

# Hull Samples for Boron Analysis

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What is the most common nutrient deficiency in Stanislaus County almonds? If you said nitrogen or zinc you are wrong. While zinc and nitrogen are commonly applied to area orchards, boron is often neglected and therefore boron deficiency is far more common. If you haven't applied boron TO THE GROUND recently and your orchard is east of the San Joaquin River, you are almost certainly deficient. Boron is essential for pollen tube growth. There are no obvious foliar symptoms of moderate boron deficiency, but less than optimum boron can reduce nut set. Analysis of mature almond hulls is a much better indicator of boron status than a leaf analysis. Wait until harvest to collect hulls because they will continue to accumulate boron while splitting. Trees with hull boron levels of less than 120 ppm may benefit from a post-harvest boron spray (1-2 lb of a 21% B product in 100 gallons of water per acre). This will help with pollen germ tube growth in the flowers next spring but will not improve overall boron status of the tree.

Hull boron of less than 80 ppm indicates the need for a ground application. Fertilize with the equivalent of 10 – 20 pounds of a 21% boron product per acre. Boron can be injected through micro-irrigation systems, broadcast or sprayed on the ground, or included in a herbicide spray. Herbicide sprays containing glyphosate may need to be buffered to prevent reduction of herbicidal activity. Hull levels over 200 ppm indicate excessive boron.