

## SUBSURFACE DRIP IRRIGATION – DEFICIT TRIAL

Dan Putnam, Khaled Bali, Ali Montazar, Daniele Zaccharia

**Time Frame:** 2015-2017

**Locations:** Davis, CA, El Centro, CA

### Objectives:

1. To determine the effects of water deficits on Crop Yield under SDI conditions.
2. To determine the interaction between variety and water deficits

**Background:** Undoubtedly, alfalfa growers will be faced with water deficits now and into the future. The ability to produce ‘some yield’ based upon the water available will depend upon both the technique of water application, and the variety grown, and other management factors. Here, we impose 3 different water deficit treatments to alfalfa, and seek to understand which varieties might perform better under deficit conditions. Water deficits will be imposed in 2015, 2016, and 2017, and compared with well-watered controls. **Hypothesis:** that alfalfa can be grown successfully under water deficits with various strategies. That some varieties may perform better under moisture deficits than others

### Irrigation Treatments

1. Full Irrigation (ET<sub>o</sub>)
2. 75% of Full Irrigation (Full irrigation until mid-July, then cut-off)
3. 75% of Full Irrigation (Full irrigation until mid-June, then partial irrigations in subsequent harvests)
4. 50% of Full Irrigation (Full irrigation until mid-June, then cut-off)

### Variety Treatments (Fall Dormancies):

1	CUF 101	9	UC
2	NuMex Bill Melton	7	NMSU
3	AFX149092	9	Alforex
4	AFX148091	8	Alforex
5	HybriForce 2600	6	Alforex
6	NM14MALHS3	6	NMSU
7	NM14MLLS2	6	NMSU
8	NM14BMHS1	6	NMSU
9	NM14BM1008251	7	NMSU
10	NM14ALWLHQ	7	NMSU
11	NM14GTAF	8	NMSU
12	SW 10	10	SW
13	S8421S	8	SW
14	R510Hg812dt	5	FGI
15	Artisia Sunrise	7	

