

AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

TIME AND DATE:

10:30 AM, January 21, 2009

LOCATION:

TCEQ, Park 35, Building F, Room 2210, Austin, Texas

PURPOSE OF MEETING:

The FY09 Second Quarter Meeting of the Agricultural Chemicals Subcommittee of the Texas Groundwater Protection Committee

ATTENDEES:

AGENCIES

- Texas Commission on Environmental Quality [TCEQ]
- Texas Department of Agriculture [TDA]
- Texas State Soil and Water Conservation Board [TSSWCB]
- Texas AgriLife Extension Service [TAES]
- Texas AgriLife Research [TAR]
- Texas Water Development Board [TWDB]

REPRESENTATIVES

- | | |
|------------------|-------------------------------|
| Joseph L. Peters | Chair, Member, TCEQ, Austin |
| Richard Eyster | Member, TDA, Austin |
| Bill Harris | Member, TAR, College Station |
| Janie Hopkins | Member, TWDB, Austin |
| Bruce Lesikar | Member, TAES, College Station |
| Donna Long | Member, TSSWCB, Austin |

AGENCY STAFF

- | | |
|------------------|--------------|
| Alan Cherepon | TCEQ, Austin |
| Lynne Fahlquist | USGS, Austin |
| Kathy McCormack | TCEQ, Austin |
| David Villarreal | TDA, Austin |

INTERESTED PARTIES

- | | |
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| Ed Baker | Syngenta Crop Protection, Mineola |
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MEETING SUMMARY:

I. Opening Remarks

The Chairman of the Agricultural Chemicals Subcommittee, Dr. Joseph Peters (TCEQ), called the meeting to order. David Van Dresar (TAGD) was the only Subcommittee member not in attendance. Dr. Peters welcomed everyone to the meeting. The Subcommittee members introduced themselves and the meeting proceeded to the Task Force Reports.

II Task Force Reports

Site Selection Task Force: Janie Hopkins (TWDB), the Task Force Chair, provided an update on TWDB planned monitoring activities. Ms. Hopkins reported that the TWDB had recently contracted with LCRA for analytical work in 2009 due to issues with the previous lab. She also indicated the TWDB has already collected samples from about 80 sites in the Gulf Coast aquifer this Fall and was planning to collect a total of about 470 samples in the Gulf Coast, 30 in the Blaine, 13 in the Rustler, 11 in the Sparta, and 15 in the Yegua aquifers this year. They may also conduct some limited sampling of springs and some Hill Country wells, which would receive some cooperative assistance in the Hill Country. Alan Cherepon (TCEQ) will be presenting the 2009 draft monitoring plan later in the agenda. Thus far, TCEQ has ordered and received all the immunoassay kits needed for 2009 and has had both spectrophotometers recalibrated. TCEQ is still awaiting final estimates on costs for performing additional laboratory analyses desired for the year.

Education Task Force: Bruce Lesikar (TCE), the Task Force Chair, provided an update. He mentioned that there had been an irrigation conference on 1/14/09 in Amarillo, and another in Hondo on 1/20/09.

PMP Task Force: Alan Cherepon (TCEQ) provided a summarized the first round of pesticide assessments for Texas under agenda item **V** below.

None of the other task forces were active.

III. USGS Scheduled Monitoring for 2009

Lynne Fahlquist (USGS) provided an update on planned USGS groundwater quality monitoring activities in Texas for 2009. Ms Fahlquist reported using information that she had requested internally about USGS groundwater monitoring in the State. All sampling presently planned will be NAWQA-related. It will take place in 6 networks, each having five wells. Some reference wells in unaffected areas, associated with some of the networks, will also be sampled for comparison. The three networks in the Edwards will include one in Austin, and two in San Antonio, involving domestic supply and monitoring wells; one network in the Carrizo-Wilcox will involve five domestic wells, and two networks in the Gulf Coast aquifer will involve urban wells in the Houston area in the Chicot and Evangeline aquifers. Bill Harris asked some questions to familiarize himself on the subject. Dr. Harris inquired whether the sampling was for specific pesticides. Ms. Fahlquist replied that the USGS monitors for a broad range of

constituents, including 80+ pesticides, some of which are degradates. Some networks were sampled for additional pesticide compounds during the most intensive phase of NAWQA. The network monitoring started at different times, with the data available in the USGS NAWQA Data Warehouse Website (Data may not be easy to locate, so call Ms. Fahlquist for specific data.). Data are also publicly available via the web from the USGS National Water Information System database. There is no long-term monitoring in the Panhandle region at present, but there are discussions to initiate one. The NAWQA program also includes surface water monitoring (at least one site in the Trinity River Basin and another in the Edwards Aquifer area in San Antonio [It has since been learned that there are 3 sites, being monitored, at different intervals.]). Mr. Cherepon added that TCEQ surface water programs that typically include pesticide data are the TMDL/303d, Public Drinking Water program, and possibly the Clean Rivers program. These monitoring programs include a suite of pesticides, such as atrazine, and also includes some others for which the FIFRA program has been monitoring. Only the Public Drinking Water program occasionally does some of the other non pesticide analytes, such as pharmaceuticals, radionuclides, and degradates. As for pesticide monitoring along the Rio Grande, the USGS at one time may have monitored for pesticides there as part of their National Stream Quality Accounting Network (NASQAN) program. The Public Drinking Water program includes analyses for pesticides for all the PWS systems that they monitor. One final comment by Ms. Fahlquist was that the USGS has sampled the outcrop area of the Carrizo-Wilcox aquifer, spanning from near the Rio Grande to the Trinity river basin, but there were very few detects, and all of them were very low.

IV. Business Items

Draft 2009 Pesticide Monitoring Plan

Alan Cherepon (TCEQ) presented the draft pesticide monitoring plan for 2009 for discussion and approval by the subcommittee. The draft plan was previously reviewed by the members of the Site Selection Task Force (SSTF). As a result of the SSTF review a list of comments was received from TDA. These included a few suggestions and questions as compiled by Dr. David Villarreal. The TDA questions were addressed near the end of discussion after the presentation.

The plan includes the following tasks:

- Cooperative monitoring, mainly for atrazine
- On-Going monitoring of Public Water Supplies in the Panhandle that previously had high atrazine detects
- Urban Monitoring in Austin for additional pesticides
- Summary of number and types of analyses to be performed

It is anticipated that during the upcoming season's Cooperative monitoring approximately 400 samples will be collected, mostly from the Gulf Coast aquifer, but also from the Blaine, Yegua, and Rustler aquifers. All samples will be analyzed by immunoassay for atrazine, and if enough other kits are available, for several other pesticides. This will be the third round of cooperative monitoring for the region, each round including some different wells, and possibly some additional analyses. This provides long-term monitoring data for atrazine across the state.

On-going monitoring in the Panhandle will include 8 PWSs that have had previous atrazine detects. It is anticipated that 25-30 samples will be collected. A subset of wells will have samples sent to the LCRA ES Laboratory to undergo analysis by several analytical methods. The number of samples and the number of analyses will depend on the cost of the analyses. LCRA has not yet determined the final costs, but the tentative goal is to have 10 samples analyzed by the laboratory. One target location for on-going monitoring will be the monitoring wells at the Hale County Airport in Plainview. TCEQ will attempt to coordinate sampling the Airport monitoring wells with the State Lead manager for State Superfund/Remediation, since the site is about to be brought under their jurisdiction. Since the airport monitoring wells do not have pumps, and require hand-bailing, sampling is contingent upon coordination with the State Lead program. The FIFRA monitoring program is not set up for sampling that requires bailing. In addition to targeting atrazine in the on-going monitoring in the Panhandle region several pesticides from the SFIREG list of 57 pesticides, those that have been most often detected, will also be included in this year's monitoring. A table of wells and systems to be sampled was provided to the subcommittee members. One of the Hale County Airport monitoring wells from previous sampling had been found to have very large concentrations of atrazine, in excess of 300 ppb. Additional monitoring wells have been completed at the site in recent years and monitoring them should help to delineate the contaminant plume and thus reveal to what extent nearby public water supply wells might be threatened.

Urban monitoring of wells and springs will continue in the Austin area. Immunoassay analyses will be done using three different immunoassay kits (Atrazine, Acetochlor, and Glyphosate). Possibly some laboratory analyses will be performed as well, for pesticides which have not had previous analyses, as funds allow. This should include about 40 samples for immunoassay analyses, and maybe 3-5 samples for laboratory analyses. The additional analyses will make this effort more than just a repeat of previous sampling efforts.

An analytical summary table was provided to the subcommittee members and explained. It tabulated the methods that would be employed, and whether the analyses would be by immunoassay, laboratory, or both. The list of analyses that the laboratory will be asked to perform has not yet been finalized. There are no plans to include pharmaceuticals in the analyses at present, since the FIFRA program only addresses pesticides. There was a question as to whether TCEQ's immunoassay results in the urban monitoring have been compared to the USGS results. Mr. Cherepon answered that most of the time the USGS results are not available for some years after they are collected. TCEQ does request an annual query of all USGS pesticide results for inclusion in the Interagency Pesticide Database. However, no comparison has been attempted yet in the urban monitoring, probably since the program is relatively recent. Most of the USGS detections are in the parts-per-trillion range, which makes it difficult for comparison. The comparison could be made using the IPD since it contains both USGS and TCEQ immunoassay data.

Dr. Harris asked if any studies have been done on the half-life of atrazine, which would give some idea as to how long it would need to be monitored. Mr. Cherepon said that the half-life is dependent on the aquifer, geochemistry, and other factors, but that in our experience in the Panhandle, atrazine spills that occurred in the 70s and 80s were still being detected in groundwater, indicating that the half-life under some circumstances can be longer than the

reported values. The next question was whether significant amounts of other pesticides have been detected. Mr. Cherepon replied that thus far there have been no consistent detections of other pesticides anywhere in any significant amounts. An occasional isolated detection of a pesticide does occur. The IPD report shows which were the most often detected. These include atrazine, prometon, metolachlor, propazine, and Bromacil. Atrazine has been the most detected and at the highest concentrations. TCEQ also attempts to monitor for certain pesticides near crops expected to have a high use for that pesticide, such as atrazine near corn or sorghum fields. Some additional comments about atrazine included that most of the atrazine groundwater detects were due to point sources, that label changes have occurred, and that it is now only used on corn and sorghum. Some of the atrazine may also be in the form of degradates, which are presently considered to have the same concerns as the parent compound. Another potential source for atrazine contamination is from the use of lawn care products in urban areas, which could be a significant source. Yet few detects have been found in the urban areas. The USGS also has discovered very low detects of prometon, simazine, and most recently fipronil. The Draft IPD Report, *The Interagency Pesticide Database and Pesticide Occurrence in the State's Aquifers*, which can be found on the TCEQ Website (The web address is given at the end of this paragraph.), has information on the various pesticides that have been detected in groundwater. Mr. Cherepon summed up that from monitoring by the USGS, by the TCEQ Public Drinking Water group, and by the Cooperative Monitoring Program, we know that the only consistent detection of atrazine in groundwater is in the Central Panhandle. These detections almost exclusively have been well below the MCL. Atrazine has also been the only pesticide that has consistently been detected. The question might be asked as to why there haven't also been any significant detects in the Edwards aquifer area considering the type of aquifer that it is. The answer might be that any contaminants that migrate into it are quickly diluted by rain, and flushed through very quickly. Dr. Harris asked if there were any pesticides on the 303d List, to which Mr. Cherepon responded that there were none in 2008, and in previous years mostly legacy pesticides (except for atrazine being on the list for a short while). Overall, Texas is doing well in correcting any mismanagement issues with the use of pesticides. Recently there has been an improvement in the management of pesticide use, thus helping to keep pesticides out of the groundwaters and surface waters.

http://www.tceq.state.tx.us/assets/public/permitting/watersupply/groundwater/maps/ipd_report.pdf

Mr. Cherepon, at this point, addressed the TDA comments brought forth by Dr. David Villarreal. One comment involved possible duplication of effort in returning to areas that have previously been monitored. Mr. Cherepon responded that since TCEQ was adding analyses of additional pesticides to the previous analytical suite, and since additional wells and springs were to be sampled, the returning trip would consequently be gathering additional information. TDA also is concerned about some of the Section 18 pesticides, such as fipronil, which are not on EPA's SFIREG list of 57 pesticides. Mr. Cherepon responded that if TDA would provide a list of these pesticides and information on where and for how long they have been used, then whenever possible they could be included in future monitoring plans. One final comment involved the reminder that EPA, in requiring the assessment of the pesticides on the SFIREG list, is not necessarily requiring that they be monitored. The response was that Texas has chosen to monitor for as many of these as feasible, as the best means for assessing the pesticides properly and thoroughly. The discussion was followed by a motion by Dr. Harris, seconded by Mr. Eyster, to

approve the monitoring plan as written with the possibility of minor modifications consistent with the discussion during the meeting. A vote was taken, and the plan was approved.

V. Information Exchange – Pesticides of Interest Tracking System entries for 2008

Mr. Cherepon (TCEQ) provided a handout consisting of the full pesticide assessment report from the On-Line Pesticides Of Interest Tracking System (POINTS) (accessible on the Washington State University Website), that he completed for Texas, as required by EPA in 2008. He then summarized what was involved, how many pesticides were assessed, and which ones, after assessment, were classified as Pesticides of Interest (POIs) or Pesticides of Concern (POCs). The handout also included the spreadsheet using the main assessment items from the flow chart that the PMPTF developed for assessing the pesticides on the SFIREG List of 57.

Up until the last Region 6 EPA State and Tribal meeting in the fall, none of the Region 6 states had completed or entered anything on this Website database, because it wasn't required until 2008. Mr. Cherepon input all the information necessary to complete the form as required by EPA. The inclusion of the PMPTF spreadsheet was provided as additional documentation and explanation for how Mr. Cherepon assessed these pesticides. It provides greater detail than the database entries required on the Website. Sixteen pesticides were assessed in 2008. These included pesticides for which substantial monitoring data was available, pesticides that in the past were on 303d List, or legacy pesticides no longer registered for use in Texas.

Mr. Cherepon used the On-Line software to complete the assessment. The assessment process with the software is rather simple and quick, giving one somewhat the impression of superficiality. The assessment process consisted of responses to only a few short questions: Is this a pesticide of Interest (POI)? On what did you base this assessment (characteristics, such as leachability, monitoring data, etc.)? If it is a POI, is it also a Pesticide of Concern (POC)? Is it on the 303d List? Is it of interest or concern in groundwater, surface water, or both? What management methods are being used? And, what proof is there that the management is working? Atrazine was the only pesticide out of the 16 assessed in 2008, to be classified as a POC. This was based on there being a large number of detects, it being widely used, and that it was previously on the 303d List. Texas has undertaken the management of atrazine for a number of years now: the management tools used being education and outreach. Continued monitoring indicates that progress is being made. One proof of this is that it was possible to remove atrazine from 303d List. On-going monitoring in the Panhandle indicate that concentrations have diminished over time.

Dr. David Villarreal (TDA) took a moment to recognize the level of work Mr. Cherepon put into this for the state. He added that the EPA process itself is straight forward and simplistic, but that Texas included an additional level of work in more thoroughly assessing these pesticides. At this point we are not yet sure how EPA will be using much of the assessment information.

Mr. Cherepon went over the final page of the handout which showed how he used the PMPTF flow chart to assess these pesticides. He used atrazine as an example, showing the detail for each point, such as the number of detections in groundwater, the highest concentration being above the Maximum Contamination Level (MCL), trigger level, its characteristics indicating proclivity

to leach and migrate into the groundwater, high usage, etc. The one counter indicative characteristic is that atrazine seems to have little effect on human health or the environment. Even the studies that indicate possible effects on the sexual traits of amphibians such as frogs cannot show how this can be correlated to humans or other animals. Many of the pesticides that have been considered harmful to certain animals do not actually affect humans (such as the effect of DDT on the fragility of eggs of certain birds). One comment included that DDT also saved millions of human lives from malaria, and was even used as a treatment for some ailments at one time. Atrazine at one time or another was suspected of being a carcinogen, an endocrine disruptor, causing lower sperm counts, and affect sexual traits. However, none of these suspicions have been proven; frogs can change sexes for any number of reasons, and in the re-registration process the possible carcinogen label has been discounted, even indicating that atrazine may be safer than many items in our daily diet, including aspirin and caffeine.

Mr. Cherepon added that he anticipates assessing another 10 to 15 pesticides in 2009, mostly those with monitoring data. The problem with the remainder on the list is that there is either no EPA or other economical laboratory method for analyzing for them. Assessing for these pesticides will rely on such things as registration data, physical and chemical characteristics, and level of use.

Summary Presentation on the 2008 Propazine Monitoring

Ed Baker (Syngenta) gave a presentation on propazine monitoring activities for 2008, carried out for a company called Albough (located in Iowa), the only company registering and wishing to sell atrazine in Texas. Mr. Baker is an independent contractor providing services to a number of pesticide manufacturing companies. He was retained by Albough to oversee the propazine monitoring program. All monitoring was in surface water. He provided details on samples taken in four reservoirs in NW Texas. Dr. Villarreal (TDA) asked what EPA requires of TDA in this re-registration process. Mr. Baker said he didn't think anything was actually required of TDA. However, Mr. Cherepon thought that, since TDA is the state lead agency for pesticides, especially registration, that EPA would at the very least have to coordinate with TDA in some manner for the re-registration process.

The initial samples were pulled on March 3, 2008. All four of the lakes are sources for Public Water Supplies. One is near Tulia in the Panhandle, while the other three were outside of the Abilene area. The target pesticide is propazine, but atrazine and simazine were also monitored. The monitoring schedule was set up similarly to the atrazine re-registration monitoring, in that during the application season the sites were monitored weekly, and otherwise twice monthly. Analyses were by the same laboratory in Florida that analyzed the atrazine re-registration monitoring samples. Sampling was for both raw and finished water. The Method Detection Level was 0.05 ppb. Lake MacKinzie is about 60 miles NE of Tulia. Lake Stamford is about 40 miles N of Abilene. White River Reservoir, near Spur, is about 100 miles NNW of Abilene. Munday Reservoir is in Knox County, NW of Abilene. The only detects were in White River Reservoir, for atrazine, at around 0.1 ppb. Analyses were also performed for degradates but none were detected. Sites were selected by a company called Waterborne, based on propazine sales the year before sampling began. Propazine is primarily used on sorghum. Waterborne is in the process of setting up a fifth site, in Nueces/San Patricio Counties, and hopes to begin

sampling in two weeks from this meeting. They would like to achieve two rounds of sampling before planting begins.

VI. Announcements

Kathy McCormack announced that the security procedures for the building have changed. A state employee badge should be adequate if you indicate, at the front desk, that you will be attending this meeting. If you forget your badge or don't have one, you will be required to get a visitors badge, and you would then be escorted to the meeting.

Lynne Fahlquist (USGS) announced that an AWWA meeting on immerging contaminants research will be held in Austin February 12th or 13th. This will be held at the Omni Hotel in Austin. Also USGS has decided to start releasing their data, through their Website, in a more timely manor, usually as soon as it becomes available from the laboratory. Previously they waited till extensive quality control checks were made, which could take a year or two. You can contact Ms. Fahlquist for specific data. A final comment involves fipronil. This pesticide is replacing diazinon, and the USGS is looking at it with greater interest. David Villarreal said it is being used on the Crazy Ants in the Houston area. The degradates of this pesticide are also of interest. Mr. Cherepon added that detects have been very low.

VII. Public Comment

No public comments were made. With no further announcements or public comment, the meeting was adjourned.

VIII. Adjournment

Recorded and transcribed by Alan Cherepon.

In their afternoon meeting, the decision was made by the Texas Groundwater Protection Committee that its FY09 second quarter meeting would take place on 4/15/09 at 1:00 P.M., in TCEQ Building F, Conference Room 2210. The second quarter Agricultural Chemicals Subcommittee meeting will take place on the same date and in the same room at 10:30 A.M.

Attachments

Presentation slides on the 2009 pesticide monitoring plan

The 2009 pesticide monitoring plan

Texas Pesticides of Interest and Concern assessment; full report for 2008