

ORCHARD FACTS



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Blue Prune Drop and Leaf Scorch

Blue prunes and in some cases an associated leaf scorch has been noted in many Sacramento Valley prune orchards this year. This problem typically occurs in years of cool springs followed by a rapid onset of high temperatures. Symptoms include prune developing color prematurely, usually in June or July. Usually the more sun exposed fruit are more affected such as fruit in the top or south side of the tree. Often the sun exposed side of the fruit will be sunken or flattened. Leaf scorch may develop in leaves and twigs near the damaged fruit. When damaged leaves dry, the veins may be a darker brown than the rest of the leaf.

The problem is associated with heat stress. Under certain conditions, excessive heat results in damage to the fruit which may produce a toxin which is transported to spurs, leaves and shoots resulting in the leaf scorch symptoms.

Leaf scorch is always associated with blue prunes. It does not occur in areas of the tree where there was no fruit or on young trees without crop.

Anything which affects fruit temperature can have an effect. This could include:

1. Irrigation - My observations indicate that drop and particularly scorch were more severe on shallow soils with limited water holding capacity or in orchards which were towards the end of their irrigation cycle. Adequate moisture insures maximum evapotranspiration and cooling of the plant.
2. Tree Position or Location - Leaf scorch appeared worse on border trees, or on the south side of individual trees (areas with greater sun exposure).
3. Cultural Practices - It is felt that the problem is less severe in orchards with cover crops than in clean tilled or drip irrigated orchards. Evaporation from the cover crop would be expected to contribute to cooling of the orchard.
4. Nutrition - While the problem does not appear to be directly related to potassium deficiency, anything which adversely affects tree health and condition could contribute to higher tree and fruit temperatures.

While we don't have any sure ways of preventing this problem in the future, making sure trees are healthy, vigorous and well supplied with water should help. Damaged wood should be pruned out during the dormant season.

Union Mild Etch of Almond

In recent years in Glenn County, with increased almond planting on more marginal soils and the increased use of Marianna 2624 Plum rootstock, has come increased incidence of a disorder called Union Mild Etch (UME). Symptoms have been seen on first leaf trees, but are more common on second and third leaf trees. Initially UME affected trees grow normally, then in late spring to early summer foliage on affected trees turns light green to yellow and growth stops. By mid to late summer affected trees begin to defoliate. If the graft union is examined by removing a small section of bark at the union, a mild etch at the union of the scion and rootstock and pitting of the scion and rootstock near the union may be observed. Graft union symptoms are prominent on Butte, Carmel and Price, but less so on the other affected varieties. This disorder has been observed on Mission, Butte, Carmel, Price, Peerless, Aldrich and Sonora. Typically, trees show symptoms for one or two years only.

This disorder is thought to be genetic. It is not graft transmissible and no pathogens have been detected.

Research conducted by USDA Plant Pathologist Jerry Uyemoto and Butte County Farm Advisor Joe Connell on Mission variety showed the following. Trunk circumferences and yields collected for four years after the onset of symptoms showed a reduction in tree growth of 15 to 20% and a reduction in yield of 30 to 33%. The reduced harvest of UME-affected trees were not found to be a function of percent nut set or yield efficiency, both components were similar statistically for diseased and healthy trees, but they apparently resulted from smaller tree size and less fruiting capacity.

Affected trees can be pulled and replanted or, because they normally recover, you can wait for this to happen. Older trees would favor waiting for recovery. Observations indicate that very vigorous trees (excessively fertilized and irrigated) may

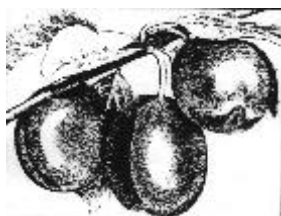
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more prone to the disorder

Prune Harvest Timing



French prunes are mature and should be harvested when they reach 3 to 4 pounds flesh firmness. At this time, they will have accumulated the maximum soluble solids and will yield the maximum tonnage when dried. Soluble solids should be about 24%. This will result in an acceptable drying ratio. When flesh firmness drops below three pounds, drop increases. On the average fruit, firmness decreases by 1.5 pounds per week and soluble solids increase by 2% per week.

Blocks with lighter crops will have higher soluble solids and can be harvested first.

Blocks with heavy crops will have small fruit sizes and will be slow to gain in soluble solids. Delaying harvest in these blocks, allowing soluble solids to reach their maximum, will result in the best possible drying ratio and fruit size. This may result in some loss to fruit drop, but this loss is generally offset by better drying ratio and larger fruit sizes.