

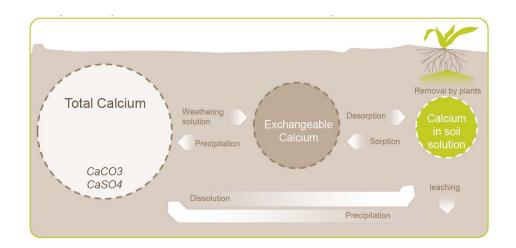
Soil Amendments – The Basics of What and Why

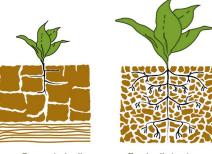
Soil amendment applications are a critical component of dormant season activities for almond growers. But how can you know what you need to do, if anything? Soil sampling is the most critical component of making good soil amendment decisions. It gives you a clear picture of the needs within your orchards' soil. If you want to dive deeper the USDA offers a web-based soil survey that allows growers and advisors to view the soil types present in any field throughout the country. This can be helpful to understand the variability across your orchard.

The map pictured here is the 9 acre almond farm where I grew up. This map outlines 4 different soil types separated by the orange lines. This highlights that even a small orchard can have large variability in soil structure, pH, organic matter content, and nutrient holding capacity. While it's easy to think that "dirt is dirt", soil variation within orchards is extremely common and needs to be evaluated before soil sampling to accurately assess the needs of your entire orchard.



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Compacted soil

Good soil structure

Gypsum and dolomitic lime are common sources of calcium amendments. This is where your soil analysis will come in handy, as the key soil characteristic to assess when making a determination of which is best for your orchard is pH. Lime will provide more overall calcium while increasing soil pH. Gypsum has less calcium than lime and is pH neutral. In addition valley soils are typically very low in organic matter, and compost is another common amendment to apply especially to sandy soils. Compost generally provides varying amounts of nitrogen, phosphorus and potassium, as well as small amounts of micronutrients like zinc. Applications of organic matter can promote a higher holding capacity for nutrients in sandy soils, while providing benefits to all soils through the addition of organic food sources for beneficial microorganisms.

There are a lot of options available to growers who want to improve orchard and soil health. Even though the trees may be asleep, there are applications that can be done at this time of year to help achieve that goal. Soil amendment decisions can have long-term benefits or be detrimental to orchard health. Consult with a trusted advisor who has a solid understanding of soil chemistry and plant nutrition ensures that decisions made will be the most beneficial for your orchard and bottom line.

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