Big Claims, Big Questions, and Big Potential in Small Packages:

Tips for Using Microbe-Containing Crop Biostimulants

By Matt Kleinhenz

A large and increasing number of agronomic, forage, and specialty crop producers use or are interested in microbe-containing crop biostimulants. Advertised to enhance crop growth, these products are applied as a seed treatment, root drench, or soil amendment or during transplanting and irrigation. They are also applied as a foliar spray, but rarely.

Inoculating crops with potentially beneficial microbes is a long-standing practice, but much has changed in recent years, including a spike in the number and diversity of microbe-containing products, number of acres to which they are applied, and range of cropping systems and settings. Unfortunately, those changes have not been matched by the availability of resources providing reliable guidance on getting the most from these products. The result is more questions from growers and the people who advise them.

"How should I apply them?" is a very common question. The following tips can help you insure that inoculants you apply have the best chance to provide an adequate return on investment.

1. Follow the label and all instructions from the manufacturer or supplier carefully. Ask questions about the four R's (What is the right product? Right timing? Right rate? Right application site/method?). If you are not satisfied by the answers, consider another product or source of information.
2. Store and handle the inoculant knowing that it is alive. Exposure to very high or low temperatures, or to sunlight, chlorinated water, or extreme dryness or moisture may kill or deactivate the microbes you purchased. If you are uncomfortable in the same environment (i.e., without hat, coat, water, fan, etc.), it is probably unfit for the inoculant.
3. Tank mix or apply along with other inputs very carefully; the process is tricky. Check with the product manufacturer or representative. Again, they should have credible information on possible interactions (pro and con) of the inoculant with other inputs. Chemistry (e.g., pH, salinity) matters; it strongly influences biology.
4. Leave an untreated portion of the field, planting, or row to compare against the treated field, planting, or row, or experiment with one of the four Rs, if needed. Regardless, to best assess the performance of the inoculant, untreated areas should otherwise be similar to treated ones in every way.
5. Keep accurate and complete records describing your approach and the results.

Learn more about microbial-based crop biofertilizers by going to http://u.osu.edu/vegprolab/research-areas/vegebiostimsferts *and* http://organicfarmingresearchnetwork.org.ohio-state.edu. *There, you can also learn how to participate in on-farm evaluations co-coordinated by OEFFA, The Ohio State University, and companies and obtain other resources.*

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Upcoming Events

For a complete calendar of events go to *www.oeffa.org/events*

Beyond Chamomile: Herbs for Stress, Anxiety, and Sleep

Saturday, April 28—1-2:30 p.m.
Keller Market House • 134 S. Columbus St., Lancaster, OH
Anika Zala of Wild Origins will discuss and sample herbal remedies that can be used to manage anxiety, stress, and insomnia. Leave with relaxing herbal tea blends to use at home. For more information, go to *www.kellermarkethouse.org*.

Garden Practicum: Planting and Cultivation Techniques

Saturday, May 12—10 a.m.-1 p.m.
Price Hill Recreation Center • 959 Hawthorne Ave., Cincinnati, OH
Join Turner Farm Community Garden Program to learn garden basics in the classroom and get hands-on experience in the Price Hill Community Garden. For more information, go to *http://turnerfarm.org*.

Ohio Food Policy Network Virtual Convenings

Thursday, June 21—12-1 p.m.
Thursday, July 19—12-1 p.m.
The Ohio Food Policy Network is offering two free webinars: "Food Waste Policy" in June with Brian Roe and Meredith Kruger of Ohio State University's Food Waste Collaborative and "Building Leadership in Food Policy Councils" in July with Brian Raison, a Community and Organizational Leadership Field Specialist with OSU. For more information, go to *http://ohiofpn.org*.