

## Soil Fumigation

### Using Soil Injection to Maximize Results

The key to good soil fumigation is getting the fumigant into the soil and keeping the active ingredient in the soil as long as possible for maximum activity. This accomplishes two important objectives: the limiting of off-gassing (movement of the gaseous stage fumigant into the atmosphere) and maximizing efficacy, which typically will result in better crop yield.

Soil injection of Sectagon® brand metam sodium is used successfully in a number of cropping systems and agricultural regions. These systems provide excellent placement of Sectagon in the soil profile and limit off-gassing. Limiting off-gassing is particularly important to avoid exposure to bystanders who are working or living in sensitive sites that may be adjacent to treated fields.

**Sealing the soil surface after soil injection is an important element of a successful soil injection system.** Once in the soil, the metam sodium converts to a gaseous soil fumigant (MITC). The MITC suppresses pathogenic nematodes, disease-causing soil-borne fungi, weeds and soil insects. Soil injection with proper soil sealing keeps the gaseous MITC fumigant in the soil for maximum efficacy.

The application of Sectagon by soil injection requires specialized equipment and expert application knowledge. Specialized equipment is typically required to properly inject and seal the fumigant. Proper soil preparation is also an important aspect of this technique. The soil must be properly prepared

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## NovaSource Advisory Council Trials 2008

CROP ADVISORS AND RESEARCHERS are teaming up as part of a collaborative field research effort that TKI's NovaSource group is sponsoring to investigate new and expanded uses for the company's products.

The council is focusing in 2008 on Surround® Crop Protectant and its three core plant health benefits: sunburn protection, mitigation of heat stress and the increased photosynthesis that results from cooler plant temperatures and insect suppression. This 2008 work will build upon several years of data generated by USDA ARS and replicated field trials in an effort to further quantify the yield, quality and overall plant health benefits of Surround.

### Examples of 2008 NAC Field Trials

Crop	Location(s)	Trial Objective
Onions	Ephrata, WA Hermiston, OR	Evaluate Surround for the suppression of thrips and its sunburn protective value at harvest
Almonds	Modesto, CA Linden, CA	Measure Surround impact on non-infectious bud failure (crazy top)
Pistachio	Fresno, CA	Evaluate Surround's fit in IPM programs for plant bug and NOW. Measure plant health benefits in the subsequent season.
Cherries	Linden, CA	Evaluate and quantify the value of post-harvest sprays for the reduction of doubles, spurs & sutures in the following year's crop
Citrus	Fresno, CA	Measure citrus thrips protection value and the plant health (heat stress) benefits on fruit quality
Tomatoes	Four Points, CA	Evaluate Surround for the suppression of thrips and its sunburn protective value at harvest

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## The Future of California Olive Oil

OVER THE PAST 10 YEARS, table olive production in the state of California has seen significant growth, growing from fewer than 3,000 acres to 14,000 acres. And while California has had a table olive crop for more than 100 years, the industry is now venturing into the olive oil market.

“Up to 99 percent of the olive oil consumed in the U.S. is currently imported,” says Dan Flynn, executive director of the University of California-Davis Olive Center. “There is a huge market waiting to be tapped by domestic producers.”

The state of California produced about 500,000 gallons of olive oil in 2008 and U.S. consumption is around 68 million gallons annually.

Internationally, California is one of the larger producers of table olives but only



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## California Olive Oil

*continued from Page 1*

produces a fraction of the world's olive oil. Spain, the largest producer of olive oil at 30 percent, has approximately six million acres of olive trees. California, in comparison, has around 40,000 acres of olive trees for oil and table production.

California currently ranks 23rd in olive oil production internationally, but according to Flynn, the U.S. will likely move up in the ranking at a rapid rate.

"I foresee in the next 10 years the U.S. will likely rank in the top 10, perhaps seventh in olive oil production," says Flynn.

And the quality of the olive oil in California is very high, comparable to the best olive oil produced in Spain and Italy. Some California olive oils have been honored in international tastings as being some of the best in the world. And similar to wine, you can taste the origin of the olive oil.

"Olive oil is like wine, in the sense that where it is produced affects how it tastes," says Flynn.

Overall, Flynn sees an exciting opportunity for U.S. olive producers. "Anyway you look at it, it's an important era in the U.S. olive industry."

In addition to producers and crop advisors, companies, such as NovaSource, are taking note of this opportunity. Surround Crop Protectant, a NovaSource product, has proven effective in reducing sunburn and heat stress, and repelling insects from olive trees in the olive oil production regions of Spain, Italy, Greece and Turkey. For more information on how Surround can benefit olive production, please visit [www.novasource.com/products](http://www.novasource.com/products).

*Dan Flynn is the executive director of the University of California Davis Olive Center, part of the Robert Mondavi Institute for Wine and Food Science. For more information regarding the Olive Center or the future of the olive oil industry, please contact Dan at [jdflynn@ucdavis.edu](mailto:jdflynn@ucdavis.edu) or visit their Web site at [www.olivecenter.ucdavis.edu](http://www.olivecenter.ucdavis.edu).*



*The olive courtyard at the new Robert Mondavi Institute for Wine and Food Science at UC Davis.*



*Surround treatment of olives.*

## Advisory Council Trials 2008 *continued from Page 1*

Kurt Volker, NovaSource Director of Development, indicates:

*"Surround has been proven to provide significant benefits from several years of innovative research and grower practice. We are seeking to enter the marketplace and not only verify the results Surround has had in diverse cropping systems and geographies but to stimulate new ideas and use patterns in the arenas of both organic and conventional agriculture."*

At the conclusion of the season, NAC members will meet to discuss trial results, exchange ideas and discuss opportunities. Conclusions will be drawn from the work and plans for continued investigation in the following year will be developed. NovaSource plans to continue the NAC program in 2009 and will be expanding the scope of the program to include other products.

## Soil Fumigation *continued from Page 1*

and tested before application to ensure optimum soil consistency and soil moisture. Always refer to the Sectagon or other fumigant label for full directions regarding field preparation and conditions for successful soil fumigation.

For more information on the soil injection systems described in this article contact Jerry Krebs, NovaSource metam sodium product manager, 916-719-0644, [jkrebs@tkinet.com](mailto:jkrebs@tkinet.com).

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