



For the Soil.
For the Plant.
For the Future.

Correction to February CAPCA Adviser Article

Take Control of Your Fertility Program

During our editing process, we inadvertently changed Dylan Rogers's intended text in his article on crop nutrition in almonds. As stated by the University of California Cooperative Extension¹, and as Mr. Rogers pointed out in his original text, *for every 1,000 pounds of kernels removed, about 85 pounds of nitrogen are removed after accounting for fertilizer inefficiencies, and for every 1,000 pounds of kernels removed, around 90 pounds of K₂O are removed.*

We apologize to Mr. Rogers and to *CAPCA Adviser* readers for this error. Please refer to the attached for Mr. Rogers's original article.

Sincerely,

David Furbeck
Executive Sales & Marketing Manager
AgroLiquid

¹ <http://thealmonddoctor.com/2013/01/24/nutrient-removal-for-almond/>



IMPROVING CROP NUTRITION

— Since 1983 —

Take Control of Your Fertility Program

Dylan Rogers, Sales Account Manager for AgroLiquid

The 2018 almond crop is upon us. Trees are beginning to break dormancy, soon full bloom will occur, and the honeybees will be busy pollinating what will be our highest yielding crop to date - we hope. There are many factors that will affect the yield potential of this year's crop; some we can control and others we cannot. Mother Nature and the weather are out of our hands - all we can do is hope that it works in our favor. We can fight disease and insect pressure, but we cannot prevent it completely. One factor we do have complete control over, however, is our fertility program and ensuring we supply the trees with the nutrients they need to produce that high-yielding crop.

Soil Samples

A great starting point for building your seasonal fertility program is by assessing what you have in the soil. Looking at a current soil sample will give you an idea of what needs to be done in season to ensure adequate fertility for maximum yields. There are multiple things to consider when reading a soil test. You may see that most or all of your nutrient levels read adequate or high, however, the ratios of some nutrients are more important than the levels. For instance, iron and manganese are antagonistic to each other. You may have adequate levels of both nutrients in your soil, but if the ratio is off, you may see symptoms of deficiency. You need more iron than manganese in the soil. The ideal ratio is 2:1 iron to manganese. The closer this ratio gets to 1:1, the more likely you will see an iron deficiency in season. The ratio of phosphorus to zinc is also an important factor. A ratio of 10:1 phosphorus to zinc is the ideal balance between these two nutrients. If phosphorus levels get too high, it may induce a zinc deficiency. These are just two examples of many ratios that should be addressed in your soil. A soil sample will ensure you have the information you need to get off on the right foot to maximizing this season's yield.

Bud Break, Pink Bud, Bloom

During the period in which fruit buds are swelling, the trees are also working below the soil surface. A new flush of feeder roots are pushing out, and having an adequate supply of phosphorus and soil moisture is critical in the development of these new roots. Choosing a phosphorus fertilizer that is protected from

tie-up in the soil ensures the most return on this investment. Following bud swell and new root development will be bud break, a period in which flower and pollen development are crucial. These fruiting buds that will become flowers are the fate of this season's crop, so we do everything possible to protect and ensure their viability. Foliar applications of phosphorus, calcium, zinc, boron, and molybdenum can be beneficial, as they play important roles in all aspects regarding pollen.

Fruit Development

The tree's highest demand for nitrogen and potassium is from fruit set to harvest. Supplying these two nutrients in adequate amounts is crucial to achieve a high yielding crop. Nitrogen is a critical component of many plant parts and functions. It is needed to produce chlorophyll, DNA and RNA, and to synthesize amino acids. Studies have shown that for every 1,000 pounds of kernels removed, about 85 pounds of nitrogen are removed after accounting for fertilizer inefficiencies. Choosing a nitrogen fertilizer that is low in salts and less likely to leach or volatilize will ensure optimum uptake by the tree and give you the most return on your fertilizer investment. Potassium is also very important for many plant functions and is required in large amounts. Potassium plays a major role in the opening and closing of stomata, photosynthesis, translocation of sugars, and many other plant processes. Studies show that for every 1,000 pounds of kernels removed, around 90 pounds of K_2O are removed. There are some important things to take into consideration when choosing a potassium source. Almonds are very sensitive to salts such as chlorides and hydroxides. Some fertilizers can even be toxic if applied at higher rates. Choose a potassium source that is free of chlorides and hydroxides to ensure maximum uptake and to minimize potential for crop injury.

Taking control of your fertility program this season will help achieve maximum yield potential. Again, there are multiple factors that are out of our control so taking advantage of the factors we can control is important. Choose your fertilizers this season with plant and soil health in mind to maximize your return on investment.