

CHEMIGATION: WHO WILL DETERMINE ITS ULTIMATE FATE EUPHORIA OR THE PERFECT STORM

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Center pivot systems were first commercially built in 1952. A subsequent adaptation to irrigation systems, chemigation was in common practice by the early 1980s. However, no consideration was given to the suitability of irrigation systems as a pesticide application apparatus. In fact, irrigation uniformity as a management practice was not widely practiced until the mid 1980s – an outcome of public concern with the drawdown in aquifers. Only recently has distribution uniformity of irrigation water – thus, the injected pesticide – become a consideration. Of late, concern with distribution uniformity, off-site application, and particle and vapor drift are being driven by mounting public opposition to community exposure and environmental contamination, as production practices affect endangered species recovery, surface water quality, and groundwater availability.

In an effort both to stave additional use restrictions and to ensure continued product availability, product registrants are increasingly incorporating mandatory language into label provisions that restrict use. Some of these provisions were inconceivable as little as three years ago. Significant changes in use provisions will undoubtedly occur as registrants attempt to promote product stewardship. Most notable of these changes are occurring with the soil fumigants, which are currently undergoing USEPA (U. S. Environmental Protection Agency) re-registration review.

Proposed USEPA Risk Mitigation Options are in response to heightening public apprehension with and opposition to bystander exposure and to ongoing incidents of handler and worker exposure. Unquestionably, stewardship measures will evolve from the registration eligibility decision process for the soil fumigants. Although uncertainty remains as to content and extent of the stewardship practices, one measure is assured: buffers. (USEPA will propose interim buffers by March 2008.) While buffer size will be determined by a number of variables, probably the most significant factor will be the type of application system (ground injection vs. chemigation) and design attributes of the system (e.g., low pressure vs. high pressure, impact sprinkler vs. drop nozzle, release height, and status of endgun operation).

Discussions within WSDA are already underway on other mitigative concepts, several of which parallel the proposed USEPA measures, while others are unique to the State's geohydrologic features, cultural values, and social attributes.

Whether these discussions result in action is wholly dependent, as it always has been, on those who practice chemigation. Risk reduction measures already under discussion follow. These are in addition to the mitigation measures being considered by USEPA, which appear in a following section.

- Prior notification of potentially impacted bystanders as a precondition to use.
- Elimination of surface run chemigation.
- Permitting of chemigation systems.
- Stop work orders to halt or suspend a chemigation application.
- License endorsement for chemigation operations.
- Endorsement-specific recertification.
- Mandatory handler training for pesticide licensees.
- Issuance of Technical Information Bulletins to define further product use.
- Establishment of restricted chemigation areas.
- Equate the context of “Direct Supervision” in rule, establishing parity between private applicators and commercial applicators in the process.
- Designating all pesticides applied by chemigation as state restricted use.
- Inclusive definition of sensitive areas to include public roadways and rights-of-way.
- Implementation of a Washington State Initiated Soil Fumigation Management Plan.

To advance environmental stewardship and to promote responsible use of their products, registrants will progressively cite more restrictive label language. Some of these provisions are readily evident – such as, “Do Not Use Endguns” or “Do Not Apply During Inversions,” some are not. When a pesticide label requires that the product can only be used in low-pressure irrigation systems or can only be applied with large droplets, what does this 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 principles may be applied. To that end, WSDA is drafting Technical Information Bulletins as supplemental information to advise applicators in the use of the product, the label of which cites established or accepted industry standards.

As product labels are revised, whether a result of the pesticide re-registration process or a deliberate effort by a registrant to preserve a use provision, a few provisions are predictable. A few are listed below.

- More inclusive definition of sensitive areas to include public roadways.
- Classification of soil fumigants as federal Restricted Use Pesticides.

- **Mandatory monitoring requirements.**
- **Expanded field posting requirements.**
- **Annual certification programs to buy or apply products.**
- **Pesticide management plans, including an emergency response plan.**
- **Release height restrictions.**
- **Operating pressure constraints.**
- **Constraints on the use of endguns.**
- **Minimum required distribution uniformity of application system.**

It is possible that chemigation provisions in future Section 24(c) label requests will incorporate some of these use restrictions. A chemigation template for Section 24(c) label requests has already been developed.

Major uncertainties with regard to the future of chemigation are the Clean Water Act and 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.

As has been conveyed on many occasions, “Whether chemigation or fertigation will be available as a management option in the future will be solely determined by those who practice it.” Agricultural industry will determine if chemigation practices set the pretext for the “Perfect Storm,” or for a state of euphoria.

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