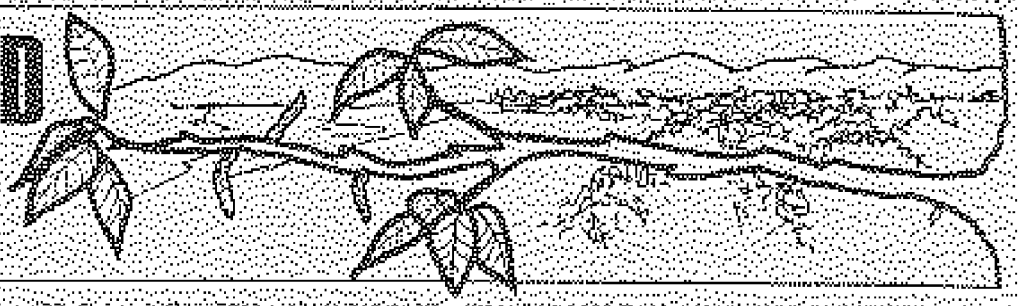
COOPERATIVE EXTENSION UNIVERSITY OF CALIFORNIA GLENN COUNTY

ORCHARD FACTS



County Building, P.O. Box 697, Orland, CA 95963 • (916) 865-1107 • (916) 865-1109 FAX • (916) 695-1541 (TDD)

August 28, 1998 Vol. I, No. 6

In This Issue

Bill Krueger
Farm Advisor

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%, but no reduction in fruit set or yield efficiency (yield/trunk area).

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.

OFF TYPE CHANDLER WALNUTS

For at least the last twelve years, a small percentage of Chandlers (1-4%) in some orchards have been observed to drop a high percentage of the nuts in some, but not every year, resulting in drastically reduced production during the years of high drop. This drop occurs on the same trees every 2 to 4 years. Apparently this year is one of those years. Off type Chandlers normally appear healthy and may be more vigorous than normal trees. In years when the excessive drop does not occur, the crop may be slightly more on affected trees than on normal trees, but this will not make up for the reduced crop in high drop years. This problem is thought to be the result of a genetic mutation. It is not graft transmissible. If affected trees are top worked with wood from normal trees, the new top which develops will not be affected.

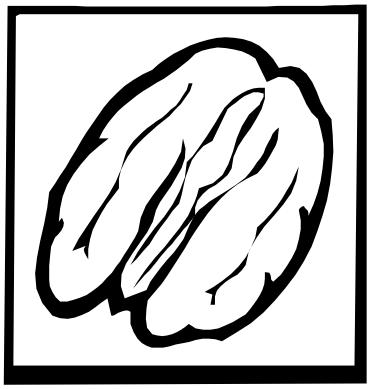
Because this problem does not occur every year, low producing trees should be marked before harvest and can be top worked or pulled and replanted at a later date.

ALMOND HULL BORON SAMPLE

Hull samples collected at harvest have been shown to be a better indicator of boron status in almonds than leaf samples. Current guidelines suggest: less than 80 ppm = deficient, 80-150 = adequate and over 200 ppm may be toxic. Research has shown that trees with levels as high as 120 ppm may benefit in terms of fruit set and yield in some years from foliar sprays applied at a rate of .2 to .4 lbs. of actual boron per 100 gallons of spray solution. Foliar sprays should be applied either post harvest or at bud swell to target developing buds. Higher rates may actually reduce yields.

PREVENTING COLD INJURY IN YOUNG WALNUTS

When cold injury occurs, it is usually on young vigorous trees which continue to grow late into fall or older trees which are dry or water stressed at the time of the cold weather. To minimize freeze damage, young trees should be "hardened" off by withholding water in the late summer (September) until the new growth (succulent reddish shoot growth) ceases. Then a more normal irrigation program can be resumed. Water should not be withheld until older leaves yellow and drop. Older trees tend to be less vigorous and do not grow as late into fall and tend to harden off when water is pulled in preparation for harvest. If fall rains are delayed, then irrigation should continue into the fall to ensure that soils are not dry and the trees are not stressed for water when cold occurs.



ALTERNARIA LEAF BLIGHT OF ALMONDS

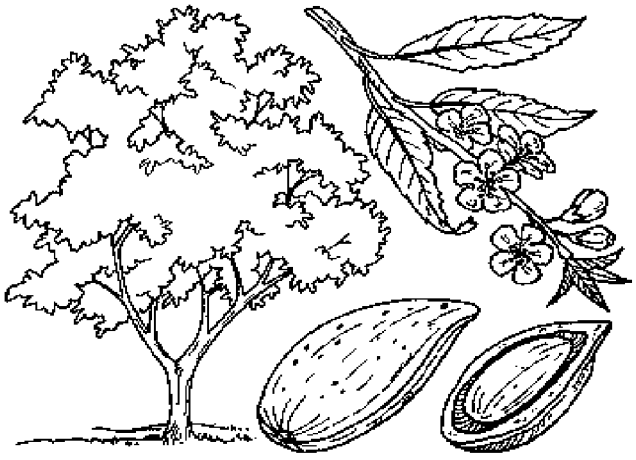
Alternaria leaf blight of almond is caused by the fungus Alternaria alternata. It has been severe in some orchards in the Southern San Joaquin in recent years. It can cause early defoliation (prior to harvest) which reduces current and future production. Although this disease has been observed in area orchards in the past (usually post harvest), it has not been a serious problem because defoliation comes late in the season. This year it can be seen now in many orchards and is causing defoliation in some.

Figure 1.

Symptoms are tan lesions which become covered with a dense black fungal growth (Figure 1). With a few lesions per leaf, they may be large (about ½ inch in diameter) or there may be multiple smaller lesions. Infected leaves fall from the tree. Symptoms have ben seen as early as May in the Southern San Joaquin.

The disease development appears to be enhanced by high humidity and has been most severe in the Southern San Joaquin in areas with little or no air movement at night. At this time in this area, it appears to be more severe in orchards near the Sacramento River.

Research currently being conducted in Kern County indicates that fungicide applications need to be applied in April, May and early June. Unfortunately, none of the fungicides currently registered for these timings have been shown to be effective and control with the unregistered materials has been difficult. Cultural practice manipulation has been tested, but has yet to be successful. I will report more on this as it develops.



Almond

Alternaria Leaf Blight of Almonds

Preventing Cold Injury in Walnuts

Almond Boron Hull Sample

Off Type Chandler Walnuts

Union Mild Etch of Almonds

ORCHARD FACTS ENCLOSED

COOPERATIVE EXTENSION
U.S. DEPT. OF AGRICULTURE
UNIVERSITY OF CALIFORNIA
OAKLAND, CA 94612-3560

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

Bulk Rate
Postage & Fees Paid
USDA
Permit No. G-00268