

Industry News

Packaging Becomes a Major Environmental Issue. Doug Houseworth, Manager, Technical Support, Turf and Ornamental Department, Ciba-Geigy Corporation, P.O. Box 18300, Greensboro, NC 27419

Many useful agricultural chemicals have been taken off the market in recent years because of environmental concerns. Product stewardship is an issue for every member of the green industry, and chemical companies are addressing this issue. A fundamental component of product stewardship—especially for the future—is packaging.

Today, safety and disposal are two of the key issues for judging the effectiveness of pesticide packaging. On the safety side, manufacturers strive to get the product from where it is packaged to the end user with minimal environmental exposure. As for disposal, packages that once were standard may cause problems. For example, plastic jugs still make an excellent package for chemicals, but parts of the country are running out of places to dispose of them. Revolutionary packaging technology addresses both of these issues.

Water-soluble packaging, for example, was unheard of 5 years ago, but today it addresses both safety and disposal concerns. Ciba-Geigy introduced Pace fungicide 2 years ago in such a package. Bags made of a special film hold the chemical until the bag is placed in water, at which point both the package and the product dissolve completely. There is no need to measure or mix the product by hand, so chances of contamination and/or overapplication are minimal. Approximately 80% of all personal contact with chemicals occurs during mixing, and such contact is minimized through the use of water-soluble packaging. An added benefit of water-soluble bags is that they do not allow the product to come in contact with the cardboard packaging, so the box can be thrown away like any other harmless paper product.

Mini-bulk packages have been common on farms for several years, but unlike farmers, most turf and ornamental managers cannot use 100 gallons of pesticide. Ciba-Geigy is taking a leadership role in developing mini-bulk designs that hold just a few gallons. The user hooks up the package to a sprayer tank, transfers pesticide to the tank, applies the product, and returns the package to be refilled.

The industry likely will see more regulation in the future because of environmental concerns. In addition, the industry will shift from mostly market-driven to mostly regulator-driven. Chemical packaging will increase in importance in the future. Where packages used to serve merely as a means of moving products from point A to point B, they now are a vital component of marketing chemicals.

Salute to APS Sustaining Associates

This section is designed to help APS members understand more about APS Sustaining Associates. Information was supplied by company representatives. Each month different companies will be featured. A complete listing appears in each issue of *Phytopathology*.

NOR-AM Chemical Company, Contact: Edward P. Pieters, 3509 Silverside Rd., P.O. Box 7495, Wilmington, DE 19803; 302/575-2043. NOR-AM Chemical Co. is a leading manufacturer and supplier of specialty products for agricultural, pest control, and turf and ornamental markets. Its major fungicide products include BANOL turf fungicide, BOTRAN 75W fungicide for fruits, and the soil fumigant products VORLEX and VORLEX 201.

Northern Marianas College, Contact: Florendo C. Quebral, School of Ag. & Life Sciences, Saipan, Guam 96950; 670 23 49 022.

Northfield Lab, Contact: Trevor J. Wicks, Department of Agriculture, Box 1671 GPO, Adelaide, SA 5001, Australia; 082 6684 68.

Northrup King Company, Contact: Wayne L. Wiebe, Rt. 1 Box 507, Woodland, CA 95695; 916/666-0986. Northrup King was established as a small regional seed firm in Minneapolis, MN, in 1884. Over the past 100 years, the company has grown into one of the world's largest general seed houses, marketing agronomic, vegetable, and flower seeds across the globe. Today, Northrup King is a member of the Sandoz Group of companies. Northrup King has a strong commitment to research. The goal of this research is to develop, produce, and market improved agronomic and vegetable crop cultivars.

To help achieve these goals, the company has research stations throughout the United States, as well as in Canada, Mexico, South America, and Europe. Plant pathology plays an important part in this research, both in the development of new cultivars with improved disease resistance and in the production and marketing of high-quality healthy seeds.

Pest Pros Inc., Contact: Randy M. Van Haren, P.O. Box 188, Plainfield, WI 54966; 715/335-4046. Pest Pros is an independent crop consulting firm specializing in integrated crop management of vegetables. It offers fertility, IPM, and cultural management expertise on potatoes, onions, carrots, cole crops, and mint. Pest Pros runs its own nematode diagnostic laboratory to complement its IPM program. This laboratory is one of the few private labs to run soil screening for *Verticillium dahliae*. A "potato early dying analysis" service assesses the nematode/*Verticillium* complex in each field during the rotation crop prior to potatoes. Management strategies are developed for the efficient control of potato early dying on this basis.

Petoseed Co., Inc., Contact: Jeff S. Dodson, Rt. 4 Box 1255, Woodland, CA 95695; 916/666-0931. Petoseed was formed in 1950, specializing in research and production of hybrid vegetable seed. Petoseed currently breeds, produces, and markets 20 classes of hybrid and open pollinated vegetable seeds. Seeds are produced and sold both nationally and internationally. Petoseed has six research stations in the United States and seven testing locations under their direction in foreign countries. The company is a pioneer in breeding for multiple disease resistance and the research department is currently working with over 80 different disease-causing organisms in their hybrid program. The major research thrust is to develop hybrid vegetables for specific market needs worldwide.

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