

Cell Power[®] SizeN[®] Ca Technical

Dormant Sprays for Increased Almond Yields



Building Foundations

Almonds are a heavy crop, and the season takes a lot out of the tree. Conventional wisdom is that the dormant period is the time that the tree recuperates and prepares itself for the next season's workload.

However, this is not the case with non-phloem-mobile nutrients including calcium. Explore why this is a yield and quality limiting issue for almonds, and what growers can learn. It is important to understand transportation and how it affects why certain nutrients are a problem in early season for almonds. Calcium is immobile in phloem. This means that to move calcium, trees need to use xylem vessels, moving calcium through the tree with water.

Water moves through plants via transpiration stream, being drawn from roots upwards as water evaporates from foliage. But in almonds flowers appear following dormancy before leaf emergence.

This means that at flowering the tree has no mechanism to transport calcium to flowers as transpiration stream is limited until later in the season when leaves emerge.



Benefits and Analysis

Until then, the tree must rely on local stores of calcium in wood tissue to fuel cell division.

Cell division is severely impacted by calcium availability and flowering is time when the plant develops almonds from flowers. Where there is inadequate Ca available to make new cells during the process of creating fruit, the crop will shed flowers. Good fruit load and early development then is dependent upon adequate reserves in woody tissue local to flowers. Inadequate reserves lead to slow and poor fruit development and flower shed.

It is clear that when almond crops wake up from dormancy, inadequate local reserves of the calcium can have a huge impact both on flower retention and nut size later in the season.

Growers can improve this with dormant applications of calcium alongside amine N are one way to ensure that when almonds wake up they get off to the best possible start.

Timings, Rates and Understanding:

When calcium is bonded to amine N it can be applied during dormancy to woody tissue ready to be mobilized locally to emergent flowers when dormancy breaks.

SizeN[®] Ca trials in Morocco, Jordan and Egypt, showed to have dramatic effects on effects on almond yield when applied as a dormant spray to the woody tissue of almond trees.

In trials at 2 quarts per acre application gave a 20% increase in flowers, larger and more vigorous flowers, and a 15% reduction in flower shed. As fruit develop there is better number, size and homogeneity. The photo above on right shows control (top) vs SizeN[®] Ca dormant spray treatment (bottom) and the difference is obvious.

Apply 2 quarts per acre SizeN[®] Ca to trees during dormancy in sufficient water to thoroughly wet the woody tissue.

Follow up with 1 quart per Acre of a good quality foliar calcium (Cell Power[®] Calcium Gold) two weeks after flowering.



Have a question? Contact our team

559-661-6138

or write us at omexusa@omex.com.



Talk to Omex