

5 Questions With...

In the third of a four-part series on crop protection, *American/Western Fruit Grower* talks to industry insiders about plant nutrition.

PROPER nutrition equates to healthier plants. This means the fertilizers growers apply can make all the difference when it comes to producing a high-yielding, disease-free crop. We talked with Larry Parker of Westbridge Agricultural Products and Michael Carpenter of CSI-Nutri-Cal about effective application methods, the future of plant nutrition, and more: †

Q: What are the key attributes you look for when developing fertilizers for fruits and vegetables? How do those attributes relate to grower needs?

PARKER: Westbridge develops cost-effective, liquid fertilizers that are rapidly absorbed, allowing nutrients to quickly translocate within the plant, resulting in increased yields with better quality.

CARPENTER: Understanding how nutrients are taken up, timing of application for optimal uptake, how nutrients are transported through the plant, and where they go once in the plant are the key issues in developing a nutritional product.

Q: What are growers saying is most important in plant nutrition?

CARPENTER: With the cost of broadcast fertilizers rising, I believe more growers are interested in nutritional products that can be applied foliar or in drip systems at lower rates with lower cost and higher efficiency.

PARKER: Existing and proposed regulations in California are requiring growers to use sustainable practices. Farmers will need to use fertilizers and pesticides more efficiently leading to a reduction in ground and surface water contamination. Recently, there has been increased interest in calcium and its importance in plant nutrition. Westbridge just complet-

ed a study with Oregon State University on pears, which showed that midseason applications of calcium were more effective at controlling postharvest diseases than two biological fungicides.



Michael Carpenter

Q: What type of application method(s) do you recommend for your product(s)?

PARKER: Westbridge recommends applying nutritionals at key physiological stages when the plant can maximize the ben-

efit of the fertilizer. Our fertilizers are designed so that they can be applied as either a foliar spray or through the soil. They can also be applied through aerial application, with standard spray equipment, with electrostatic sprayers, or chemigated through sprinklers, drip irrigation or flood irrigation, or knifed into the soil as a side-dress or starter fertilizer.

CARPENTER: Nutri-Cal and Nutri-K are pure solutions, non-corrosive and non-phytotoxic, so they can be applied through all types of sprayers, overhead sprinkler systems, and drip systems.

Q: What types of products do you have coming down the pike?

CARPENTER: We just came out a few years ago with a new potassium product, Nutri-K. It is an organic complex liquid potassium carbonate solution formulated with our organic acid T.O.G. for foliar application on all fruits and vegetables. Nutri-K contains no nitrates, sulfates, or chlorides and has a very low salt index and high solubility rating compared to the salts.

PARKER: Westbridge will be distributing a new biological control product for controlling fire blight in apples, pears, and quince. It has been submitted to the

EPA and to the California Department of Pesticide Registration. We are hoping to have EPA registration for the 2012 growing season.



Larry Parker

Q: Where do you see the future of the plant nutrition category headed?

PARKER: Farmers are "doing more with less" by focusing on sustainable farming. We need to develop a better understanding of the effect of fertilizer application timings and the method of application on nutrient availability and plant

uptake. We have to keep in mind that the nutrients in the soil may be adequate but not available or only slowly available to the plant at key times.

In addition to plant nutrition, growers are recognizing the benefits of maintaining a healthy soil. Well-conditioned soil resists erosion, absorbs water rapidly, and has an increased water-holding capacity.

Another area of importance is the relationship between plant nutrients and plant disease. Micronutrients, especially zinc, manganese, copper, and boron, play an important role in reducing plant disease severity, which can lead to less pesticide use.

CARPENTER: I believe the future is very strong and challenging. Consumers want good-tasting, nutritional, high-quality fruit. How do we get it to them? Growers will have to meet that demand by building that quality and shelflife into their product.

Educating growers more extensively on plant nutrition and supplying specific highly efficient products to help them will be our challenge for the future.

I believe plant nutrition is the basis for producing healthier plants, aiding in more natural disease resistance, less chemical usage, less plant stress, and more nutritional fruit and vegetables consumers are asking for. ●