STINGER HERBICIDE NOT LABELED IN WISCONSIN

The post-emergent herbicide STINGER (Clopyralid) has received a special local needs registration in Massachusetts and Washington. It is **NOT** labeled for application to cranberry in Wisconsin. Use of this product in other states required growers signing a waiver of liability. The pre-harvest interval is 50 days.

Several growers have contacted me wondering why STINGER is not labeled in Wisconsin. Some of the IR-4 residue and efficacy trials were conducted in Wisconsin. We noted some vine injury following application of STINGER. The injury was a twisting of the new growth and curling of the young leaves. There was also some injury to the terminal buds resulting in misshapen growth the following year. Because of this experience I have some serious concerns about the use of STINGER in Wisconsin. When and if it is registered in Wisconsin it will be recommended for spot treatment of heavily infested areas (few vines to damage) or to wiper applications.

We considered submitting a Section 18 registration for STINGER this past winter in hopes of a 1997 label. We decided against doing so because of a lack of data supporting a need in Wisconsin and because with the new Food Quality Protection Act it was unclear how Section 18 requests would fare. We wanted to be sure the Section 18 for Orbit was approved for Cottonball management in Wisconsin. We don't have a severe weed infestation with a particular weed that cannot be controlled by wiping with Roundup. Other states have low growing perennial weeds that cannot be wiped without touching the foliage. Further, we anticipate a national STINGER label by 1998 or perhaps 1999 and the need appeared less critical in Wisconsin. The is also a possibility for a local label for the five major cranberry producing states in 1998.

In this newsletter I have included a survey about the prevalence of narrow leafed goldenrod, the primary target weed for STINGER in Wisconsin. Please fill out the survey, attach a stamp and put it in the mail. We will need these data for either a local or a national label.

I want to make it very clear that STINGER is not labeled in Wisconsin and cannot legally be used, even for a wiper application. I have purposely waited until the PHI is likely past so there would be even less temptation on growers' part to use this product illegally. We considered the issues carefully for 1997 and will do so again for 1998. The data you provide through this survey will also be extremely helpful.

Teryl Roper, UW-Madison, Extension Horticulturist

More than to give information, a teacher needs to help guide a student's mind to think, and even beyond that, to help him shape his character. Giving information is easy. Forming a thinking mind is hard. And shaping a strong character is hardest of all, partly because it must be shaped mostly from within. Giving information is only the beginning of a teacher's responsibility; the end is to stimulate, excite, motivate, lift, challenge, inspire.

Bruce B. Clark

PRE-HARVEST INTERVALS

With harvest approaching growers need to pay extra attention to pre-harvest intervals for pesticides. Pre-harvest intervals are established to assure residues will be sufficiently small at harvest to protect the public health.

Pesticide	PHI (Days)
Bravo	50
Copper products	0
Diazinon	7
EBDC's	30
Ferbam	28 days after mid bloom
Guthion	21
Lorsban	60
Nematodes	0
Orthene	75
Poast	60
Pyrenone	0
Ridomil	45
Roundup	30
Sevin	1
Weedar 64	0

REPORTING ORBIT USE

The section 18 permit for the fungicide ORBIT (propiconazole) expired on July 31, and now is the time to report use of this product in Wisconsin. All cranberry growers in Wisconsin should have received a form to record their use of ORBIT. If you used ORBIT, you **MUST** provide the information requested on the form and return it to me (my address is on the form) no later that September 5, 1997. Reporting ORBIT use is required by the EPA, and future Section 18 or regular labels for ORBIT will not happen if we don't provide them with use data.

Reporting Funginex (triforine) use is not required by EPA, but this information would be useful to the Cranberry Institute and me as we document fungicide use for control of cottonball.

If you have questions about reporting fungicide use, call me at 608-265-2041. I will be away from my office August 6-13 and again August 18-21.

Patty McManus, UW-Madison, Extension Plant Pathologist

SPRAYER NOZZLES

Nozzles are important in controlling the volume of pesticide applied, the uniformity of application, the completeness of coverage, and the degree of drift. While many different types of nozzles are available, each one is designed for specific applications. Regular flat-fan, flood, and whirl chamber nozzles are preferred for weed control. For minimum drift, flood, whirl chamber, and raindrop nozzles produce large droplets.

A variety of materials are used in the manufacture of hydraulic sprayer nozzles. Brass is inexpensive, but it wears rapidly causing a change in application rate and spray pattern. The worn nozzles usually have a higher flow and a greater concentration of spray directly below the nozzle. Nylon has good corrosion resistance, but is only fair in abrasion resistance and may swell when exposed to some liquids. Stainless steel nozzles are particularly resistant to abrasion. Nylon nozzles with stainless steel inserts offer an alternative to solid stainless steel at a reduced cost. Disk-type, hollow-cone nozzles are available in tungsten carbide which is highly resistant to corrosion and abrasion. Regular flat-fan nozzles are available in ceramic, another highly resistive material. Hardened plastic nozzles are very resistant to abrasion but not as expensive as tungsten carbide or ceramic nozzles.

Flat-Fan. Flat-fan nozzles produce a flat spray pattern with tapered edges and are widely used for broadcast spraying herbicides. Because the outer edges of this pattern receive less volume, adjacent spray patterns must overlap 30% to 50% depending on spray angle (*continued on page 5*)

to ensure uniform coverage. To achieve 50% overlap, the nozzle must spray an area 50% wider than the nozzle spacing on the boom. For example, nozzles spaced on 20-inch centers must each spray an area 30 inches wide to get 50% overlap. When overlap is required flat-fan nozzles must be turned slightly so that the patterns don't spray into each other, but only overlap.

The normal operating pressure for most flat fan nozzles is 30 to 60 psi, but low-pressure flat-fan nozzles can operate at pressures from 10 to 20 psi. Lower pressures create larger droplets and reduce drift. Common angles of discharge are 65, 80, and 110 degrees. The angle of discharge and nozzle spacing determine the proper nozzle height for uniform application.

Nozzle sizes are based on the size of nozzle opening. Manufacturers use a numbering system which describes the nozzle discharge flow for some standard pressure. Most flat-fan nozzles have a single discharge opening, but several flat-fan nozzles have two openings. In one type, the discharge from one opening is directed slightly rearward. This provides improved pesticide coverage in dense foliage. In another type, the discharge from one opening is directed downward and to the other side. The overlapping patterns are designed to produce a uniform, yet very wide spray pattern.

Even Flat-Fan. Even flat-fan nozzles are designed to provide uniform coverage across the entire width of the spray pattern. These nozzles are quite similar to the regular flat-fan nozzles and used primarily for band applications over a crop row. Their normal operating pressure is from 30 to 40 psi and the band width is dependent on the nozzle height and nozzle spray angle.

Flood Flat-fan. Flood flat-fan nozzles produce a wide-angle pattern and function well when broadcasting herbicides. Optimal operating pressures are 10 to 25 psi.

Pressure changes on flood flat-fan nozzles affect the angle and width of the spray pattern more than with regular flat-fan nozzles. The width of the spray pattern increases with pressure increase. The discharge can be directed horizontally backward for a uniform pattern or downward for minimal drift. Spray patterns should overlap 100% for uniform distribution. The nozzle spacing should be half the area covered by a single nozzle.

Hollow-cone. Hollow cone nozzles are frequently used to apply insecticides and fungicides where pesticide coverage of leaves is important and when drift is not a major concern. At pressures of 40 to 100 psi, these nozzles produce many small droplets that penetrate plant canopies and cover both sides of the leaves more effectively than fan nozzles. Drop tubes and other fittings also permit improved spray penetration.

Whirl Chamber. The whirl chamber nozzle has a whirl chamber just above the conical outlet. At the recommended pressure of 5 to 20 psi, these nozzles produce large droplets. The primary use of these nozzles is herbicide application.

Raindrop. The raindrop nozzle is designed primarily to reduce drift. When operating at pressures of 20 to 60 psi very large droplets are produced. These nozzles are also used for herbicide application. For broadcast application, these nozzles must be directed 30 to 45 degrees forward or backward from the horizontal to obtain uniform distribution.

Air-shear nozzles. Air shear nozzles are commonly used on air blast sprayers or mist blowers. The air passing through the nozzles atomizes the spray mix. Air-shear nozzles do not wear as quickly as other nozzles, primarily because they have large orifices.

Adapted from Pest Management Principles for the commercial applicator—Fruit Crops.

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