

## VINEYARD MANGEMENT DURING A DRY YEAR

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### Winter

How vines respond this season is partially dependent on what happened to them last season. It is good to find out what is happening below 2 feet. Vines can survive under very dry conditions. I have observed vineyards that were not irrigated for a long time due to economics or ownership issues, come back when taken care of. They will be weak and uneven for the first couple seasons.

Very dry soils after harvest may inhibit the late-summer or fall root flush that occurs at that time but it is more dependent on carbohydrate (CHO) reserves. This also depends on how deeply rooted the vine is. Some CHO assimilation & nutrient storage occurs after harvest. Delayed and uneven spring growth is a classic symptom of vines that were too dry in the fall and winter. If dry in fall and < 1 inch of rain in Nov-Dec – need to apply some water – 5-10 gallons/vine.

### Salinity management

If salinity is high, apply a deep irrigation in winter to dissolve salts. Light irrigations will not dissolve the salts. Have to get the salts into solution and keep them in solution so they can be leached out. After a deep irrigation, if still no rain, short pulses of water will start pushing them down.

Recognize when you are adding salt to your soil: From well water; or from canal water that had well water pumped into it upstream of you. Analyze any water source during mid summer when demand is highest. Manure & composts can carry a lot of salt/unit of nutrient. Most synthetic fertilizers are in the form of a salt – look at the analysis – higher is usually better – do you need all the other stuff? Applying more fertilizer cannot compensate for poor growth due to water stress.

### Other factors

No sense in allowing weeds or even the cover crop for that matter use up valuable water – mow them short or kill them.

We, of course, do not use micro jets or micro sprinklers because they raise the humidity of the vine which is favorable to some diseases. Sprinklers obviously loose more water to evaporation than drip.

The amount of loss due to evaporation depends on the % of time the soil surface is wet. Frequent, light irrigations result in soil that is wet for a longer % of time. Soil evaporation accounts for 13-15% of vineyard ET once irrigation commences under high frequency, daily irrigation.

If you have an orchard or vineyard block that is reaching the end of its practical lifespan then now might be a good time to pull it and use the water for the rest of the ranch. Drought and salinity tolerance of grape rootstocks vary and may be a consideration if you are planning a vineyard.

### Frost Management

Bud-break, which is during second half of March or maybe early April is the beginning of frost season. The vine is using very little water because of no leaf area – weeds will be using most of the water at that point. This may be another opportunity to flush some salts out since you may be applying a lot of water for frost control anyway

#### Growing Season

During the growing season, you can irrigate at around 70% ET until veraison and drop it way down from veraison to harvest. You will reduce berry size and yield. Water stress will delay sugar accumulation when temperatures are >100F. If it is hot – try not to stress too much.

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