



Regular Update on Methyl Bromide Alternatives

January - February 2007

In this issue:

- 1- **USDA Results to Confirm and Support Effectiveness of OraPhyte(TM) in Combating Plant-Parasitic Nematodes that Cause an Estimated Annual Crop Loss of \$100 Billion Globally**
- 2- **Tessenderlo Kerley, Inc. Receives Label Approval on Metam Potassium**
- 3- **Valentine Roses Get Dipped in Chemicals**
- 4- **Allicin for Soil Fumigation**
- 5- **Bromide ban sparks cheese price worries**

NORTH AMERICA

1- USDA Results to Confirm and Support Effectiveness of OraPhyte(TM) in Combating Plant-Parasitic Nematodes that Cause an Estimated Annual Crop Loss of \$100 Billion Globally

SCOTTSDALE, Ariz.--(BUSINESS WIRE)--Jan. 25, 2007--eFoodSafety.com, Inc. (OTCBB:EFSF), a Company dedicated to improving health conditions around the world through innovative products and technologies, today announced through its wholly-owned subsidiary, Knock-Out Technologies, Ltd. that the United States Department of Agriculture (USDA) has filed a new and novel use patent for Knock-Out Technologies' OraPhyte(TM), a product derived from the Company's patent pending Citroxin product that kills and controls plant-parasitic Nematodes.

Plant-parasitic Nematodes are microscopic worms that cause an estimated annual crop loss of \$100 billion globally. In the U.S., farmers face over \$10 billion in annual losses due to Nematodes. OraPhyte(TM) has been designed to combat this costly issue.

The product was formulated and developed by Knock-Out Technologies, but the extensive testing on plant-parasitic nematodes was conducted by the USDA. It will be the USDA's results that are used to confirm and support the effectiveness of OraPhyte(TM) while marketing the product.

Robert Bowker, President of Knock-Out Technologies, stated, "This is another major step in bringing this product to market. We believe we have an environmentally-safe and highly effective product that can be the replacement for environmentally-hazardous methyl bromide, the most widely used product currently controlling this \$100 billion problem."

Mr. Bowker added, "We anticipate the introduction of OraPhyte(TM) to be warmly received within its market, especially with USDA data to reinforce its effectiveness."

More information >>> <http://www.efoodsafety.com>

Source: HooversCom, Quoting: Business Wire, 25 January 2007, http://www.hoovers.com/free/news/detail.xhtml?ArticleID=20070125290.2_f150001ac8a434da

2- Tessenderlo Kerley, Inc. Receives Label Approval on Metam Potassium

PHOENIX--(BUSINESS WIRE)--July 31, 2006--Tessenderlo Kerley, Inc. (TKI) announced today the Environmental Protection Agency approval for its metam potassium label, an alternative to methyl bromide.

This metam potassium soil fumigant will be marketed under the trade name Sectagon(R)-K54. Sectagon-K54, a soil fumigant solution for all crops, may be applied by chemigation, soil injection or soil bedding equipment to suppress and/or control soil-borne pests which attack ornamentals, food and fiber crops.

Because Sectagon-K54 contains potassium and is sodium free, it is recommended for use in crops that benefit from potassium and in high sodium and high pH soils. Thus far, Sectagon-K54 has received state registration in Idaho, Washington, Oregon, Michigan, Minnesota, Wisconsin, Utah, Nebraska, Texas, Georgia and South Carolina.

Sectagon-K54 is available to growers for use this season through TKI's distributor network.

This new product will join Sectagon 42(R) (metam sodium), a soil fumigant, currently marketed by TKI through its distribution in North America.

Tessenderlo Kerley, Inc., headquartered in Phoenix, Arizona, produces and markets specialty chemical solutions, including fertilizers, soil fumigants and process chemicals and services to a diverse market in the United States, Mexico, Central and South America and selected countries throughout the world. TKI, a part of the Tessenderlo Group, Brussels, Belgium, has eight manufacturing plants in North America, an Arizona-

based Research & Development facility and an extensive terminal network.

For additional information concerning TKI's Sektagon-K54, contact: Jerry Krebs, 916-719-0644

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Source: Tessenderlo Kerley, Inc., 31 July 2006

3- Valentine Roses Get Dipped in Chemicals

Colombia is a major exporter, and major user of toxic pesticides

BOGOTA, Colombia - It's probably the last thing most people think about when buying roses. But by the time the velvety, vibrant-colored flowers reach a Valentine's Day buyer, most will have been sprayed, rinsed and dipped in a battery of potentially lethal chemicals.

Most of the toxic assault takes place in the waterlogged savannah surrounding the capital of Colombia, which has the world's second-largest cut-flower industry after the Netherlands, producing 62 percent of all flowers sold in the United States.

With 110,000 employees — many of them single mothers — and annual exports of \$1 billion, the industry provides an important alternative to growing coca, the source crop of the Andean nation's better known illegal export: cocaine.

But these economic gains come at a cost to workers' health and Colombia's environment, according to consumer advocates who complain of an over-reliance on chemical pesticides.

Colombia's flower exporters association responded by launching Florverde, which has certified 86 of its 200 members for taking steps to improve worker safety and welfare. Florverde says its members have reduced pesticide use by 38 percent since 1998, to an average of 213 pounds of active ingredient per hectare (2.4 acres) per year.

"Every day we're making more progress," said Florverde director Juan Carlos Isaza. "The value of Florverde is that these best practices have now been standardized and are being adopted by the industry."

'Extremely' toxic not uncommon

Nevertheless, 36 percent of the toxic chemicals applied by Florverde farms in 2005 were listed as "extremely" or "highly" toxic by the World Health Organization, Isaza acknowledged.

And unlike in the United States, Colombia has no government regulations about pesticide use inside greenhouses, where toxicity levels tend to rise.

Even with more stringent guidelines, accidents happen.

On Nov. 25, 2003, some 200 workers at Flores Aposentos were hospitalized after fainting and developing sores inside their mouths. Authorities determined this mass poisoning could have been caused by any number of pesticide-handling violations, but fined the company just \$5,770.

Government oversight is relatively strict in the United States — in California, each flower farm's pesticide use is available for review on the Internet. But there are no reliable statistics about chemicals used by Colombia's 600-plus flower farms, in part because only a third belong to Asocolflores, the exporters' association, which does keep good records.

The U.S. requires imported flowers to be bug-free, although not necessarily void of chemical residues, as required for edible fruits and vegetables. But the reliable highland tropical climate that drew U.S. flower growers to Colombia and Ecuador is a haven for pests.

This encourages growers to apply a wide range of fertilizers, pesticides and fungicides, some of which have been linked to elevated rates of cancer and neurological disorders and other problems.

Causal links between these chemicals and individual illnesses are hard to prove because chronic pesticide exposure has not been studied in enough detail.

Harvard health study

But researchers have found some disturbing data: The Harvard School of Public Health examined 72 children ages 7-8 in a flower-growing region of Ecuador whose mothers were exposed to pesticides during pregnancy and found they had developmental delays of up to four years on aptitude tests.

"Every time we look, we're finding out these pesticides are more dangerous than we ever thought before and more toxic at lower levels," said Philippe Grandjean, who led the Harvard study published last year.

Carmen Orjuela began suffering dizzy spells and repeated falls in 1997, while working at a flower farm outside Bogota. During the peak season before Valentine's Day, she said her employer forced workers to enter greenhouses only a half-hour after they had been fumigated.

"Those who refused were told they could leave — that 20 people were outside waiting to take their job," said Orjuela, who quit in 2004.

Orjuela's employer, Flores de la Sabana, denied ever disregarding manufacturer-recommended re-entry times, but a toxicology study from Colombia's National University obtained by The Associated Press confirmed that Orjuela's illness was "directly related to an important exposure to potentially toxic chemical substances." A government arbiter finally ordered the company to pay her a pension equal to the \$200 monthly minimum wage earned by most workers.

Such problems apparently aren't isolated: a survey of 84 farms between 2000 and 2002, partly financed by Asocolflores, found only 16.7 percent respected Florverde's recommendation that workers wait 24 hours before re-entering greenhouses sprayed with the most toxic of pesticides. Risks, rewards to organic

Producers say they would love to go organic, especially given the high costs of pesticides. But their risks include infestations and stiff competition from emerging flower growers in Africa and China.

"The biggest hurdle to going organic is that once you're there you have to be prepared to lose your crop," said John Amaya, president of the Miami-based flower unit of Dole Food Co., Colombia's largest flower grower.

Still, U.S. consumers bought \$16 million in organic flowers in 2005, and demand is growing by 50 percent a year, according to the Organic Trade Association.

That growth has been helped by "VeriFlora," a certification and labeling program launched by U.S. consumers, growers and retailers including Whole Foods Market Inc. Some 32 farms in Colombia and Ecuador have earned the VeriFlora label, which requires a transition to organic production and, unlike the industry-backed Florverde, bans more than 100 chemicals outright.

"Unfortunately, existing programs have deficiencies that would not fly in the American marketplace," said Linda Brown, vice president of Scientific Certification Systems, which runs the VeriFlora program.

Gerald Prolman, CEO of San Francisco-based Organic Bouquet.com, counts on VeriFlora-certified growers for much of his supply.

"If producers want to distinguish their flowers from the glut of cheap, chemically produced ones in the world right now they need to ensure that their farms have fully incorporated socially and environmentally responsible practices that consumers demand and are willing to pay more for," he said.

Source: MSNBC.com, 12 February 2007, Quoting: The Associated Press, By Joshua Goodman, <http://www.msnbc.msn.com/id/17115220/>

ASIA

4- Allicin for Soil Fumigation

The treatment of soil with agents that kill micro organisms prior to the seeding or planting of high value plants is a well-established procedure in modern and intensive agriculture. The most commonly used agent to treat soil in greenhouses and limited open-air areas is methyl bromide (MBr). Although MBr is a successful broad-spectrum pesticide, its use is being phased out due to its toxicity to humans as well as to other non-target organisms, besides its hazardous effect on the environment.

Researchers at the Weizmann Institute, Israel, have developed an alternative method for sterilization of soil prior to seeding and planting based on Allicin, a natural ingredient. Allicin is one of the biologically active molecules that are generated upon crushing of garlic cloves. Allicin accounts for much of the beneficial anti-microbial properties attributed to garlic. Since Allicin has poor chemical stability, most methods of production are unsatisfactory. However, these researchers have succeeded in developing an extremely effective procedure for the production and storage of pure Allicin in large quantities.

The researchers have demonstrated the effectiveness of Allicin against soil fungal pathogens such as *Sclerotinia scleroiorum*, *Fusarium oxysporum* and *Rhizoctonia solani*. This method is particularly useful in greenhouses for protecting plants against contamination by plant pathogens such as fungi, bacteria and protozoa.

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EUROPE

5- Bromide ban sparks cheese price worries

Specialist cheese producers who use cloth-wrapping techniques to store cheeses during maturation have warned retailers to expect a price hike.

The cheese makers have been hit by an EU ban on using the gas methyl bromide to control cheese mites, which would otherwise bore through the cloth and expose the ripening cheese to air and mould.

The compound has been used since the 1940s by traditional Cheddar makers and is still used in the soft fruit industry, but it is also a potent destroyer of the ozone layer and in 2000 it was agreed by EU environment ministers to restrict it for environmental reasons. A derogation secured by the UK to keep using the gas has now expired, and no suitable replacement has been found. Producers say only regular hand-cleaning and inspection of individual cheeses can keep the mites at bay. This is a far more labour-intensive and therefore expensive process.

"Businesses will have to take on one or more extra staff, but the hardest part may be getting people to do it," said Stephen Keens of Keens Cheddar, which is a member of the West Country Farmhouse Cheesemakers Group. Some members felt sore that methyl bromide had been banned in cheesemaking, but was still allowed in the forestry and shipping industries, Keens added.

About a dozen manufacturers turning out 1,000 tonnes of cheese each year will be affected by the ban, according to Nigel White at the British Cheese Board. "No one will be put out of business by the EU's decision," he said, "but it will mean added costs and hassle. The producers will find a way around the ban, but they may well have to put prices up." The race is now on to find an effective replacement for methyl bromide. The British Cheese Board is sponsoring a research & development programme to source alternatives.

Source: Hoovers.Com, Quoting: The Grocer, 7 February 2007

http://www.hoovers.com/free/news/detail.xhtml?ArticleID=20070127670.4_2e2c0004dbbea8c6

- March 6 - 8, 2007, [8th Fumigants & Pheromones Technical Conference***](#), Bremen, Germany, This conference continues the series of excellent international conferences and workshops that have been held in Chicago, Indianapolis, Lübeck, Germany, Bologna, Italy, York, England, Thessaloniki, Greece, Copenhagen, Denmark and Monterrey, Mexico. Make sure you don't miss this exciting and valuable event! [Click Here for More Details](#) Contact: k.stocker@insectslimited.com

- [International Workshop on Promotion of Methyl Bromide Alternatives to Comply with its Phaseout](#), Volcani Center of the Agricultural Research Organization (ARO), Bet Dagan, Tel-Aviv, Israel, 5-18 December 2007. Application forms can be obtained from Israeli Embassies or can be down-loaded from the website of ARO, Volcani Center at www.agri.gov.il under International R&D courses or at CINADCO website www.cinadco.moag.gov.il

The United Nations Environment Programme Division of Technology, Industry, and Economics (UNEP DTIE) OzonAction Programme provides R U M B A as a free service to promote information exchange and stimulate discussion about methyl bromide phase out under the Montreal Protocol. The goal of R U M B A is to provide information, stimulate discussion and promote co-operation in support of compliance with the Montreal Protocol. With the exception of items written by UNEP and occasional contributions solicited from other organisations, the news is sourced from on-line newspapers, journals and websites. The views expressed in articles written by external authors and the views expressed by emails sent to the forum are solely the viewpoints and opinions of those authors and do not represent the policy or viewpoint of UNEP. While UNEP strives to avoid inclusion of misleading or inaccurate information, it is ultimately the responsibility of the reader to evaluate the accuracy of any news article. The citing of commercial technologies, products or services does not constitute endorsement of those items by UNEP.

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