

SUBSURFACE DRIP IRRIGATION – SPACING TRIAL

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Time Frame: 2015-2017

Locations: El Centro, CA, Davis, CA

Objectives: To understand the influence of lateral spacing on irrigation management and yield.

Background: Drip line spacing is largely a function of specific soil type. Different soils exhibit different wetting patterns due to differences in capillarity, the ability to ‘sub’ between lines. While row spacing is not as critical with row crops, it’s important for alfalfa, since the crop occupies the entire soil surface. Frequently, lower yields are observed between drip lines, particularly at specific periods of growth. Additionally, narrower spacing may enable more frequent irrigations, and be more successful at re-filling the profile during periods of low moisture (for example during harvest periods). However, there is a cost to narrower spacing. Therefore the advantages need to be quantified.

Concept: That spacing has an impact on soil moisture uniformity, thereby yield. Hypothesis: that narrow spacing may enable a grower to save on water applications over the season.

- Drip Line Spacing: 30”, 40”, 60”
- Irrigation Scheduling: Full (100% of ETo), Deficit (70% of ETo).
- Factorial: 3 Spacings X 2 irrigation schedules = 6 treatments X 4 replications

