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Impacts of U.S. Court Cases on Application Technology

Allan S. Felsot

Washington State University
Richland, Washington, USA

The Secrets of the FQPA & the Courts as Intercedents

Passage of the Food Quality Protection Act (FQPA) in late summer of 1996 was supposed to be a watershed for consumer protection from exposure to pesticide residues. Both industry and environmental advocates proclaimed victory, but the rejoicing was short lived. The hard business of reassessing every single pesticide tolerance by the year 2006 was jump-started. Industry soon realized that quickly evolving EPA science policy for assessing aggregate and cumulative exposure, two mandates of the FQPA for consideration during the reassessment, would spell trouble for the continued registration of the most hazardous of all pesticides, the organophosphorus insecticides. Before too long, lawyers representing environmental advocacy groups sued EPA for failing to implement the FQPA as Congress intended.

Two watershed events came out of the brewing conflicts. First, agricultural groups and chemical manufacturers demanded more input into the evolving risk assessment policy that the FQPA necessitated. Transparency by the EPA resulted from the lobbying, and all of the public was free to see and comment on new policies required for assessing residential, aggregate, and cumulative exposure to pesticide residues. Registration Eligibility Decision Documents (REDs) were made easily accessible through the Internet, and the public could submit comments. EPA approached agricultural groups for more realistic data about use, and began to engage them more effectively as stakeholders.

The second watershed event was a lawsuit lodged by the Natural Resources Defense Council against EPA for failing to fully implement the mandates of the FQPA with regard to cumulative exposure assessment for pesticides having identical mechanisms of toxicity. The old organophosphorus insecticides were targets of the suit and their continued registration was at stake. A consent decree between the advocacy lawyers and EPA placed in effect a timed schedule for accomplishing the cumulative exposure assessments. But a little known sentence was slipped into the consent decree that obligated EPA to also reassess risk to workers and the environment (a.k.a. ecological risk) while it was reviewing the data packages for risk to consumers (*I*).

Under the amendment to FIFRA known as FEPCA (Federal Environmental Pesticide Control Act of 1972), EPA always considered risks associated with exposure of workers and had to ensure a “reasonable certainty of no harm to the environment”. Now that the smoke has cleared nearly nine years following passage of the FQPA, contentiousness over aggregate and cumulative risk to consumers has become mute, and EPA pronouncements that exposures to consumers exceed levels of concern seem infrequent. Instead risk to workers and the environment have become the new stumbling blocks to a facilitated registration. Ironically, the FQPA as consumer protection law has morphed into FQPA as worker/environmental protection umbrella.

An even greater irony has been unfolding for pesticide registrants and users. While they were beseeching EPA to ensure risk assessments were scientifically sound and their long-used pesticide tools would still be available, environmental advocates began to step up their long tradition of bypassing the executive branch and petitioning the courts for relief. Witnessing the plethora of lawsuits filed against the EPA and governmental entities using pesticides, I hypothesize that today the courts have already given evidence of their tremendous potential for influencing how pesticides will be used. I will make the case that courts are beginning to bypass FIFRA and invoke other well-known environmental laws (namely the Clean Water Act [CWA] and the Endangered Species Act [ESA]) to affect changes in pesticide use practices.

How the System Should Ideally Work

A prospective pesticide registrant has essentially two hurdles to jump over: obtain a food tolerance (assuming that all pesticides are at least initially developed for the lucrative grain [corn, beans, wheat] crop market) and develop a label (under EPA’s guidance) that controls use. Surmounting these hurdles is governed by FIFRA and its amendments (Figure 1). These statutory laws control every imaginable aspect of pesticide technology from granting tolerances and product labeling to human health and environmental testing requirements.

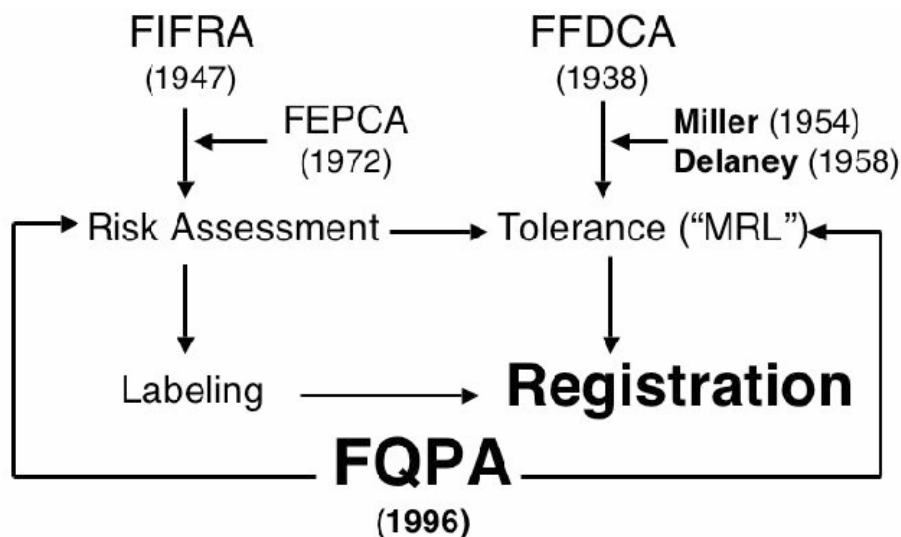


Figure 1. “U.S. Pesticide Law 101.” FIFRA (Federal Insecticide Fungicide and Insecticide Act) actually works in parallel with another statute, FFDCA (Federal Food Drug and Cosmetic Act) to regulate pesticide technology from safety testing to tolerance setting, labeling, and registration. Worker and environmental protection are mandated under the amendment FEPCA (Federal Pesticide Control Act). The FQPA was written as a consumer protection law and mandated new requirements that affected science policy for risk assessment.

Under FIFRA, the pesticide label is arguably the final arbiter of how pesticides can be used. The supremacy of the label is punctuated with the statement: “It is a violation of Federal law to use this product in a manner inconsistent with its labeling.” Much of the label’s first page or more contains the usual prohibitions or requirements. The broad area of application technology is affected by statements such as:

- “Do not apply when weather conditions favor drift from areas treated.” (2)
- “Do not apply this product in a way that will contact workers or other persons, either directly or through drift.” (2)
- “Do not apply under conditions where possible drift to unprotected persons or to food, forage, or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption can occur.” (3)

Recent EPA rulings in the FQPA era give evidence that labels will become more specifically proscriptive about applications. For example, EPA declared that the labels for Guthion will be amended to contain the following language among other statements (4):

- “For ground boom applications, do not apply within 25 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. Apply with nozzle height no more than 4 feet above the ground or crop canopy, and when wind speed is 10 mph or less at the application site as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles.”

Invited Presentation Articles

- “For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows.”
- “For aerial applications, do not apply within 150 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds.”

Ramping up application control is actually a logical extension of the FQPA mandates. When Congress directed EPA to reassess the safety of all tolerances, the door was unlocked and further pushed open by the aforementioned NRDC consent decree to critical scrutiny of whether label language protected workers and the environment. Through this connection (stemming from the requirements of FEPCA) language affecting application technology gains even greater prominence.

As EPA has been implementing its science policies in light of the FQPA mandates, stakeholders have played a major role in advise and consent. EPA asks for realistic data, quantitative or narrative, on how the pesticides are used in the field. Growers supply information about what practices are feasible or not. Application proscriptions, coming under the rubric of FEPCA can be promulgated with considerations of risk/benefit in contrast to label changes that would affect consumer exposure to pesticide residues. The bottom line is that that system as now practiced under FIFRA allows a give and take dialog between EPA and the affected user community to develop reasonable good agricultural practices.

Bypassing the Executive & Legislative Branch: Taking It to the Courts

Non-grower, non-registrant NGO (non-governmental organization) advocacy groups are justifiably considered stakeholders. Environmental advocacy groups as well as pesticide user groups have always had a voice in any pesticide registration rulings by virtue of the right to submit comments in response to notices in the Federal Register. Furthermore, during the earlier phase of FQPA implementation when stakeholders had been organized by EPA into a quasi advisory committee, public interest NGOs were represented. However, the focus was not at the time on issues related to pesticide application. Eventually, the NGO members declined to participate in the advisory process.

Nevertheless, NGOs have “discovered” a more effective way to force pesticide regulation by petitioning the courts for redress to grievances when EPA is perceived as not following statutory law. By the late 1970’s and through the 1990’s, NGO advocacy lawyers filed lawsuits claiming that EPA was failing to implement faithfully the provisions of FIFRA. Many battles were fought over whether EPA was progressing in re-registration of pesticides in a timely manner. However, in the late 1990’s and more recently during the period 2000-2003, environmental advocacy NGO’s changed tactics and focused on non-FIFRA statutes like the CWA and the ESA to affect changes in pesticide regulation. The few court rulings in favor of the NGO plaintiffs thus far have the potential at the minimum to indirectly affect pesticide users through modification or proscription on pesticide application practices.

Controlling Application Practices Using the Clean Water Act

In my opinion, the first of these cases was *Headwaters, Inc. & Oregon Natural Resources Action (plaintiffs) vs. Talent Irrigation (5)*. The case specifically involved the injection application of acrolein (formulated as Magnacide H) directly into irrigation canals rather than pesticide use through conventional sprayer equipment. Public attention focused on Talent Irrigation after its operators prematurely discharged treated irrigation canal water back into the natural creek resulting in the kill of nearly one hundred thousand fish. Talent clearly violated the label, and the State of Oregon fined them. Nevertheless two Oregon environmental advocacy NGOs sued the Talent Irrigation District for failure to obtain a National Pollutant Discharge Elimination System (NPDES) permit as required under the CWA. An NPDES permit is needed when point source pollutants are discharged into waters of the U.S. The Talent lawyers argued that FIFRA preempted the CWA and they won their

Invited Presentation Articles

case in lower courts. Appeals by the NGOs to the 9th Circuit Court of Appeals overturned the lower court ruling and sided with the plaintiffs contention that an NPDES was indeed needed.

The ruling under the auspices of the CWA thus did an end run around FIFRA and opened the door to a novel strategy that could potentially restrict pesticide applications. EPA's stance on the issue can be judged from the friend-of-the-court brief they filed in the case. EPA basically said that any registrations under FIFRA did not guarantee compliance with all other Federal environmental laws.

Using the NPDES provisions of the CWA, the League of Wilderness Defenders et al. successfully sued the U.S. Forest Service (USFS) over the planned application of an insecticide on public lands for control of Douglas fir tussock moth (6). In this case, the 9th Circuit ruled that an NPDES was required because the USFS was overspraying lands that included surface waters, and the insecticide emitted would leave residues that fell into the definition of a nonpoint source pollutant under the CWA. For perhaps the first time, the Court viewed the emissions from a spray nozzle as a point source, as evidence by the following statements in the issued opinion.

“In the present case, the insecticides at issue meet the definition of “pollutant” under the Clean Water Act, and Forest Service aircraft spray these insecticides directly into rivers, which are waters covered by the Clean Water Act. Further, an airplane fitted with tanks and mechanical spraying apparatus is a “discrete conveyance.” Therefore all the elements of the definition of point source pollution are met.”

Although the FSFS argued that silvicultural pest control practices were nonpoint sources of pollutants and therefore exempt from NPDES requirements, the Court disagreed and further clarified its statement about “discrete conveyance” to say the definition “clearly encompasses an aircraft equipped with tanks spraying pesticide from mechanical sprayers directly over covered waters.”

Thus, if the emissions from a spray nozzle are indeed point sources of pollutants, then the 9th Circuit Court may have opened up the door to other lawsuits that could impede pest control operations in areas where drift has the potential to contaminate water. At the very least, the ruling will require changes in application practices by users that are caught in the dilemma of point vs. nonpoint sources.

Ironically, the particular pesticide that the USFS chose for its insect control program was a formulation of the microbial insecticide *B.t.* (*Bacillus thuringiensis*), long recognized as generally low risk, especially by certified organic growers. Nevertheless evidence was presented to indicate the potential for harm of nontarget aquatic species as well as butterflies. The potential for harm of nontarget organisms from either direct application or drift in part formed the basis of a second complaint in the suit that the USFS had failed to adequately address drift mitigation under NEPA's (National Environmental Policy Act) requirements for an EIS (Environmental Impact Statement). Again the 9th Circuit Court agreed with the plaintiffs that the filed EIS lacked “reasonably complete discussion of possible mitigation measures” and it directed the USFS to halt spraying until it revised its EIS.

The USFS argued that the agency had already proposed in its mitigation plan a one-mile no-spray buffer zone around wilderness areas. But the Court thought the EIS omitted an analysis of drift into non-wilderness areas. Furthermore, the Court ruled that the EIS failed to include an analysis of how far the pesticide might drift, in what direction, or of the effect of spraying or not spraying at different wind speeds. Thus, the Court further interceded to affect application practices by mandating due consideration of drift mitigation.

Controlling Application Practices Using the Endangered Species Act

The Endangered Species Act has long been a contentious issue among the pesticide user community, and EPA has long given deference to its requirements through its science policy for ecological risk assessments. Specifically, EPA had been calculating Risk Quotients (RQs) whose magnitude would

Invited Presentation Articles

define whether estimated environmental exposures to selected sensitive species exceeded certain categories of levels of concern (LOC). The benchmark LOC for endangered species was up to ten times more conservative than for consideration of non-listed species.

Nevertheless, EPA has been sued for violating sections 7(a)1 and 7(a)2 of the Endangered Species Act (ESA). The plaintiffs have typically alleged that EPA violated the consultation provisions of the ESA (the Section 7(a)(2) complaint) in its re-registration of pesticides used in California and the Pacific Northwest where numerous salmon populations have been officially listed as endangered species. The lawsuits also claimed that EPA failed to use its authority in consultation with NMFS to promote the conservation of the listed salmon populations (the Section 7(a)(1) complaint).

A lawsuit filed by Californians for Alternative to Toxics et al. ended in a consent decree by the US District Court for the Northern District of California affirming that EPA (without admitting wrong doing) did violate the consultation and proactive conservation requirements of the ESA (7). The consultation requirement mandates that any entity (private citizen, corporation, or public agency) consult with either the U.S. Fish & Wildlife Service (FWS) or NOAA Fisheries (formerly the National Marine Fisheries Service, NMFS) to ensure its actions would not harm a listed species. Thus, the courts tended to agree with the plaintiffs that registration of a pesticide prior to consultation could be considered a form of “take” if hazards to the listed species were demonstrated. Twenty-six specific pesticide registrations were named in the lawsuit and covered the gamut of agricultural and forestry use.

Under the consent decree EPA agreed as part of its proactive conservation review regarding its pesticide programs to evaluate with the assistance of FWS and NMFS the following:

- (1) “chronic and sublethal effects of pesticides on all life stages of endangered and threatened species;”
- (2) “effects of complete pesticide product formulations, effects of diluents, and adjuvants, and effects of the products of pesticide degradation;”
- (3) “how direct and indirect effects of pesticides added to the environmental baseline impact endangered and threatened species;”
- (4) “the use of systematic field monitoring in a variety of site conditions, runoff patterns, and application methods to validate transport and persistence models; and”
- (5) “best available scientific evidence”

Items 2 and 4 should be of interest to pesticide users because it represents a court mandate to control the application process.

Shortly on the heels of the decision by the Northern District Court of California, the U.S. District Court for the Western District of Washington issued a summary judgment against the EPA in a lawsuit filed by the Washington Toxics Coalition (WTC; headquartered in Seattle, WA) (8). The presiding Judge ruled that EPA had violated requirements of section 7(a)2 of the ESA when it registered 55 named pesticides without prior consultation with NMFS. However, the Judge disagreed with the plaintiffs regarding EPA wrongdoing under the conservation program provision of section 7(a)1. The Judge ordered EPA to consult with NMFS or FWS on each of the named pesticides according to a defined time schedule. The Judge did not, however, suggest that the registrations were null and void, nor did he recommend non-use of the registered active ingredients.

Given that the named pesticides could be used before consultations were completed, the WTC quickly filed a motion for injunctive relief to establish specifically defined no-spray buffer zones around salmon bearing waters (9). For example, aerial applications should require a 300 ft no-spray buffer zone distance from the mean high water mark to the site of application. Ground applications would require a 60 ft buffer. During 2003, the Western District Washington Court agreed to impose the buffer zone requirements as part of the injunctive relief until which time EPA completed its consultations with NMFS. For those compounds in which EPA found no evidence of harm to salmon, a buffer zone would not be required.

Invited Presentation Articles

The merits of the aforementioned ESA-inspired lawsuits are quite arguable as to whether pesticide residues in waters of the PNW that are typically detected at levels of parts per trillion (if detected at all) actually can harm salmon. Nevertheless, the rulings in favor of the plaintiffs demonstrate that the Courts are either directly or indirectly going to influence pesticide application practices.

In summary, environmental advocacy stakeholders have found a strategy that will bypass the interaction of EPA with pesticide registrants and growers. After passage of the FQPA registrant and user stakeholders had abundant opportunities to ensure that product label requirements for application were developed in a sound scientific manner and based on reasonable good agricultural practices. By taking their cases to the Courts, environmental advocacy NGOs have learned there is more than one way (i.e., law) to control pesticide use in the U.S.

References

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- (2) Thiodan Emulsifiable Concentrate Product Label (23.8% endosulfan); EPA Reg. No. 1386-338-72693; Universal Crop Protection Alliance, LLC, Eagan, MN 55121.
- (3) Guthion Solupak 50% Wettable Powder Product Label (50% azinphos-methyl); EPA Reg. No. 3124-301; Bayer CropScience, Kansas City, MO 64120.
- (4) Azinphos-methyl Interim Registration Eligibility Decision Document, Appendix D, revised: Summary of Labeling Changes for Azinphos-methyl June 18, 2002
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- (7) Californians for Alternative to Toxics et al. vs. Environmental Protection Agency. April 19, 2002. Consent Decree, Case No. C00-3150 CW, United States District Court for the Northern District of California.
- (8) Washington Toxics Coalition et al. v. Environmental Protection Agency. 2002., Order, Case No. C01-132C;. United States District Court, Western District of Washington (available at <http://www.pesticide.org/SalmonLawsuitOrder.pdf>)
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