

What's Cool

Products that are smart, make your tasks easier and provide cost or labor savings

Bill Pregler

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New Narrow Row Electrostatic Sprayer

Compact, affordable and targeted spray rigs for high density growers



A single-row unit demonstrates targeted low pressure, low volume spray.



The narrow 32-inch wide sprayer can be configured for two-row application.

IN A SEPTEMBER 2009 PRODUCT REVIEW, I wrote in-depth about new generation electrostatic spray rigs. At the time virtually every academic I interviewed (from those in the agricultural engineering departments at the **University of Georgia** and **UC Davis** to **Fresno State's** director of viticulture) said the future of chemical application was electrostatic. Even the people at the **California Department of Pesticide Regulation (CDPR)** liked the technology.

Years ago the units had problems, but all early R&D kinks have been ironed out, and today the equipment delivers incredibly precise chemical disposition. Naturally, it was only a matter of time before even these new designs began to evolve.

Enter a new rig, **On-Target** sprayers from **Progressive Grower Technologies, Inc.** in Wilsonville, Oregon. Already a major supplier to a wide spectrum of crops from orchards to strawberries, they continue to focus design energy on vineyards. No sooner did I walk onto the exhibit floor at this year's **Unified Wine & Grape Symposium** than I saw their latest entry. They currently make sprayers for larger vineyards, but the new units are specific to narrow row (4 to 6 foot), high-density plantings.

At a narrow 32-inches wide, this sprayer's target market is definitely the small grower who trellises his grapes on hillsides with tight turning radiuses. It is compact, lightweight and carries only 70 gallons. That does not sound like enough, but with the precise spray coverage of electrostatic technology, it is plenty. Less weight also means smaller tractors. The unit I saw was compatible with a 25 Hp—PTO **John Deere Model 790** tractor.

This new unit comes with either single row application (spraying left and right) or overhead booms to cover two rows at a time.

Electrostatic spraying is for those concerned about saving water, spending less on chemicals and labor, noise problems with neighbors and getting the best application possible. The concept is similar to powder-coating a car.

Automakers have been using electrostatically charged paint for some time. In the wine world, the concept is now the same. The grower gives the chemical-water spray ("paint") an electrical charge and directs it to the "grounded" vine.

It works because of Coulomb's Law, which states opposite charges attract and like charges repel. The key is to atomize the mixture to 30- to 50-micron droplets versus 250 microns for a typical air-blast sprayer. Chemical, water and air are combined in a shearing action from air-assist nozzles. This atomized solution emerges

as a "mist" of chemical in a low pressure, low volume concentration.

Once inside the canopy, the spray will swirl and actually reverse direction, attaching to the backsides of the leaves. Also, since the droplets are all the same charge, they repel. They will not collect into large droplets, which typically run off onto the ground. The spray continues to circle until the entire surface is covered. The charged mist is drawn to the leaf, similar to dust on your records or metal filings to a magnet. You have essentially powder-coated your vineyard.

Hence the savings: considerably less water and chemicals without costly overspray and runoff. According to some growers, the efficiency of electrostatic technology reduces water usage by 75 percent while using only 30 percent of chemicals. This means you go further into the vineyard with one load and keep your driver spraying and not driving for refills.

The On-Target sprayer uses a quiet Kaeser blower instead of vein fans. The sound of the tractor is actually louder than the sprayer. The German-made blowers are highly reliable and use stainless rotary lobes. Maintenance is almost none, and I was told using synthetic oils can extend operating time to 5,000 hours.

The small-aperture nozzles of electrostatic sprayers must be thoroughly flushed after use. Also, since electronics are at the heart of the system, each nozzle should be checked for proper voltage. A volt meter is included, but a simple in-field test is to turn on the spray and then alternate the on-off electrical switch. The operator will immediately see the change in the spray disposition. I personally watched as the "cloud" was immediately pulled into the canopy.

Progressive Grower Technologies, Inc. is an O.E.M. manufacturer and therefore can custom-fabricate for specific applications. They make much larger rigs (up to 600 gallons), but these new condensed units help spread the science to the smaller grower.

What's Cool: It is terrific when a great technology continues to evolve and starts reaching out from orchards to row crops and vineyards. Even better, electrostatic spray rigs are now getting more compact and affordable for those growers with small, difficult-access vineyards.

I like the concept because it is efficient and judicious in water and chemical usage. And because the chemical application is so precise and targeted, growers report better overall results, which translate into even less spraying. It is fascinating to attend a demonstration and watch the mist separate and move into a canopy: No blast, no overspray and no noise.

For more information, contact On-Target Spray or Progressive Grower Technologies, Inc. at 503-329-8120 or www.ontargetspray.com. **WBM**

Send new product information to Bill Pregler at bpregler@winebusiness.com



Shown is a sideview of the electrostatic rig and its efficient, lightweight, 70-gallon capacity.



The electrostatically-charged mist will ground to the vines.

"I've been making wines for many years at custom crush wineries in the north coast. The people at Bin to Bottle are what makes it stand apart from other custom crush facilities. They have put together a friendly and capable staff dealing with all the various aspects of winemaking, barrel work and bottling. Work always gets done when you need it and the winery is neat and clean. They have been a pleasure to work with."

Cary Gott
– Vineyard & Winery Estates

'Nuff said.

Bin to Bottle has earned its outstanding reputation by providing exemplary service and quality at a surprisingly affordable price. So as you decide where to make your wine this harvest, please consider Bin to Bottle and Valley Gate Vineyards.

Contact us soon at john@bintobottle.com to discuss crush fee financing for grape growers who have unsold fruit!

