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This Week's Feature

Litigation and Regulation: The Uncertain Future of Atrazine **By Mark R. Misorowski and Joel D. Eagle** ***The Misorowski Law Group, LLC, Naperville, Illinois***

For much of the last 50 years, the agricultural herbicide Atrazine has been the chemical of choice for farm cooperatives and farmers of corn, wheat sorghum, and sugar cane throughout the United States. Annually, up to 80 million pounds of atrazine is used by farmers for pre-emergence broadleaf weed control in farm fields, as well as at Christmas tree nurseries, woodlands, and golf courses. Although atrazine is used in almost every state, the majority of its application takes place in the corn-growing states of Nebraska, Iowa, Kansas, Illinois, Indiana, Ohio, North Dakota, South Dakota, Minnesota, Wisconsin, Michigan and Kentucky. Sugar cane is primarily grown in Florida, Louisiana, Texas and Hawaii. Sorghum is primarily grown in Texas, Kansas, Oklahoma, Nebraska, and Missouri.

In recent years, atrazine has received significant national and international attention, much of which is negative, due to rising concerns over groundwater contamination and the associated potential health effects from exposure to the chemical. For instance, in 2006 the U.S. EPA completed a lengthy re-registration process for atrazine. At that time, the Agency concluded there was insufficient evidence of harmful effects to warrant any changes to federal regulation of the herbicide, and therefore approved it for re-registration. However, in a major about-face only three years later, on October 7, 2009, the Obama Administration EPA, led by Administrator Lisa Jackson, announced it would be undertaking a "comprehensive new evaluation" of atrazine to "determine its effects on humans." The U.S. EPA's decision to take a renewed look at the safety and efficacy of atrazine comes at a time when the product is embroiled in various controversies in the U.S. and abroad.

On the heels of the U.S. EPA's decision to re-evaluate atrazine, the Agency issued its *Clean Water Act Enforcement Action Plan*. This new plan identifies specific shortcomings in the federal Clean Water Act regulatory program, and specifically highlights EPA's concerns about agricultural run-off as one of the major non-point sources of water pollution. Since the majority of atrazine water contamination is likely the result of run-off from farm fields, this will likely factor into EPA's forthcoming atrazine review. With the new Administration, we may be entering a new era of investigation and analysis by the federal government into the health and ecological effects of certain pesticides, with atrazine a possible poster-child for this new regime.

Over the past several years, Dr. Tyrone Hayes of the University of California – Berkeley has performed numerous studies on the

effects of atrazine on male frogs and other amphibian and animals. He has raised various concerns through his studies, including that atrazine is an endocrine (hormone) disruptor that interferes with reproduction and “chemically castrates and feminizes male frogs” at levels significantly below the U.S. EPA’s Maximum Contaminant Level (MCL) for atrazine, which is presently set at 3 parts per billion (ppb). Some of the other atrazine-related safety concerns Dr. Hayes has raised include: atrazine’s persistence in groundwater; ecological impacts to marine, land, and plant life; neural damage, pregnancy loss, delayed development, low birth weights, reproductive cancers, and impacts to endangered species.

Dr. Hayes is not the only expert to express concerns over the potential effect of pesticides such as atrazine on hormones and the endocrine system. On October 29, 2009, the U.S. EPA issued the first test orders for pesticide chemicals to be screened for their potential effects on the endocrine system. According to Steve Owens, assistant administrator of EPA’s Office of Prevention, Pesticides, and Toxic Substances, “[a]fter years of delay, EPA is aggressively moving forward by ordering the testing of a number of pesticide chemicals for hormone effects. This new data will be carefully evaluated to help identify potential hormone disruptor chemicals.”

Other recent studies and governmental statements have indicated, with varying degrees of concern, various potential hazards to human health, animal and plant life, and the environment. Studies published in 2009 from researchers at Purdue University in Indiana and the University of South Florida, co-sponsored by the U.S. Department of Health and Human Services, National Institute of Environmental Health Sciences, have concluded that current research suggests links between atrazine exposure and effects on pre-natal health of humans and freshwater fish and amphibians. Experts reviewing this data, such as associate professor Melissa Perry at the Harvard School of Public Health, agree that the results “suggest real reason for concern.”

The United States is not the first country to express serious doubt over the safety of atrazine. In October 2003, the European Union withdrew regulatory approval of atrazine, following years of individual European countries (France, Germany, Denmark, Norway, and Sweden) banning its use. It is noteworthy that even Switzerland, the home of primary atrazine manufacturer Syngenta, has prohibited the use of atrazine.

Syngenta is the largest of only six registered manufacturers of atrazine in the United States. In 2004, an Illinois water treatment district filed lawsuits against Syngenta and the five other atrazine manufacturers. Each of the six lawsuits names Growmark (a principle atrazine distributor in Illinois) as co-defendant. See, e.g. *Holiday Shores Sanitary District v. Syngenta Crop Protection, Inc. and Growmark, Inc.*, No. 04-L-710 (Madison County). The case saw little progress until recently, but with a new judge assigned to the matter and a potential class action certification looming, the case has received significant national attention. See Charles Duhigg, “Debating How Much Weed Killer is in Your Water Glass,” *New York Times* (Aug. 23, 2009),

The emergency of the *Holiday Shores* lawsuit is especially

compelling because of the facts it presents. The sanitary water district alleges that atrazine is dangerous even at levels below the current federally-mandated 3 ppb, citing to various studies “unmask[ing] the true dangers associated with exposure to atrazine through consumption of dietary water.” Plaintiff’s allegations include nuisance, trespass, negligence, strict liability, and violations of the water pollution provisions of the state environmental protection act and water pollutant discharge act. *Holiday Shores* has already survived a motion to dismiss, and by the end of 2009 may become a class action involving dozens of water districts treating water contaminated with atrazine and the chemicals created as atrazine breaks down (so called atrazine degradants or “daughter products”).

One cannot underestimate the role economics will play in how vigorously atrazine’s manufacturers, and the farmers who use the herbicide, will defend its future existence and vitality. Atrazine production, sales and application is a multi-billion dollar industry, and U.S. farmers maintain that, without atrazine, their yields will be greatly reduced. The question of the true efficacy of atrazine as a weed killer is unsettled. Studies funded by Syngenta and the Triazine Network (a coalition of agricultural trade organizations) found that corn farmers alone would suffer yield losses of approximately 4-8% per acre, and would result in financial losses in excess of \$1 billion per year. However, other studies and real world examples indicate the losses may be much lower or even non-existent. A study completed by the U.S. Department of Agriculture (USDA) concluded that yield losses would be 1.19% per acre. Italy and Germany, which banned atrazine use in 1991, have reported essentially no yield losses since the product was banned, and in fact have experienced *increases* in the growth rate in harvested areas after banning atrazine’s use. Clearly, economic factors will factor into the defense of atrazine during the upcoming regulatory review and litigation, and may ultimately affect the cost/benefit analysis for future EPA registration of the herbicide.

The growing storm surrounding atrazine use in the United States raises a myriad of legal, political, and economic issues. Clearly, between U.S. EPA’s upcoming comprehensive review and the various lawsuits pending against atrazine manufacturers and distributors, the future legal and financial impacts to end users, community water providers, insurers, and others are inevitable. Although it is too early to predict the outcomes of these matters, change is on the horizon.

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