irrigation system at low well capacities is important to avoid yield reduction. Another way to look for is better water use efficiency as observed in other Water Tech Farms like ILS/Waterpack.

## Management

Comparably less critical than SDI but more than spray

- Circular planting may be needed
- Clogging consideration (filtration) is a must
- Off-season management should be considered



### Acknowledgment:

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Research and Extension

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# Suitability

May have an advantage in some:

- locations (e.g. flat to slightly sloping terrains)
- conditions (e.g. limited well capacity, low infiltration)
- crops (e.g. better for low profile crops)
- situations (e.g. preventing wheel track rutting, avoiding salt on leaves)



# Cost

- More expensive than spray but much cheaper than SDI
- May reduce operation and maintenance cost

Repair Cost at T&O WTFarm

MODE	TOTAL COST	AVERAGE COST
SPRAY (6 circles)	\$ 4,596.00	\$766.00
MDI (4 circles)	\$ 180.00	\$ 45.00

# Longevity

Longevity of the system and its parts depends on the

- management (e.g. circular planting, grazing on field, off-season maintenance)
- field (e.g. better on flat than undulating field)
- crops (e.g. better on short crops)



# Future Research

- How will fertigation affect the management and crop performance?
- How do we capitalize on the reduced soil water evaporation?
- Are there other benefits and improvements that we could still identify on this technology?

