

# Easy-to-use CONTROL PRODUCTS

**Once considered only for the amount of product they contained, packages for turf and ornamental chemicals are now more environmentally- and user-friendly.**

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**I**F YOU'RE NOT using products packaged in water soluble pouches, you might want to try them. They're much easier and safer to use than conventionally-packaged products. If you already use them, be advised that extra care is needed to get the dosage right.

Though the products contained in the pouches are generally not new, they are considered new by some marketers—solely by virtue of their packaging.

"The pouches are the next generation of broadleaf herbicide formulations," contends Sean Casey of Riverdale Chemical, which offers such packaging for four products. "The actual products are the same as our regular products, but all the user has to do is open up the packet and drop it in the tank."

Manufacturers believe the pouches solve a variety of problems.

First, there is the applicator safety issue. Some products—broadleaf herbicides, especially—are corrosive and harmful to a person's eyes, according to Casey, with water-soluble technology, the product is untouched by human hands from manufacturer to lawn. This virtually eliminates the risk of applicator or mixer/loader exposure.

Secondly, no hazardous waste disposal is involved. Since the packets dissolve completely in the tank, you don't have to worry about triple-rinsing any containers before disposing of them.

"Federal EPA, state and local regulations are definitely a consideration," notes Steve Chaney, turf & ornamental product manager at Bayer. "For instance, California has a requirement for closed systems. Minnesota has a regulation for the return of all metal containers on the agricultural side."

According to regulations, disposable pesticide containers must follow the "six-

nines" rule; that is, to avoid being categorized as hazardous waste, they must be 99.9999% clean. That is not a concern for users of water soluble packaging (WSP).

"Federally, we're being encouraged to use more user-friendly packaging," says Mark Urbanowski, marketing manager at DowElanco.

Thirdly, with the new low-dosage products, WSP is more convenient because you don't have to mess with measuring.

"The products we put in water soluble pouches are low-use chemistries," says Joe Yoder of Sandoz. He says that Barricade can be used at as little as  $\frac{1}{2}$  oz. active ingredient per 1000 sq. ft. "We didn't want users to get into mis-measurement issues." Yet Sandoz, Yoder says, won't use WSP for some products. "We want the formulation in the pouch to be an advanced product."

Finally, there is an additional option, which DowElanco chose for some of its Dursban professional product: a child-resistant outer bag that stores seven water-soluble packets. The reclosable outer bag is moisture- and odor-proof and features a zipper lock for extra safety.

**What is it?**—WSP is normally made of a chemical called polyvinyl alcohol, or PBA. It was first offered to the market by Ciba Turf & Ornamental in the late 1980s, but its popularity continues to grow.

"We made the switch to PBA packaging for Bayleton three years ago," says

Bayer's Chaney. "Sales switched almost 100 percent to the PBA packaging the first year it was available."

"However, WSP is not for everyone. Merit, for instance, is sold in packages containing enough product to cover 11,000 square foot increments. But that's not good for people treating smaller-sized areas. So there's still a market for 'bulk-type' products."

Andy Seckinger of Rhone-Poulenc agrees: "Users universally like WSP. Response has been very positive. But if the end-user doesn't calculate the dose properly, it goes from a convenience to an inconvenience."

For instance, you should consider whether the size of the tank is proper for the size of the package. You should consider whether you are using the low or medium portion of the recommended rate spec-



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*Photo courtesy Ciba Turf & Ornamental*

trum. Otherwise, you may find yourself over- or under-dosing the property.

"We started packaging Rubigan in water soluble packets specifically because of input we solicited from golf course superintendents," says DowElanco's Urbanowski. "We're trying to take the water soluble packet to the next step: to find out what size the customers really need."

The package itself is coming under closer scrutiny. According to Urbanowski, a new brand of PBA being used for Rubigan WSP has a faster dissolve time than before, dissolves completely in the tank, and it still has good tensile strength.

You should know, too, that PBA/WSP is more expensive to the manufacturer than standard bags, cans or drums. Yet you normally don't see a higher price tag when you buy them. That's because manufacturers are eating the extra cost and accepting lower profit margins—a plus for the end-user, who gets a safer, easier-to-use product at the same price per-1000 as conventional products.

"We don't get any of the costs back," says Derrell Kelso, product manager at Valent. "But it's not a cost issue. It's a stewardship and worker exposure issue, and it's the way to go."

The pouches also lend themselves to some nice extra advantages. For instance, AgrEvo offers its Prostar Plus as part of a "twin-pack" with Bayleton.

"Through our research, we found that a certain ratio of Bayleton to Prostar provided some good benefits, particularly on brown patch," says AgrEvo product manager George Raymond. "All you have to know is that one box (containing one pouch of Bayleton and one of Prostar) covers 'x' square feet.

"This type of arrangement also saves us the cost of doing a toxicological report on a premix."

And American Cyanamid says that Pendulum herbicide can be used with Roundup's pre-measured drypack.

"Our water dispersible Pendulum granules come in a 1.2-ounce pouch for 1000 square feet that is hard to use in backpack sprayers," says AmCy senior marketing manager Gary Curl. "It's designed with the landscape person in mind, and fits very well with Roundup's drypack. There's one bag of each; Roundup provides the total kill and

Pendulum provides the residual action."

Manufacturers, especially, like this opportunity. "There are people going to water soluble bags packaged within water soluble bags like a co-pack for certain combinations," Riverdale's Casey observes. "That way, the manufacturer doesn't need to apply for a new EPA label, which we have to do if we put two (or more) different control products in the same package."

**Other innovations**—WSP, however, is not the alpha and the omega in easy-to-use control products.

"We're working toward closed systems, but the market still may not be ready for this approach," says DowElanco's Urbanowski. "The feedback we get from the customer will be the driving factor."

However, at the 1996 International Golf Course Conference and Show in Orlando, Ciba T&O will unveil its new "LinkPak" unit, which transports product and charges it directly into a spray tank.

"The LinkPak is very portable," says Ciba fungicide manager Jerry Osborne. "Users can fill the LinkPak and then load the product in the field via a closed system (called the turfPak, see below).

Here are some other technological advances from the manufacturers:

- Ciba offers its returnable, refillable micro-bulk turfPak system, which contains 15 gal. of product and dispenses its contents via a computer-assisted pump. Users simply hook it up directly to a spray tank and program the proper product dosage into the computer.

"The turfPak reduced the amount of waste returned to the environment, [the equivalent of] 15 one-gallon jugs going into a landfill," says Ciba's Osborne. "There is no need to triple-rinse used containers, either."

- Last year, Ciba also introduced a closed-system microinjection unit for its Alamo tree fungicide. The units are inserted into small drilled holes in the flare root and tapped lightly with a hammer to release Alamo directly into the tree.

- "Tip'n'measure" containers are being used by Terra for its Maxon root activator/stimulator. Terra, incidentally, was a pioneer in developing dry flowable technology, and markets Terramark spray pattern indicator and lake colorant in a water soluble package.

## Some control products available in water-soluble packaging

- **AGREVO: Prostar, Prostar Plus** (fungicides)
- **AMERICAN CYANAMID: Pendulum** (herbicide)
- **BAYER: Bayleton** (fungicide); **Merit, Tempo** (insecticides)
- **CIBA T&O: Primo** (growth regulator); **Pace** (fungicide)
- **DOWELANCO: Rubigan** (fungicide); **Dursban** (insecticide)
- **RHONE-POULENC: Chipco Sevin** (insecticide)
- **RIVERDALE: Dissolve, Triplet, Solution, Tri-Power** (herbicides)
- **SANDOZ: Sentinel** (fungicide); **Barricade** (herbicide)
- **TERRA: Thalonil** (fungicide)
- **VALENT: Orthene** (insecticide)

- Valent will release Pinpoint (a granular form of Orthene for the turf & ornamental market) in a recyclable 8-lb. bottle next year.

- Growth Products is now selling its liquid fertilizers, micronutrients and natural organic products in a 275-gallon mini-bulk packages. When emptied, the package can be broken down into a corrugated box and polyethylene bag liner for quick disposal and recycling. It gives customers the extra advantage of bulk pricing discounts plus easy disposal.

This brings us full circle: manufacturers will market whatever the government demands and whatever the green industry shows it is ready to purchase in sufficient quantities to turn a profit.

"WSP makes a lot more business sense than returnable drums," concludes Casey. "I think you'll see more products going that way if the product lends itself to it."

Rhone-Poulenc's Seckinger concurs: "A lot of what you'll see in the future in the way of new package innovations depends on what regulations are passed."

### Advantages of WSP

- Convenience
- Reduced worker exposure
- Low odor
- Accuracy of measuring
- No EPA disposal problems