

A Mycorrhizal Adventure

by Charles Walters

Mycorrhiza is one of those terms soil scientists spin off with staccato regularity, often without pausing to explain how a grower might remedy a deficit situation. In reporting on an olive grove in Texas last year, we could discern the presence and absence of that valued organism when olive trees planted near towering live oak trees seemed to thrive, while those positioned a fair distance from those mycorrhiza-granting tree roots seemed to struggle. In a 10,000-tree grove, not enough olive trees could be positioned favorably near the natural mycorrhiza supply.

Ginseng growers in Wisconsin have also battled the same problem. Ginseng is a forest crop in nature's scheme of things. I once joined Fred Wood, Don Schriefer and Lee Fryer on a project headed for pure organics in that Wisconsin clime. But growing ginseng under shade slats in an open field suffered that same mycorrhiza deficit I more recently encountered in Texas. The state red-tagged the fish products scheduled for use as not qualifying in terms of N, P and K inputs, and so the Wisconsin ginseng project collapsed.

THE HUNT

I and some few growers have been on the hunt for an economical answer ever since. Humic substances have blessed many an acre since *Acres U.S.A.* first lauded that amendment in the early 1970s. We have sourced humus, trace minerals, phosphate and calcium, and counseled producers on the correct use of potash. Our articles have taken nitrogen apart and put it back together again. Now we can even suggest a non-forest source of mycorrhizae. It is a big country and it is hard to touch every base. For now it may do to revisit New Mexico, my own land of enchantment ever since I spent a month on Philmont Scout Ranch near Cimarron, just south of Raton Pass.



Let's go down to Albuquerque — there in the arid country stands a commercial producer of the treasured mycorrhizae. During a recent *Acres U.S.A.* Conference, I met a seemingly one-of-a-kind eco-supplement producer. His booth was all abuzz with talk of mycorrhiza to assist nature. The late Wally Tharp made the introduction. "We are the only commercial company in the Southwest producing mycorrhizae," declared Mike Melendrez.

Mycorrhiza designates a category of fungi that channels water and minerals to its host. A volume of the *Albrecht Papers* devotes some few pages to one S. Hood and in-depth mycorrhiza studies, but those studies were made decades ago. Recent work by Michael Martin Melendrez is a best-kept secret because schoolmen scientists often figure that if they don't know about something, it does not exist.

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SMALL FARMS ARE REAL FARMS

Sustaining People through Agriculture

by John Ikerd

Since the middle of the last century, American farm policy has taken the nation into the dead end of industrial farm production and food distribution. Farming, at its core a biological process, has been transformed into an industrial process, thus demolishing the economic and cultural values upon which the nation was founded. Along the way, small farms have been ridiculed and dismissed as inconsequential — but now the seeds of a rural renaissance are being planted, not by these industrial behemoths, but by family-scale farms. In this collection of essays by one of America's most eloquent and influential proponents of sustainable agriculture, the multifaceted case for small farms is built using logic and facts. *Softcover, 272 pages.*

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Still, a healthy and productive soil is within reach of the artful farmer and rancher. Mycorrhiza defines the harvest crop of a pecan grove much as it oversees the gatherings of a forest forager.

Withal, Melendrez deals in “the secret to a sustainable landscape” — his words — and this is taken seriously in the harsh terrain that is New Mexico. The hard fact is that soils have endured harsh treatment ever since pioneers rolled west, having exhausted much of nature's treasure. Melendrez bases his mycorrhiza-injection system on settled science. Unlocking the secrets to healthy soil and replenishing that which nature bestows, albeit in her own good time, not only leads to stunning landscapes, it also sets the stage for orchard maintenance inherently dependent on a robust mycorrhizal presence in the root zone. It has been said that trees well endowed with a mycorrhizal gas pump, so to speak, eat up carbon dioxide at an astonishing rate. An oak tree will consume a ton of carbon dioxide in its lifetime. That can compute to two pounds per annum. The calculation for an acre of trees will vary depending on the trees, but the totals nudge out the idea that carbon dioxide fertilizes the air, but mycorrhiza enable the natural equation.

Eco-agriculture speaks long and often about minerals and humus microorganisms, and too little about the elusive fungi that enable the forest, fruit and nut

grove, even the scenery of a picturesque estate. Depleted soils need, and can be nurtured back to health with bio-inoculants because organic soil amendments are natural and well in compliance with organic procedures.

The above is both the guess and accomplishment of Michael Martin Melendrez and his Soil Secrets firm in New Mexico.

APPLICATION

Application depends on the crop. Sometimes the crop calls for pure mycorrhizal spores, a transfer system possibly unavailable anywhere else in the world. Most firms put the fungi into a powdered clay form.

Soil Secrets provides mycorrhiza by the pound in a powder form. “You can dust the roots,” Melendrez explains, “or you can dust the seed or you can apply the mycorrhiza right on the surface.” In fact, surface spreading is usually done with spores blended into humus as a medium. Soil Secrets, LLC, makes the humus. This bulking carrier system helps maintain the viability of the spores for a longer period of time.

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