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## Condor's Hope Ranch Dry Farming in New Cuyama Written by Steve Gliessman



Harvest at Condor's Hope Ranch

At Condor's Hope Ranch, we use dry-farming practices to produce the grapes and olives that yield our excellent wines and olive oil. We use heat-loving varieties of grapes such as Zinfandel and Shiraz, most grafted on vigorous root stock, and hot climate olives such as Picual. We plant our grapes on a 10 x 10 foot spacing, and olives 20 x 20, with the two crops intercropped in parts of the vineyard.

We cover crop with a vetch/oat mix. We prune as late in the spring as possible to avoid late frost, and also count on a few degrees of frost protection produced by the heat of decomposition after incorporating our cover crop. We use the "dust mulch" technique in the late spring to break capillarity and hold moisture in the soil for the summer. After the last rains have filled the soil pores below ground, we mow the covercrop and do a first cross-disking to incorporate organic matter. A week or two later, we do a second cross-disking to break up the larger soil clumps left from the first disking, and to go down a bit deeper with the cut. Then we finish using a soil conditioner harrow with three different harrows in a row - a spring-sweep harrow, a spike tooth harrow, and a roller/chopper. This leaves a uniform soil structure and soil depth with a dry dust mulch of 3-4 inches on top of the moist soil below. If we get more rain after we finish and capillarity is re-connected, we will pull the cultivator again. It is essential that we cross-mow, cross-disk, and cross-cultivate in order to seal in moisture. You can't do this in a conventional cordon system since wires and drip lines will be in the way for the cross movement. This is why we also head-train.

Our particular system is definitely adapted for the hot, dry Mediterranean climate where there is no rainfall in the summer. Some folks say that a minimum of 15 inches average rainfall is needed for this system to work, although we are closer to 12 inches where we are in the Cuyama Valley. Our soil is a sandy clay-loam alluvium, with scattered small stones. We get excellent rainfall penetration, with almost no runoff, even in heavy rain events. Getting the water into the soil pores to field capacity is one key to success, and the other is setting up the dust mulch in the summer and eliminating all annual cover so evapo-transpiration is minimum, and the primary moisture loss from the system is through the transpiration of the grapes and olives we planted. We installed an underground back-up drip system to help get the plants started during the first 3- 4 years with infrequent but deep watering. Once the plants are established, with deep roots, most years need no irrigation. In extreme drought years we can apply water, but rarely add more than a total of 25 gallons per plant during the early to mid-season.

We were inspired originally by observations of old traditional dry-farmed systems in southern Spain and Italy, and later by some Old-Vine dry-farmed Zinfandel systems in and around Paso Robles. There is a lot of traditional, local knowledge out there. But folks have to accept lower yields per acre, but gain extreme water savings and an unmatched (in my opinion) quality of wine and olive oil.

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