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Worker Protection Standard: How It Affects Cutting Propagation

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The Worker Protection Standard (WPS) for agricultural pesticides, issued by the U.S. EPA in August, 1992, (40 CFR part 156 subpart K, and 40 CFR part 170) required labeling changes for many pesticide end-use products registered under section 3 or 24(c) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). Among those end-use products are biological pesticides and, more specifically, plant growth regulators including rooting hormones.

Pesticide Regulation (PR) Notice 93-7 was issued to manufacturers on 20 April 1993, and outlined the requirements for meeting the labeling revisions required by WPS. Included in PR Notice 93-7 were the deadlines specified in WPS: After 21 April 1994, all products must bear the new WPS labeling when sold by the manufacturer. After 23 October 1995, all products must bear the new WPS labeling when distributed or sold by any person.

Pre-WPS approved labeling was simple for a rooting hormone; however, the *accepted labeling under WPS included major new sections involving:*

- Personal Protective equipment (PPE).
- Statement of practical treatment.
- Agricultural use requirements, including the restricted entry interval (REI).

Through various supplements, PR Notice 93-7 determined the following:

- The "toxicity category signal word" CAUTION was based upon the toxicity category number that applies to acute toxicity tests performed on the end-use product.
- The "chemical resistance category" was based upon the solvents used in the end-use product. In the case of Dip'N Grow®, the solvent is alcohol.
- "PPE" requirements were based upon both the toxicity category and the chemical resistance category.
- "REI" was based upon the WPS active ingredient list (5 April 1993) indicating indole-3-butyric acid (IBA), with a 12-hour REI and naphthaleneacetic acid (NAA), with a 24-h REI.

Personal protective equipment was specifically outlined in the WPS worksheet. Applicators and other handlers must wear: long-sleeved shirt and long pants;

chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton; and shoes with socks.

The REI time periods were established by the EPA from the toxicity categories of tests performed upon the raw material. Unfortunately, the current eye irritation potential for NAA is toxicity category II causing this raw material to be classified as a 24-h REI. All other studies on NAA and IBA are toxicity category III which are classified as a 12-h REI. The end-use product is assigned an REI time equivalent to the worst case of any toxicity test of the raw material, even though it may only represent a fraction of 1% of the end-use product.

In the Federal Register of 11 January 1995, EPA published a draft policy statement on "reduced restricted entry intervals for certain pesticides". The final policy was published on 3 May 1995, and was presented to manufacturers as PR Notice 95-3 on 7 June 1995, with the following statement: EPA will permit registrants to reduce the worker protection standard (WPS) interim restricted entry intervals (REIs) from 12 to 4 h for certain low risk pesticides (Smith, 1995).

A list of active ingredients that are eligible for this reduction included IBA, but not NAA, since NAA is a 24-h REI active ingredient. For those rooting products that contain only IBA, the 4-hour option could be applied by the manufacturer. For rooting products such as Dip'N Grow that contain both IBA and NAA, PR Notice 95-3 was not an option.

NAA is accepted by many propagators as a beneficial companion to IBA in rooting compounds (Dirr and Heuser, 1987). Astoria-Pacific was very concerned about the 24-h REI and requested a meeting with the EPA in Washington D.C., to discuss product application practices for Dip'N Grow and to request regulatory relief for the nursery industry from the 24-hour REI. Following are the results of this meeting presented in an official EPA letter dated 10 August 1995:

"As discussed in our meeting, the 24-hour REI is triggered by the toxicity of the active ingredient, NAA. Any product, used for the commercial production of plants on farm, forest, nursery or greenhouse, is within the scope of the Worker Protection Standard (WPS). WPS, in turn, requires that any "in scope" product must bear a restricted entry interval (REI) statement on the product label. For these reasons, it is impossible to remove the REI statement from your product label. In our discussion of the pattern of use for your product, we spoke of a specific section of the Standard, specifically § 170.112 (b); this section outlines the exception for activities with no contact. For the practices conducted after application, specifically moving and transporting trays to the mist room and activities in the mist areas during the REI, you requested regulatory relief for the nursery industry. Your concerns have been addressed by the Interpretive Guidance Workgroup (IGW). The following discussion of the IGW guidance concerning movement of pots during the REI, entry under an REI for no-contact activities, etc., should provide the flexibility desired by the industry. The specific IGW questions and answers are enclosed with this letter."

The IGW guidance states that containers may be moved provided there is no contact with the treated area by workers. In the use patterns for Dip'N Grow, the bottom section of the cutting is treated, then submerged in rooting media; in this instance, the section of the stem that was dipped in the diluted product is the "treated area". After the cutting is placed in the rooting medium, subsequent movement of the tray would satisfy the "activities with no contact" condition. Moving a pot or flat of treated cuttings without contact to the pesticide-treated area would not be in

violation of the REI. The nursery workers moving the flats of cuttings from the treatment area to the mist rooms would still need to be notified, via central posting, as well as given posted (verbal is optional) warnings of the treatment to the cuttings.

The nursery industry may not have realized the full benefit of using the "no-contact" exception in their production practices. In regard to workers having to wear PPE during transport from the treatment area, into and about the misted areas during the REI, an unprotected worker (one wearing no personal protective equipment) may enter the treated area immediately after the application is finished as long as the "no-contact" conditions are satisfied. As long as no other REI is in effect, workers would not be required to wear PPE to transport flats of cuttings that have been treated with Dip'N Grow. During the REI for Dip'N Grow, workers may enter the mist area to adjust mist equipment, rearrange flats under the mist, etc., and do so with no limitations on the time spent in the mist area, **as long as no contact occurs with the treated area.** During the Dip'N Grow REI, should a flat or tray of treated cuttings be overturned during "no-contact" activities, nursery workers may not contact the treated cuttings, disturbed rooting media or tray(s) without wearing the reentry PPE. As a safety and compliance measure to handle spills of treated plant material during the REI, it is suggested that nursery workers have the reentry PPE readily available for use in or near the treatment area.

I hope that this guidance provides a clarity in terms of defining the "treated area", how the "no contact" exception is used for treatments to promote rooting, and the ability to enter and move flats of cuttings in the mist area during the REI. I hope that you will incorporate a general discussion of "no contact" activities in a new Dip'N Grow product information sheet. The nursery industry should be made aware that PPE is not required and entry into the mist areas are not restricted by WPS when rooting hormone is used and cuttings are placed in a mist area that does not have a REI in place from treatment with other products (Smith, 1995).

Needless to say, the nursery industry should be pleased with this guidance determination. We should remember however, that PPE is still required during dilution, mixing and use of the liquid rooting hormone.

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“Propagation Challenges” Question-Answer Period

Mike Anderson: A question for Tom Landis. I bought the Timber Press manual 2 years ago and must admit don't use it very much because all the information is presented only in the metric form. How will the new manual handle that?

Tom Landis: We'll have both, metric first with English units after it in parentheses.

Dick Bir: When did you get this ruling?

Raymond Pavitt: The ruling was dated 10 August 1995.

Dick Birr: Have you written this up for any trade journals?

Raymond Pavitt: I have met with publishers of all the journals at recently held trade shows. The AAN “Alert” published excerpts of this last week. It will appear in other journals later.

Terry Finnerty: Can you comment about the growth of C-4 grasses in cool-season climates?

John Greenlee: The only C-4 grasses we grow on are tropical grasses like sugar cane and they are basically ornamentals. In cooler climates they will just be annuals or used as an annual in gardens.

Bruce Briggs: If some growers prefer to use Dip-N-Grow as a spray on the tops after the cuttings have been put in the greenhouse, what will appear on your label as a protection under the new law?

Raymond Pavitt: This is a difficult question to answer. Officially, Dip-N-Grow is only licensed by the EPA for cutting propagation by treating the cut bases. It is not legally authorized for spraying to the tops of cuttings. The label will only say for dipping the basal end of the cutting and placing in the medium.

Anonymous: Is Dip-N-Grow listed as a pesticide?

Raymond Pavitt: All growth regulators are listed as “pesticides” by the EPA since there is no separate category for them.

Ron Lapotin: Were you successful with any of the other growth regulator products used in the industry?

Raymond Pavitt: The ruling probably applies to any substance used to improve rooting of cuttings. Gibberellins may soon become declassified. Anything containing IBA and/or NAA is going to require the continuing registration and posting of the REI.