

Here Comes Penoxsulam

DOW AGROSCIENCES INTRODUCES NEW ACTIVE INGREDIENT FOR SPECIALTY HERBICIDE **By Larry Aylward, Editor in Chief**

Clad in his white lab coat and protective glasses, Dow AgroSciences scientist David Simpson stood in front of the trade press and spoke about the challenges his company endures in bringing a new chemistry to market.

"A lot of times things work well in the greenhouse, but we can't put them out in the real world," said Simpson, the company's product characterization leader in global weed management. "And by the time we discover something, it usually takes about seven to nine years to launch it."

It's a taxing process, indeed, but can be worth it. On a recent July day, Simpson and other Dow AgroSciences leaders invited the trade press to their corporate office in Indianapolis to talk about the reward that comes with the research: A new active ingredient.

At the press event, Dow AgroSciences announced the registration of penoxsulam, a proprietary molecule that delivers postemergence control of broadleaf weeds in turf at low-use rates.



Mark Urbanowski

How low? Penoxsulam, a systematic herbicide, provides activity at generally 0.02 to 0.06 pounds of active ingredient per acre. It was accepted for review and registration under the U.S. Environmental Protection Agency's Reduced Risk Pesticide Initiative.

"You must have excellent turfgrass safety for a product to survive in this market," said Jeff Borger, an instructor of turfgrass weed management at Michi-

gan State University, who researched the herbicide. "Penoxsulam has this."

Dow AgroSciences will market penoxsulam under the name LockUp specialty herbicide, and expects to introduce the product in mid-2008. It will be available to distributors as a formulated product alone and in combination with other selective herbicides on fertilizers or straight granules. Mark Urbanowski, the company's senior marketing specialist for turf and ornamental and technical products, said penoxsulam can be mixed with 2,4-D and Dicamba to broaden the spectrum of control.

"This active brings powerful, consistent control with residual activity and will be a good option to the old industry standbys found in favorite three-ways," Urbanowski said.

Penoxsulam is labeled for use on most cool- and warm-season turf. Superintendents can use it on fairways and roughs. Dow AgroSciences said penoxsulam is the first ALS inhibitor formulated on a granule. This mode of action inhibits plant enzyme acetolactate, which is essential for the synthesis of amino acids. Inhibition of amino acid production inhibits cell division and causes death in susceptible plants.

Dow AgroSciences also said university trial research revealed that penoxsulam showed activity on susceptible species when applied to wet and dry foliage. It also showed enhanced efficacy on white clover, Virginia buttonweed, dandelion and dollar weed when combined with phenoxy herbicides.

Penoxsulam also controls sedge weeds, ground ivy, chickweed, oxalis, bittercress, pigweed, kyllinga, sagebrush, Florida betony and broadleaf plantain.

Dow AgroSciences also developed a

Quotable

"It was human error."

— *Golf Course Specialist Inc. spokesman Michael Williams commenting after his contracting company fried all 36 putting greens at Hains Point golf course in Washington. Groundskeepers mistook a herbicide for fertilizer. (Examiner.com)*

"Golf has been great for my marriage."

— *Phil Trailies, president and CEO of Club Car Inc., who doesn't leave his wife at home when he takes to the golf course to play 18.*

"I have done this since '68 and I've never experienced anything like this."

— *Stockholm, Sweden, police detective Christer Holmlund after pulling over actor/comedian Bill Murray, who was driving a golf car in city traffic and smelled of alcohol.*

liquid formulation of penoxsulam called Sapphire speciality herbicide for use as a stand-alone product for problem weeds such as English lawn daisy found on golf courses in California and the Pacific Northwest. It will also be introduced in mid-2008.

During the meeting with the press, Dow AgroSciences staff members stressed how basic manufacturers spend millions of dollars investing in new technology. David Morris, the company's commercial leader for turf and ornamental and technical products, emphasized the "investment element" and

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Off The Fringe

A Day on the Hill

GREEN INDUSTRY PLEADS ITS CAUSE TO LEGISLATORS REGARDING H-2B ISSUE

By Daniel G. Jacobs

There's reason for hope. Green Industry executives from around the country descended on Washington D.C. in July to let their legislators know how they feel about a trio of key issues — H-2B visa cap extension, water and association health care. Some met with the congressmen directly while others expressed their viewpoint to aides.

The 21-member Ohio delegation met with aides for senators George Voinovich (R) and Sherrod Brown (D). Voinovich supports the H-2B visa cap extension while Brown opposes it. The delegation wanted to express its gratitude to the senior senator and do what it could to convince his colleague across the aisle to change his thinking.

How important is the issue? Steve Pattie, president of The Pattie Group, says that he had 30 workers delayed for two weeks because of the backlog of applications at the U.S. consulate and lost \$200,000 in business. Losing the extension (allowing H-2B workers from the previous three seasons not to be counted against the cap of 66,000 H-2B visas) would hurt not only his businesses but many others. Wayne Impullitti of Novelty, Ohio-based Impullitti Landscaping lost \$100,000 in business for a similar reason: He did not have access to workers.

The group met with Sherrod Brown aide David Hodapp who initially conveyed the senator's belief that there are Americans willing to take the available



jobs based primarily on the senator's office getting more than 1,000 letters a month decrying the lack of jobs in Ohio.

Only slightly tongue in cheek, Phil Fogarty of Weed Man said, "Send their resumes to us."

The delegation explained that many young Americans don't like the seasonal work but are seeking year-round jobs. Also, the hard physical labor dissuades many from applying.

Despite the initial skepticism from the aide, there may be reason for hope from Brown's office. It was learned that Brown's office would review the Save Our Small and Seasonal Business Act of 2007. He requested information on how the 66,000 visas are distributed. He was specifically looking for ideas on how to improve the system so Ohio businesses get a greater share of the seasonal guest workers.

On the other side of the aisle, the delegation also met with Doug Dziak, counsel with Voinovich's office. Voinovich has been a friend to the cause and is an original co-sponsor of Maryland Senator Barbara Mikulski's bill to extend the returning worker provision of the H-2B. That provision is scheduled to sunset Sept. 30.

Mikulski's bill extends the three-year returning worker provision, which does not count those workers against the 66,000 visa cap. Without a change, many Green Industry entities, including golf courses, might have difficulty finding workers. ■

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the company's continued research investment for new molecules, new formulations, and innovative active ingredient combinations. Urbanowski said generic products are driving the value down in the pesticide segment, adding that it's getting more costly to develop new active ingredients.

"Many of our industry's products have come out of our agricultural business," he said. "As that business tends to go more into the biotechnology arena, there may not be as many active ingredients coming out of that pipeline. The cost to develop a new active, because there are less of them, will escalate."

The Dow AgroSciences staff also discussed the company's new EcoZome technology, which was introduced in February. EcoZome is a formulation system that consists of very small droplets — about 150 nanometers to 200 nanometers — of active ingredient dispersed in water and stabilized by a lamellar liquid crystal coating. Dow AgroSciences has filed for a patent covering the technology for use with pesticides.

According to Dow AgroSciences, some attributes of EcoZome are:

- alternative water-based formulations that reduce the use of aromatic solvents and thereby minimize volatile organic compounds (VOC);
- reduced odor versus EC/EW (emulsion concentrate/emulsions in water) formulations.

EcoZome allows Dow AgroSciences to improve existing active ingredients after they come off patent. Urbanowski said Dow AgroSciences has already talked with competitive basic manufacturers about licensing them the EcoZome technology for their own products.

Was EcoZome developed to combat generic manufacturers? "I wouldn't say it was developed for that, but I think ... it fits very well with that," Urbanowski said. "We're constantly looking to improve what we have for multiple reasons." ■