

INITIATING CHANGE BY PROXY: WHO WILL DETERMINE THE FUTURE OF CHEMIGATION

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By definition, action by proxy authorizes someone to act for or in place of another. Presumably, when the authority to act is conferred, the appointer is unable or incapable of acting on his or her own behalf. However, under what circumstances is authorization no longer conferred or assigned, but relegated?

WSDA Chemigation and Fertigation Technical Assistance Program

The goal of the WSDA Chemigation and Fertigation Technical Assistance Program is to advise operators of chemigation and fertigation systems to realize voluntary compliance with relevant federal and state legislation, with the intent to safeguard human health and to protect waters of the state from contamination. This is achieved by ensuring that antipollution devices are in-place, properly installed, appropriately operated, and adequately maintained and by enhancing industry awareness of stewardship practices when applying an agricultural chemical through an irrigation system. Although voluntary compliance is the desired course of action, a regulatory process involving possible civil action can be initiated.

Background

Center pivot systems were first commercially built in 1952. A subsequent adaptation to irrigation systems, applying pesticides (chemigation) or fertilizers and soil amendments (fertigation) to plants or land by means of injection was first practiced in the early 1970s, realizing widespread adoption by the 1980s. Of concern, the assessment of irrigation systems as a suitable pesticide application apparatus is only a recent convention.

In fact, distribution uniformity as a measure of application efficiency was not adopted as a management practice until the mid 1980s – an outcome of public concern with groundwater depletion, particularly the Ogallala aquifer. The consequences inherent with poor distribution uniformity of pesticides and fertilizer are only now being considered, arising from concern with groundwater contamination and with surface water degradation. With an increasing awareness of these practices, the public is voicing concern about human safety.



The Advent of Federal Legislation and State Rules

As chemigation and fertigation are not new, neither are the federal legislation nor state laws and rules that govern their use. The rapid increase in the practice prompted concerns with the

potential for groundwater and surface water contamination. Thus, on June 5, 1980, U.S. Congress authorized the United States Environmental Protection Agency (USEPA) to write guidelines that would ensure the safe and effective use of pesticides through irrigation systems, giving rise to the Label Improvement Program (LIP). Guidance to product registrants was set forth in Pesticide Regulation Notice (PRN) 87-1: Label Improvement Program for Pesticides Applied through Irrigation Systems (Chemigation), which took effect on March 11, 1987, with language to be incorporated into revised labels by no later than April 30, 1988.

The Washington State Chemigation Rule (WAC 16-202-1001), which is based on PRN 87-1, became effective on October 31, 1988. The Washington State Fertigation Rule, which closely parallels the chemigation rule, was adopted on January 7, 1991.

Overview of Chemigation Provisions on the Pesticide Label

The pesticide label must address chemigation by either (a) prohibiting chemigation or (b) permitting chemigation. The label cannot remain silent as to chemigation. If authorized by USEPA for chemigation, the product label must contain use directions with reference to (a) the type of irrigation system through which the product can be applied, (b) the backflow prevention

Remember . . . The pesticide label is a legal document, and it is the responsibility of the user to comply with all the use restrictions.

devices on the irrigation water supply system to prevent contamination of the water source, (c) special antipollution measures for connections to public water systems, (d) backflow prevention devices on the chemigation injection line, (e) system interlock to discontinue product injection in event of an irrigation system malfunction, (f) application monitoring, (g) treatment area posting, and (h) the quantity of water to be applied. These conditions of use are in addition to mandatory label provisions.

Synopsis of Irrigation System Inspections by WSDA Staff

Since 2000, WSDA staff have performed more than 880 inspections of irrigation systems for compliance with pesticide label provisions and state rule. Of those, less than 15 percent of the systems were compliant. As noted above, the pesticide label has required antipollution devices since April 1988, the Washington State Chemigation Rule since October 1989 – 20 years ago.

State legislation requires the proper installation, appropriate operation, and adequate maintenance of safety devices and the application apparatus. The injection equipment and irrigation system are considered a single application unit. Before performing a chemigation or fertigation application, the irrigation system and the injection equipment must be evaluated to assess its integrity and its performance in accordance with manufacturer's specifications, established industry standards, or state statute. It is the applicator's responsibility to demonstrate that an operation will not result in reasonably foreseeable harm to humans, surface water or groundwater, or desirable plants or animals. The applicator of record is ultimately responsible for all aspects of a chemigation application.



Upon initial inspection by WSDA staff, less than 15 percent of the irrigation systems used for chemigation or fertigation was deemed compliant. The above-pictured system lacked an inspection port, low-pressure drain, and vacuum relief valve, all required devices.

Public Participation and the Prospect for Chemigation

Public involvement in mitigation of contributing factors that cause or result in agricultural chemical misapplications is being prompted by a rising awareness of community exposure and environmental contamination and by a diminishing tolerance to production practices as they affect endangered species recovery, surface water quality, and groundwater availability.

The evolving aptitude and increasing sophistication of advocacy groups in the public participation process is evidenced by authoring of state legislation and then securing legislator sponsorship, and by their success in forging collaborative relationships with other advocacy groups allied by a similar goal or ideology. A case in point is their involvement in the USEPA public participation process concerning pesticide reregistration, particularly the carbamate and organophosphate insecticides and the soil fumigants. The proposed USEPA Risk Mitigation Options for the soil fumigants are an outgrowth of public concern regarding bystander exposure.



Although a clear violation of the pesticide label and Washington State laws and rules, overspraying of public roadways during a chemigation application remains a common occurrence.

As to the question posed in the opening paragraph, would public intercession be justified in the event that the chemigation industry negligently or willfully acts with the knowledge that a reasonably foreseeable consequence of the conduct would wrongfully create substantial risk or serious injury to others? Explicitly, would intervention be warranted if customary, albeit illegal, chemigation practices pose a reckless disregard to public safety or a willful indifference to human health, or cause resulting harm to the environment?

Evolving Label Provisions

In an effort to stave additional use restrictions and to ensure continued product availability, product registrants are increasingly incorporating mandatory or more use-restrictive language into their product labels, with the intent to mitigate factors that conceivably contribute to offsite applications. Some of these provisions were inconceivable as little as three years ago.

IMIDACLOPRID

Couraze™ 2F
Insecticide

For uses in pest management and suppression of insect vectored diseases and maintenance of plant health.

ACTIVE INGREDIENT:	
Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine.....	21.4%
OTHER INGREDIENTS:.....	78.6%
TOTAL:.....	100.0%

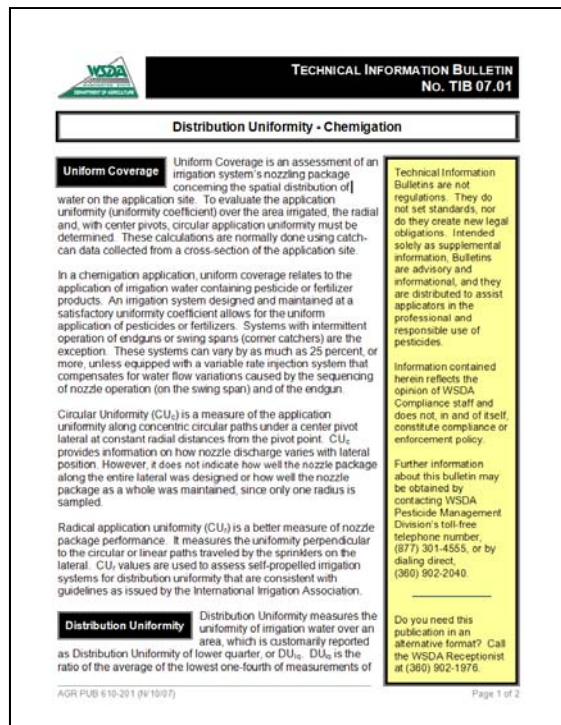
Contains 2 pounds of imidacloprid per gallon.

CHEMIGATION – DIRECTIONS FOR USE

Types of Irrigation Systems
Chemigation applications of Couraze™ 2F may only be made to crops through chemigation systems as specified in crop-specific Application sections and only through low-pressure systems unless specifically recommended for a given crop. Do not apply Couraze™ 2F through any other type of irrigation system.

Product registrants are including more mandatory and use-restrictive language in pesticide labels. In interpreting the “low-pressure systems” provision, WSDA references the USDA Natural Resources Conservation Service Code 442: Criteria for low-pressure systems, which is 2 to 35 psi at the point of discharge.

Undoubtedly, changes in use provisions will continue to occur as registrants promote product stewardship, which may include product-specific best management practices. Some of these provisions are readily evident – such as, “Do Not Use Endguns” or “Apply only through low-pressure irrigation systems.” Some of these provisions are self-evident; others are not. When a pesticide label restricts a product’s use to low-pressure irrigation systems, what does it mean?



When international or national standards exist or where industry-accepted standards are recognized as alternatives to such, these criteria may be used as a regulatory benchmark to assess compliance with label provisions. In fact, the Washington State Chemigation Rule (WAC 16-202-1003[14]) reads: “Safety devices and injection equipment must be installed, operated, and maintained in accordance with the manufacturer’s specifications, established industry standards, and department rule.” In their absence, engineering and administrative controls may be applied. To that end, WSDA is drafting Technical Information Bulletins as supplemental information to advise applicators in a product’s use when performance criteria are unclear or undefined.

Major uncertainties with regard to the future of chemigation are the Clean Water Act, the Safe Drinking Water Act, and air monitoring. If applicators do not steward the use of pesticides, in addition to federal statute and to state laws and rules, local legislative governances may institute ordinances to further restrict use. Specifically, any legislative or jurisdictional authority can codify regulatory measures regarding pesticide use.

Technical Information Bulletins are intended as departmental guidance for applicators concerning the interpretation of performance-based provisions of pesticide labels.

As has been conveyed on many occasions, the ability of growers to continue to use chemigation and fertigation in Washington State as a production management tool will be solely determined by those who practice it. These practices are being increasingly scrutinized by the public with regard to public health and environmental impacts. Adequate system maintenance, system monitoring, and operator diligence are essential for the continuation of these management practices. By following existing safeguards and voluntarily adopting stewardship practices, growers will be able to continue to use these effective practices, thereby not relegating that decision to others.

Contact Information

To request additional information or to schedule an inspection of your irrigation system, please contact the following WSDA Chemigation and Fertigation Technical Assistance Program staff.

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