

Leaf calcium content of young oats rose 19% after spraying with Lithovit... and 34% with WakeUP added

Calcium is the “king of nutrients” among farmers who use Renewable Farming principles to build soil biological life and natural fertility.

Calcium is vital for strong cell walls, resistance to insects and disease, and mobilizing other nutrients.

But building calcium content in vigorously growing crops has long proven a major puzzle. Soil-applied calcium is taken up slowly.

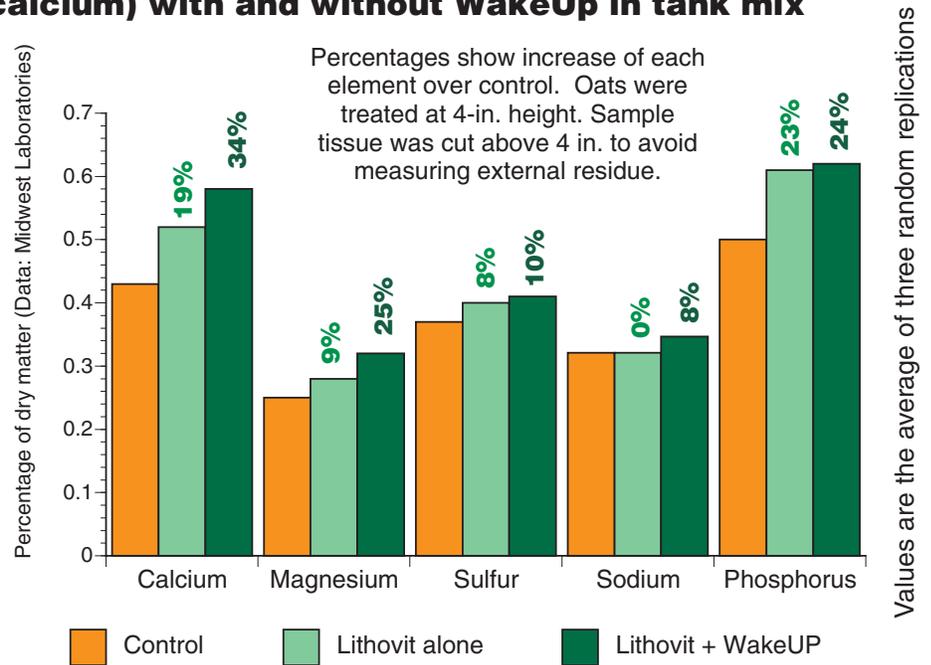
“Nanotech” calcium — particles of calcium carbonate as tiny as one *billionth* of a meter — offer an opportunity to enhance calcium content of growing crops. However, getting nano-sized calcium efficiently absorbed and mobilized within the crop remains a challenge.

So we tested two “nanotech” products in one spray mix. In a preliminary trial with three random replications, we found that Lithovit, (a calcium carbonate product with nano-sized particles) raised tissue calcium content of young oats leaves by 19% when sprayed at a rate of 2 lbs. per acre. When Lithovit was tank-mixed with WakeUP, our surfactant/transporter, leaf calcium tests jumped by 34% over controls.



Oats 10 days after application of Lithovit tank-mixed with WakeUP

Percent increase in tissue nutrient content of oats 11 days after foliar spray with Lithovit (nanotech calcium) with and without WakeUP in tank mix



“Lithovit” is the brand name for a German-manufactured calcium carbonate with particle sizes of about a billionth of a meter. Other manufacturers are attempting to build similar products. At this tiny size, calcium carbonate easily suspends in spray solution. When WakeUP is added to the tank mix, leaves are coated smoothly. The data here indicate that WakeUP improves absorption into the leaf, and translocation through the plant’s circulation system.

Leaf samples were cut from new growth 11 days after spraying. Oats were about 4 in. high when sprayed, and twice that high when cuttings were taken for analysis.

Only calcium was applied in this test, but several other elements showed increases in the leaves — possibly because calcium enhanced uptake of soil nutrients.

Zinc, not shown in the chart above, rose 10%. WakeUP contains some zinc (It’s registered in Iowa as a micronutrient product).

In other foliar-applied micronutrient tests on alfalfa, wheat and soybeans, the same pattern emerges in tissue test data: The foliar spray alone shows some response, but the levels are substantially enhanced when WakeUP is included in the tank mix.

We use a standard 1:256 ratio of WakeUP concentrate in water. That translates to five ounces per acre of WakeUP concentrate if the total application rate is 10 gal. per acre.

So for a cost of about \$6 per acre, WakeUP “amplifies” effectiveness of foliar nutrient sprays such as nano-calcium or a trace element blend.

Calcium and iron are important in building leaf thickness. Dr. Dan Skow of International Ag Labs, Fairmont, MN says: “If you could somehow double thickness of a crop leaf, its photosynthetic capacity would rise by 400%.”

Bottom line: WakeUP can be effective in correcting leaf tissue mineral deficiencies and thus enhancing crop productivity. We have much more research to do, but as one widely respected crop scientist tells us, “This looks promising.”