

AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

TIME AND DATE:

10:30 AM, October 18, 2006

LOCATION:

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

PURPOSE OF MEETING:

The FY07 First 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 Water Development Board [TWDB]
Texas State Soil and Water Conservation Board [TSSWCB]
Texas Alliance of Groundwater Districts [TAGD]

REPRESENTATIVES

Steve Musick	Chair, Member, TCEQ, Austin
David Villarreal	Member, TDA, Austin
Janie Hopkins	Member, TWDB, Austin
Richard Egg	Member, TSSWCB, Austin
Barry Miller	Member, TAGD, Gonzales

AGENCY STAFF

Alan Cherepon	TCEQ, Austin
Joseph L. Peters	TCEQ, Austin

INTERESTED PARTIES

Ed Baker	Syngenta Crop Protection, Mineola
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MEETING SUMMARY:

I. Opening Remarks

The Chairman of the Agricultural Chemicals Subcommittee, Mr. Steve Musick (TCEQ), called the meeting to order. He welcomed everyone to the meeting, introduced David Villarreal, the TDA representative, and proceeded immediately to the Task Force Reports.

II Task Force Reports

Site Selection Task Force: Janie Hopkins (TWDB), the Task Force Chair, provided a brief summary of work the TWDB has performed in the most recent months, which includes completing sampling in the Carrizo-Wilcox aquifer in October and the Seymour aquifer in September. The TWDB will begin sampling this year in the Edwards and Edwards-Trinity aquifers in 2007, but will concentrate much of their effort in the remainder of 2006 in water level measurements in Parker and Wise counties. The TWDB also conducted some Dissolved Oxygen readings for the Bureau of Economic Geology, which the Chair thanked her for, as there is considerable concern of nitrate levels in the state. Alan Cherepon (TCEQ) said he will provide a summary presentation of TCEQ groundwater monitoring in 2006 as item III on the agenda.

None of the other attending task force chairs had anything new to report.

III. Pesticide Monitoring Summary Report

Alan Cherepon (TCEQ) presented a summary of pesticide monitoring activities conducted during the 2006 fiscal year (see handout). The TCEQ and TWDB sampled and analyzed 330 samples for atrazine and metolachlor for the cooperative monitoring program, primarily in the eastern half of the state. TCEQ sampled 24 wells and analyzed 28 atrazine, metolachlor, and alachlor immunoassay samples in the Panhandle region during the summer. A limited number of immunoassay analyses for alachlor were performed this year. No alachlor was detected in any of the samples analyzed. 15 samples were also taken to LCRA's laboratory for pesticide analysis. Prometon was included as one of the analytes this year. There were no prometon detects. Another 27 samples were shipped to the TAES laboratory, for atrazine and metolachlor metabolite analyses, but neither parent nor metabolites were detected by TAES. However, only one metabolite analysis each for atrazine and metolachlor was performed.

Provided were the following: Graphs of annual atrazine concentrations for the five PWS systems investigated by TCEQ; a map showing the PWS systems sampled in the Panhandle region by TCEQ; maps of the PWS wells sampled; and a map of sample locations in the cooperative program. A table of analytical results from TCEQ sampling was also provided. Mr. Cherepon also had a map of and the results from sampling of the Bexar Metro Water District (BMWD) wells in the San Antonio area. Immunoassay analysis indicated that the majority of samples from the Panhandle PWS wells were either consistently low in atrazine concentrations, or had a slight decrease from previous sampling. There were only two low detects of metolachlor in the BMWD system, both occurring at entry points, but no metolachlor was detected in the contributing wells.

Questions were entertained throughout the presentation. Several questions were raised on the Tulia PWS well trend. Did TCEQ staff have any theories on the erratic changes in well 9, were any other wells sampled in the area, what was the highest concentration of atrazine, and on what date did this occur? Mr. Cherepon answered that the erratic concentrations in well 9 could possibly be an indication of a plume moving through, and there could also be a possible effect from changes in pumping patterns in various surrounding wells, or changes in atrazine use patterns. A follow-up comment was that if it were a plume moving through, you might expect to pick it up in the other nearby wells. One private well was sampled to the east, and other wells have been sampled in the area in previous years. The well sampled this year has shown repeated lower detects of atrazine, as have one or two other nearby wells, while a stock well further east has not detected any atrazine. The highest atrazine detect in this well field was 4.77 ppb, in well 9, on 1/23/02. All the concentrations shown on the provided charts are atrazine by immunoassay, which typically shows about twice the laboratory analysis concentration. This is due to the immunoassay method not being as specific as the immunoassay method for detecting atrazine. The immunoassay method is also susceptible to interference from other triazine pesticides and as well as from the metabolites of atrazine. The chart provided shows only every other sample date, due to the limited space on the chart. The provided table dataset shows a more detailed record of the concentration trend; however, the chart better shows the long-term trend.

The Friona PWS system was discussed next. The provided chart shows a steady decline starting in 2003. However, it appears to also have a seasonal variation of high and low atrazine concentrations. In Dimmitt, sampling occurs annually at well 9, near an in-town playa lake/park, and in the south well field, which is in a playa basin turned corn field. The lowest point of this playa basin corn field serves as a tailwater pond, where atrazine can concentrate. Most well concentration trends have decreased or evened out. Even well 2, which shows a slight upward swing, is relatively flat, showing minimal change. In Hereford, atrazine concentrations have declined since 2002.

The provided chart for the Hale County Airport area in Plainview shows PWS wells 16 and 17, the cemetery well, monitoring wells at the airport, and outlying irrigation off from the other wells. The PWS well concentrations show a fairly steady decline over the years, while the monitoring wells are more erratic. The monitoring wells were not sampled this year. Also, TCEQ's remediation group presently has the property under EPA consideration for remediation due to the airplane fuel plume and pesticide plume co-mingling. Past sample analyses by the TCEQ Groundwater Team has shown matrix interference issues due to the water quality in these monitoring wells. Thus, there is limited value in continuing to sample these wells. However, some additional monitoring wells nearer the PWS wells have been completed. Sampling the one nearest the PWS wells, possibly in 2007, would be useful. The nearest private well sampled, aside from the cemetery wells, is an irrigation well south-southeast from the main area of interest. This well has shown low concentrations of atrazine, but it is unknown whether this is from the airport or from a different source.

TCEQ has regularly sampled Amarillo PWS well 336, and the nearby Wildorado PWS well 1. Both have consistently shown detects at very low levels. Three entry points in the Bexar Metro Water District (BMWD) in the San Antonio area were also sampled this summer. These entry

points have had low level atrazine detects. TCEQ conducted confirmation sampling of raw water from wells, and finished water from entry points. The question arose as to what formation these wells are in. The wells to the north in Fair Oaks are in the Trinity aquifer, while the ones in the city are in the Edwards aquifer.

A question arose about the condition of the wells. They are in well kept, fenced-in areas, mostly in good condition, but some of the wells in the Southside area in town are older and have electrical problems and as a result could not be sampled. There were two very low metolachlor detects, both at entry points. However, there were no detects in wells contributing to the entry points. The very low concentrations may be indicative of false positives. TCEQ will attempt to re-sample the wells in 2007, to try and clarify some of the questions.

Other items addressed included a map of the 2006 Cooperative sampling sites, a map of all Cooperative monitoring locations since the program began in 2000, and the Interagency Pesticide Database (IPD) update summary. Joe Peters provided his IPD summary at this point, rather than later in the program. Dr. Peters said he continues to work on the report on the IPD, and that most of the data is from the USGS and TCEQ. The TCEQ data includes mostly immunoassay results. Public Drinking Water monitoring data is not included due to it being primarily from entry point monitoring. However, there are individual well data that should and will be acquired in the future.

IV. Draft FY07 Monitoring Plan, for Discussion

The proposed FY07 groundwater Pesticide Monitoring Plan was presented by Alan Cherepon for the subcommittee members to review and comment on. The plan is similar to previous years, with the Cooperative, On-Going, and Confirmation monitoring continuing. However, there are some issues in need of further discussion and consideration. The EPA FIFRA grant is undergoing some major changes over the next couple of years, and they have yet to finalize everything, thus the reason for the uncertainty in what will be required from our monitoring program. The indication is that we may need to address several priority pesticides identified by the USGS in their pesticide synthesis report from the NAWQA data they collected. Several urban pesticides (pyrethroids, malathion, fipronil) may need to be considered also, which may involve using other laboratory methods. Additionally, TCEQ staff is suggesting that metolachlor analysis by immunoassay be discontinued due to little detection of this analyte and at low concentrations relative to the action level of 100 ppb. There are also occasional problems with running the metolachlor immunoassay analysis. If metabolite analyses are continued, they should be probably done by the USGS laboratory, since they have the experience, the standards, and can achieve lower detection limits than most laboratories. Waste methods or other, newer methods may also be considered. There is a recurring issue with matrix interference with the Hale County Airport monitoring wells and some other wells. This may require that the extraction process be altered, or other changes be made to assure good analytical results. These issues will be addressed in greater detail at the next meeting. One question was addressed to the Syngenta representative, Ed Baker, concerning whether producers were still using the same amounts of atrazine and metolachlor as in the past. Mr. Baker believes they are probably using the same, or close to the same and amounts.

David Villarreal (TDA) mentioned the need of a new Texas representative for the SFIREG Water Quality group, someone familiar with the issues and the science. He said that TDA was considering nominating someone from both TDA and TCEQ who can serve in this capacity. Texas hasn't been getting reports back from this group for a while, as Richard Eyster (TDA) has not been able to attend these meetings of late. TDA and TCEQ can discuss the nominations, which will need to be submitted shortly.

V. Information Exchange

Pesticide Regulatory Education Program (PREP) Water Quality Class Summary

Alan Cherepon (TCEQ) provided a summary of the PREP Water Quality class held in Davis, California in August. Prior to the presentation, David Villarreal (TDA) commented on the good job Mr. Cherepon did for this training opportunity, and for getting an agriculture/water quality team from Texas involved in chairing the collaboration session. Mr. Villarreal added that Texas has a better relationship and cooperation between agriculture and water quality than most states.

Mr. Cherepon covered considerable material on a variety of issues addressed at the PREP training. He was involved with the work group that planned this year's class, which attempted to gather state teams representing the agriculture and water quality agencies from each state. The class had some 20 states represented and addressed both surface water and groundwater issues. Region 6 was well represented having five attendees: David Villarreal and Alan Cherepon, Don Molnar (Oklahoma), Elizabeth Reyes (EPA), and Dr. Jessica Franks (EPA). Messrs. Villarreal and Cherepon lead the session on collaboration, with Mr. Cherepon also providing a presentation on the TCEQ IPD and a portion of the pesticide BMP guidance and curriculum compiled by Dr. Dana Porter in Lubbock.

The PREP class opened with Robert Gilliom (USGS) giving an overview of the USGS pesticide synthesis report, followed by EPA's Dan Helfgott covering pesticide program changes to the water program. The representative from Maine provided a good presentation on YardScaping, their program for reducing pesticide and fertilizer runoff from yards. This presentation has been sent to several other agencies in Texas, since it could be useful for reducing the use of the same pesticides in Texas urban areas.

A representative from California provided a good talk on laboratory issues specific to pesticides. The key points included a need for improved analytical methods with lower detection limits and the ability to address newer pesticides and metabolites. At least one of the five days involved benchmarks, TMDLs, and Toxicity (tissue) studies and testing. Various pesticides of interest and most common detections lists were presented, such as the USGS pesticide synthesis list (both urban and agricultural pesticides), and the AAPCO/SFIREG list, to see if the PREP class could come up with a national Pesticides of Interest list. The Chair commented that Joe Zachmann from Minnesota, who is the national SFIREG state representative, could provide the ACS with more information on the AAPCO/SFIREG lists. Craig Romery of Nebraska also had some interesting items, including a pesticide database that appeared to be less complex/less detailed than Texas' IPD, and a spreadsheet metric they put together to try and determine their

pesticides of interest and concern. This included such fields as leachability, solubility, half-life, and reference points.

A presentation on urban pesticides by Kelly Moran of California was one of the course highlights. The City of San Francisco had conducted the urban pesticide study under an ad hoc group and under a program called the UP3 study (Urban Pesticide Pollution Prevention). The main summary points of her talk included:

- The most commonly detected pesticides in surface water include diazinon, pyrethroids, and malathion, with fipronil beginning to be more commonly detected
- Registration gaps; urban pesticides are not as strictly regulated, nor are they under the same level of scrutiny as agricultural pesticides, and there is a need to coordinate registration with impact studies.
- Public Outreach/education is not as successful as better regulations.
- There has been an increase in the use of pyrethroids, malathion, and fipronil, with a decrease in the use of diazinon.
- Pyrethroids can be harmful, even below the detection limit.
- Waste water treatment plants do not remove pesticides.
- We need an alternative solution for ant control, so as to use less pyrethroids.
- Some pesticides are ineffective (Copper sulfate usually flushes into surface water.).
- We need better surveillance monitoring, lab methods, and detection limits.
- We need better management of urban pesticides.

In an effort to abbreviate the summary, Mr. Cherepon barely mentioned California's surface water and groundwater monitoring network, databases, and websites. Several slides were rushed through detailing their database, data sources, and websites for both surface water and groundwater pesticide monitoring data. These databases are likely the most extensive in the nation. Mr. Cherepon summarized a successful pesticide monitoring program used by Oklahoma, where a certain creek was impacted by pesticides. This was noticeable by the decrease in the fish population density and variety. After some one-on-one meetings with key producers along the watershed, and incorporating some best management practices, they were able to demonstrate considerable improvement through the varieties and numbers of each fish species in the watershed, without an expensive study with expensive laboratory analyses. Mr. Cherepon and David Villarreal provided highlights of the collaboration session they led, focusing on the Agricultural Chemicals Subcommittee, cooperative monitoring and immunoassay screening work being done in Texas, and mentioned that several other states are also using immunoassays. Mr. Villarreal added several of TDA's collaboration issues and efforts, which presented not just the right things they did, but examples of some wrong things that should be avoided by other states attempting to increase collaboration.

VI. Public Comment

There were no public comments made at this meeting.

VII. Announcements

None

VIII. Adjournment

Recorded and transcribed by Alan Cherepon.

Attachments

TCEQ 2006 Pesticide Monitoring Summary Presentation
Proposed FY07 Pesticide Groundwater Monitoring Plan
2006 PREP Water Quality Class Summary Presentation

In their afternoon meeting, the decision was made by the Texas Groundwater Protection Committee that the FY07 second quarter meeting of the Agricultural Chemicals Subcommittee will take place on 1/17/07 at 10:30 a.m., in TCEQ Building F, Conference Room 2210. It should be noted that this date is a Wednesday, due to the difficulty in securing a conference room on a Thursday. Future meetings are anticipated to be scheduled for Wednesdays, unless noted otherwise.