

AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

TIME AND DATE:

10:00 AM, April 10, 2003

LOCATION:

TCEQ, Park 35, Building F, Room 3202A, Austin, Texas

PURPOSE OF MEETING:

The FY03 Third Quarter Meeting of the Agricultural Chemicals Subcommittee of the Texas Groundwater Protection Committee.

ATTENDEES:

AGENCIES

Texas Department of Agriculture [TDA]
Texas Commission on Environmental Quality [TCEQ]
Texas Water Development Board [TWDB]
Texas Alliance of Groundwater Districts [TAGD]
Texas Structural Pest Control Board [TSPCB]
Texas State Soil & Water Conservation Board [TSSWCB]
Texas Cooperative Extension [TCE]
Texas Agricultural Experiment Station [TAES]

REPRESENTATIVES

Steve Musick	Chair, Member, TCEQ, Austin
Ambrose Charles	Member, TDA, Austin
Janie Hopkins	Member, TWDB, Austin
Barry Miller	Member, TAGD, Gonzales
Donna Long	Member, TSSWCB, Temple
C. Allan Jones	Member, TAES, College Station

AGENCY STAFF

Jeanette O'Hare	TDA, Austin
Joe Peters	TCEQ, Austin
Alan Cherepon	TCEQ, Austin
Marie Knipfer	TCEQ, Austin
Abiy Berehe	TCEQ, Austin
Greg Rogers	TCEQ, Austin

INTERESTED PARTIES

Ed Baker
Ken Carver

Syngenta Crop Protection, Mineola
Permian Basin UWCD, Odessa

MEETING SUMMARY:

I. Opening Remarks

The Chairman of the Agricultural Chemicals Subcommittee, Mr. Steve Musick (TCEQ), called the meeting to order. He then welcomed everyone to the meeting, and asked the subcommittee members to introduce themselves. Two Subcommittee members were absent: Dr. Bruce Lesikar (TCE), and Murray Walton (TSPCB). After these preliminaries, Mr. Musick proceeded to the Task Force Reports.

II Task Force Reports

Site Selection Task Force: The Task Force Chair, Ms. Janie Hopkins (TWDB), provided a brief overview of work expected to be performed this fiscal year. The TWDB will continue with the cooperative monitoring program through 2003. Specific work will be in the Trinity and Edwards-Trinity aquifers, with about 350 more samples estimated for each of these aquifers. The High Plains Underground Water Conservation District #1 will also contribute to this program in the Panhandle region. The various sampling should complete the ambient screening of most of the state aquifers for atrazine and metolachlor.

As a continuation of the Site Selection Task Force Report, Mr. Alan Cherepon (TCEQ) provided a brief summary of sample analyses performed thus far. Seventy samples have already been analyzed. These were for samples obtained from Reeves, Andrews, Sutton, Ector, Val Verde, Kinney, Terrell, Schliecher, Midland, McCulloch, and Menard Counties. Additionally Mr. Cherepon mentioned that TCEQ staff will make one monitoring trip to the Panhandle region this fiscal year, probably in May. This will be timed to occur just following the usual atrazine application in the region, which takes place at the beginning of irrigation season.

Education Task Force: The Task Force Chair Dr. Bruce Lesikar (TCE), was absent. No update was given.

The BMP Task Force: The Task Force Chair, Dr. Joe Peters (TCEQ), said there was nothing new to address at this time.

State Management Plan Task Force: The Task Force Chair, Dr. Ambrose Charles (TDA), had nothing new to report.

Data Evaluation and Interpretation Task Force (DEITF): The Task Force Chair, Dr. Allan Jones (TAES), was present, but with no new assignments, there was nothing new to report.

III. Presentation - Possible Sources of Atrazine Contamination of Groundwater

Mr. Cherepon (TCEQ) provided a slide handout and presentation of investigative findings related to atrazine detects in groundwater in Public Water Supply system wells in the Texas Panhandle. Items addressed in the presentation were as follows:

- * An overview of pesticide monitoring of groundwater, including the types of monitoring in the PMP program, and the atrazine investigation process in Texas
- * Reports, format, and information sources related to the investigation process under the PMP
- * Tools of immunoassay investigation, lab analysis, trend analysis, mapping, aerial photos, modeling, and site comparison
- * Findings and conclusions
- * Recommendations

The presentation highlighted the various tools in the investigation process. These included sample analyses by immunoassay and lab methods, trend analysis, diverse use of maps and overlays, aerial photos, internet sources, well capture zone modeling, and comparison of site characteristics and findings.

The findings included the following. All systems with detections are located in the high atrazine use area of the Central Panhandle. Roughly half of the site detects could be attributed to point sources of contamination. Most impacted wells are old (a median age of 31 years). Most sites had some form of surface water nearby (playas, tailwater ponds, intermittent creeks). And there is a lack of historical records available for use during investigation. Many of the potential sources of contamination (PSOCs) include spills, former applicator facilities and practices, facilitating surface water features, old wells, and abandoned wells as potential conduits for surface water to groundwater.

Recommendations, such as looking to the past, the application of new technology and techniques, expanded use of info/data sources, addressing more than one pesticide, plugging of old/abandoned wells, and educational applications, were also presented. The PMP investigation process was shown to be an efficient and effective means of achieving groundwater protection in Texas. This has been achieved through organization, coordination, and cooperation; through the development of tools and methods; and through the focusing of effort and resources under the guidance of the Agricultural Chemicals Subcommittee.

Several questions were entertained. Dr. Jones asked what the specific purpose was of putting this presentation together. TCEQ staff replied that it was a fourfold effort; for presenting at the upcoming TCEQ Environmental Trade Fair, as an opportunity to review and assess the investigative mechanism within the PMP program, to determine whether any changes or

improvements are needed to the investigative process (input/feedback), and to share information and findings from the investigations. Along these lines, Mr. Baker suggested that it would be good for perspective to place some of the presentation slides -- those showing the total number of wells sampled and the number of detects -- earlier in the slide show.

Another suggestion was to include digitized field crop maps, showing detailed areas of specific crop types through time, possibly superimposed on soil type maps. One final question was how up-to-date is the EPA Enviro-Mapper website. Mr. Cherepon replied that they include locations and information on hazardous waste sites and other PSOCs, mostly coming from state records.

IV. Business Items for Discussion and Possible Action

Response to Pesticide Detections in Groundwater; Characterizing and Differentiating Between Point Sources and Nonpoint Sources for Pesticides in the Pesticide Management Plan Program

Mr. Musick introduced this agenda item by providing a brief summary of what was at issue. The issues included whether atrazine investigations were indicating a point source or nonpoint source concern in Texas and how would this affect the PMP program. Is the available information sufficient for direction on regulatory decisions? Some of the other issues included the difficulty of determining a Nonpoint Source migration of pesticide-enriched waters from playa lakes or tailwater ponds to groundwater, and the inability to make clear calls on determining Point Source or Nonpoint Source based upon investigations. He next asked for input from the subcommittee members, beginning with Dr. Jones.

Dr. Jones commented that it was clear what was needed to indicate a spill or applicator use area as a point source, but it was less clear where overland surface water flow moves water to low areas or old/abandoned wells. The confusion involves surface characteristics and water migration through soils and into groundwater. Other factors include the mechanism of how chemicals and other pesticides get into the surface water and how they become enriched or concentrated there before they migrate to the groundwater.

Mr. Baker commented that evaluation of specific pesticide characteristics, such as persistence and leachability, indicates to him that it would be rather difficult for atrazine to migrate to groundwater in the Ogallala aquifer under a Nonpoint Source scenario. Mr. Baker thinks that there may be conduits from the surface to the groundwater such as abandoned wells and wells with low integrity. Dr. Charles added that TDA has already categorized/characterized vulnerable areas for Nonpoint Source contamination.

Mr. Musick commented that Dr. Jones brought up a good point; that a diffuse source or discharge that collects in playas or tailwater ponds would require a driving hydraulic head -- something more than rainfall -- to drive the water through over 100 feet of soils and formation to reach the water table. This is difficult to explain. Within the PMP process, we can develop analytical and administrative techniques in these areas, changing the PMP to suit the actual situation. Ms. Long (TSSWCB) said that under the State Nonpoint Source report, a nonpoint source characterization of

a contamination would enable the use of certain available funds for the study of the problem. If nonpoint sources are not being addressed, we may find there is no funding available for this work. Mr. Musick questioned how we would pay for these investigations, and that we probably don't want to stray too far from Nonpoint Source characterization in relation to this work. He added that this discussion might be better continued during the Texas Groundwater Protection Committee meeting in the afternoon. He also added that he doesn't anticipate altering the PMP anytime soon, and asked if anyone felt a need to organize a workgroup to address these issues of Point Source and Nonpoint Source.

Dr. Jones reiterated it was difficult to imagine the migration of atrazine across acres of land, downward to the groundwater. Atrazine has been found in such a small percentage of well samples. The big question in the Panhandle is how surface water in playas and tailwater ponds migrate down to the groundwater. The subcommittee may need to revisit playa hydrology.

Mr. Musick said that the BEG work on playas show some significant recharge from these features, and that the USGS is doing some related work on this subject. Someone added that transport of pesticides is not well understood. Mr. Cherepon related an experience with a Superfund site, where the industry consultants kept looking at recent hydrologic conditions in abandoned wastewater lagoons rather than conditions in the past when thousands of gallons of waste were being pumped into them. Hydrologic forces vary over time.

Mr. Musick ended the discussion by saying that the subcommittee would continue discussion on this subject at the next meeting. If anyone had additional suggestions before the meeting, they should contact him, Dr. Peters, or Mr. Cherepon.

V. Information Exchange - EPA Press Release on Atrazine iRED

Ms. O'Hare (TDA) provided a presentation summary of the Atrazine Interim Re-registration Eligibility Decision (iRED) and the Memorandum of Agreement (MOA) presentation provided by Dr. Dennis Tierney and Ed Baker (Syngenta) on March 20th. Highlights included the following:

- * Total Chloro Triazines (TCT), which include the most significant atrazine metabolites, are significant, with set concentration limits used as a triggering mechanism in the agreement.
- * Environmental vs. human health (Risk)
- * Various scenarios addressed Acute vs. Chronic exposure, seasonal spikes, occupational exposure, the Food Quality Protection Act (food and drinking water), and the effects of sex and age
- * The Risk Cup (a means of determining the concentration at which the risk becomes too great)
- * Routes of exposure, Reference Dose, to determine allowable amount; whatever

concentration is left over before reaching the triggering levels is what will be allowed in drinking water

- * This number is flexible, not a regulatory value
- * 12.5 ppb TCT for finished drinking water as an annual mean (still have to comply with the 3.0 ppb Maximum Contaminant Level under the Safe Drinking Water Act)
- * 37.5 ppb 90-day rolling average for TCT in raw water at Community Water System intakes
- * Community Water Systems - Domestic wells vs surface water; Nationally, about a 4 to 1 difference of groundwater vs surface water systems, with Texas at an even higher percentage of groundwater systems at about 9 to 1
- * Utilized 1993-2001 SDWA compliance data, generally in higher atrazine use areas, to calculate TCT data; 11 ppb TCT was highest, and 1.9 ppb within the 99th percentile
- * Domestic well data only looked at 1500 wells, found 8 exceeded the 12.5 ppb trigger value, with 18 ppb the highest; re-sampled in 2001, all 8 wells were below 12.5 ppb TCT
- * Surface water more of an issue, greater impact than groundwater; of 36,700 CWSs, only 34 approached or exceeded 12.5 ppb, with the highest at 89 ppb TCT
- * Triggers for monitoring and mitigation; if exceed 12.5 ppb in finished water, a monitoring and/or mitigation plan will be required
- * 37.5 ppb 90-day rolling average of TCT for raw water is based on a safety factor of 3 times the 12.5 ppb annual mean, due to more data, less uncertainty
- * Goals/Regulatory response; Develop an atrazine monitoring program to determine if CWSs are meeting goals, using triggering values of TCT
- * If a CWS exceeds the 37.5 ppb trigger one time, need to develop a mitigation plan; If exceeds this value a second time, the sale and use of atrazine would be lost for that watershed
- * Only 37 CWS, of which 8 are highly vulnerable, are on the mitigation list at present, for surface water, none are in Texas
- * The list of 142 CWS requiring monitoring was delivered to EPA 2/03; 1 more added, in Brazosport, Texas (likely due to nearby penitentiary work farm)
- * 9 systems in Texas approved for voluntary 5 year surface water monitoring, wanting to make sure no problems exist at those locations

- * Atrazine watershed monitoring information center needs to be developed by 5/1/03 (phone #, e-mail, Website) for anyone to access notifications and updates on whether their watershed is in monitoring, mitigation, or non-sales/use status
- * Likely that atrazine will be determined not to be that serious a health concern, may result in a rise in the MCL, but an increase in monitoring in areas of concern

Some discussion and comments followed the presentation. The program is in addition to existing Public Drinking Water Systems monitoring conducted through the TCEQ. This program primarily samples finished drinking water at the entry points, so they miss most peak concentrations of pesticides, especially for surface water following application and heavy rainfall events.

The pesticide manufacturers will be responsible for sampling and analysis, should a CWS make the list of systems requiring monitoring or mitigation. The program triggers are used in an equation that factors in various characteristics specific to that place and time. This method will become public record, available for anyone to review.

EPA calculates the values, the registrars determine which systems will be on the list, and notification will come through the watershed monitoring information center. There will be some changes, including some label changes.

There will be an increase in atrazine triggering values, since atrazine isn't seen as much of a health risk at present. However, monitoring will be increased. When a system is required to undergo monitoring, it will be for a minimum 5 year period, and will include more monitoring during peak use periods of the year. EPA is still accepting and seeking input from people on the program.

VI. Public Comments

There were no public comments made at this meeting.

VII. Announcements

Mr. Cherepon provided a handout (attached) of various meetings and conferences during the next month. Another handout was provided to subcommittee members, giving EPA's notice of funds/grant monies availability for the Persistent, Bio-accumulating, and Toxic pollutant program. Three other notices were announced; the National Pesticide Stewardship Association annual conference in Arizona, a recent EPA Federal Register release for pesticide tolerance for s-metolachlor, and the NATO/CCMS emerging and less expensive remediation technology for pesticide contaminated lands.

Dr. Jones announced that Dr. Scott Senseman of the TCE has a proposal submitted for destroying atrazine in water by UV light. The TSSWCB is also involved in this.

Mr. Baker wanted to thank those involved at TCEQ for coordinating the atrazine iRED/MOA presentation that Dr. Tierney and he gave on 3/20/03.

The decision was made by the Texas Groundwater Protection Committee that the FY03 fourth quarter meeting of the Agricultural Chemicals Subcommittee will take place on 8/7/03 at 10AM, in TCEQ Building B, Conference Room 201A.

VIII. Adjournment

Recorded and transcribed by Alan Cherepon.

Attachments

- Slides for Possible Sources of Atrazine Contamination of Groundwater Presentation
- Handout Package for Point Source and Nonpoint Source Issues
- Slides for EPA Press Release on Atrazine iRED Presentation
- Handout of EPA Notice for Persistent, Bioaccumulative, and Toxic Pollutant Program Allocations
- List of Upcoming Meetings/Conferences Related to Pesticides and Groundwater Issues

ATTACHMENTS