

MICRONA™  
Earth Mix 14M



## MICRONA™ Earth Mix 14M Better pH response. More pH stability!

### MICRONA™ Earth Mix 14M Calcium Carbonate A pH paradigm shift in potting soils?

**A study conducted by Oregon State University evaluated the effectiveness of various limestone minerals in Douglas fir bark potting soil. Practical field tests in commercial nursery situations also yielded some pleasant surprises.**

Container substrates and soilless growing media used in nursery greenhouse crops consist of fresh or partially composted bark, peat moss and other organic substances. These do not usually contain mineral soils. Nursery substrates have shown very little ability to buffer against pH changes over time which can be detrimental to plant growth response.

The one year OSU study used different limestone materials to evaluate longer term pH effects in Douglas Fir soilless substrates. The study compared the effectiveness of commonly used pre-mix liming agents. It also determined the best application rates for desired pH and pH stability over time. Dolomite, standard powder agricultural lime, MICRONA Ag Lime, pelletized lime, and a new product: **Earth Mix 14M** were compared. Results were compiled and guidelines established. In this trial, **Earth Mix 14M** provided the greatest pH response and stability in container cultures over time.

**In practical nursery field tests** operators changed the limestone mineral from dolomite to **Earth Mix 14M** in the substrate recipe for conifers, boxwood and other plant production.

The result was an unexpected enhanced root growth response. Nurseries now have a new challenge: nursery stock might be ready for market months earlier! **Earth Mix 14M** can save labor, water, fertilizer, and overall production costs while improving plant quality. In the field tests, operators found **Earth Mix 14M** provided a “pH paradigm shift” in their substrate.

Bearing in mind that many factors influence substrate blends (such as alkalinity of irrigation water, specific crops grown in the substrate, media components, fertilizer use, etc.), the Oregon State University study and the nursery field trials show that superior alternatives to standard dolomite additions as part of a substrate recipe do exist. For a copy of the study and more information, contact Gudrun Mahrt at (360)225-4108 or [gmahrt@carbonates.com](mailto:gmahrt@carbonates.com).

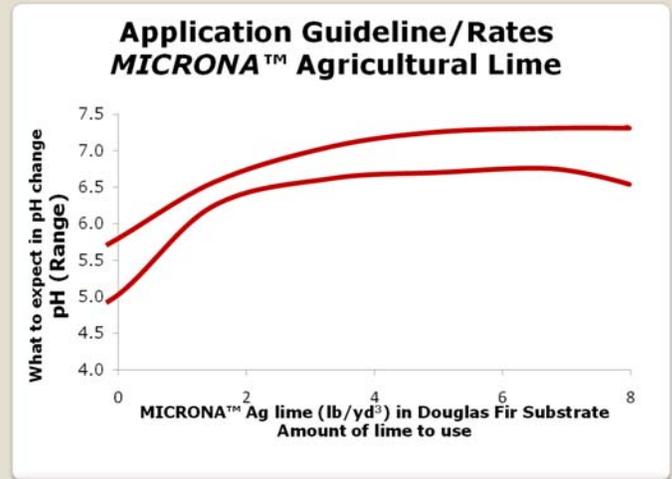
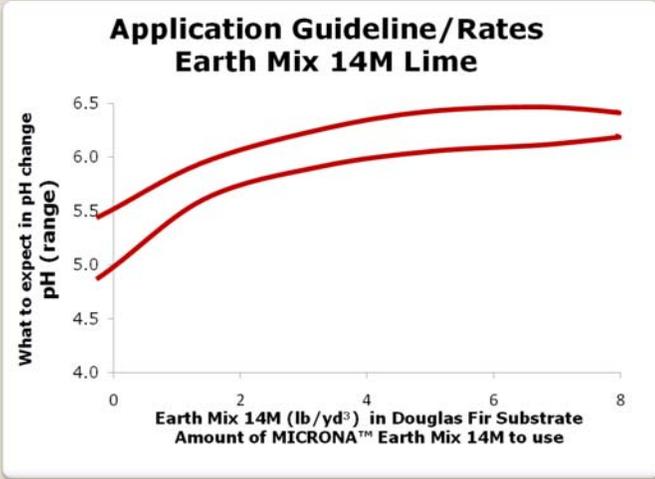
**Add MICRONA™ Earth Mix 14M to your potting soil program today.**

# Add MICRONA™ Earth Mix to your soilless mix today!

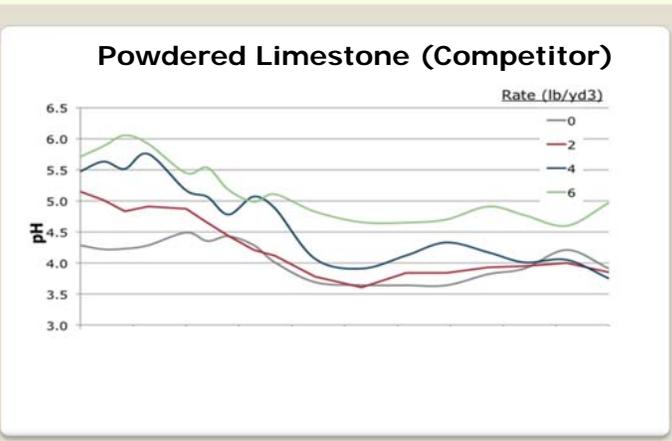
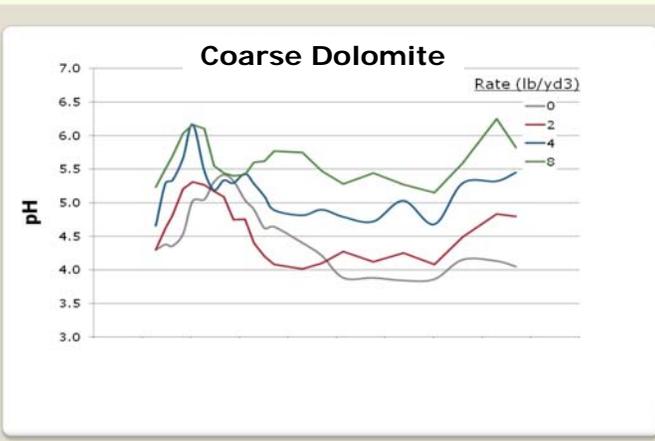
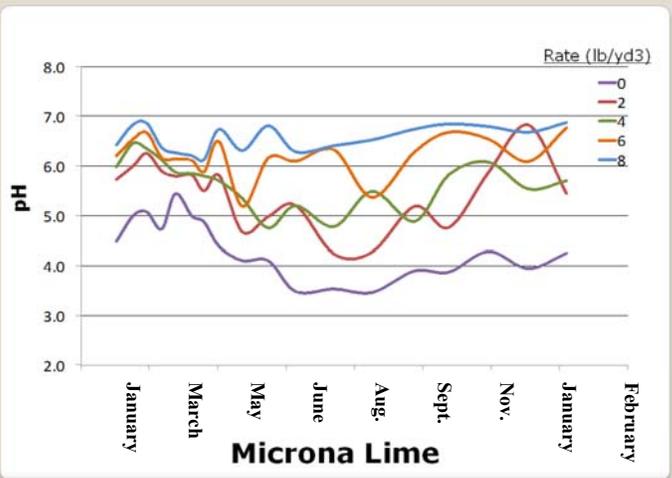
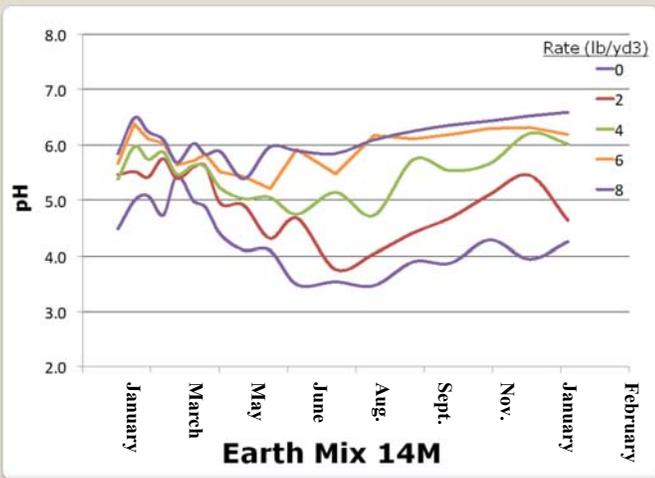
Coarse Limestone

## Minimum Application Rates

Fine Limestone



## pH Change Over Time (Douglas Fir bark)



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