AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

TIME AND DATE:
10:00 AM, August 7, 2003

LOCATION:
TCEQ, Park 35, Building B, Room B201A, Austin, Texas

PURPOSE OF MEETING:
The FY03 Fourth 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
Jeanette O'Hare	Member, TDA, Austin
Janie Hopkins	Member, TWDB, Austin
Bruce Lesikar	Member, TCE, College Station
Kevin Wagner	Member, TSSWCB, Temple
C. Allan Jones	Member, TAES, College Station
Murray Walton	Member, TSPCB, Austin

AGENCY STAFF

Joe Peters	TCEQ, Austin
Alan Cherepon	TCEQ, Austin
Lynne Fahlquist	USGS, Austin
Abiy Berehe	TCEQ, Austin

INTERESTED PARTIES

Ed Baker	Syngenta Crop Protection, Mineola
George Caldwell	Texas Farm Bureau, Austin

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. Ambrose Charles (TDA) was represented by Jeanette O'Hare, and Barry Miller (TAGD). 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 performed this fiscal year. The TWDB will continue with the cooperative monitoring program through 2003, anticipating completion of the Trinity aquifer. Specific work has been in the Trinity and Edwards-Trinity aquifers, with about 300 well sampled, and about 100 in the Trinity. The High Plains Underground Water Conservation District #1 also contributed to this program in the Panhandle region, sampling 50 wells. The various sampling throughout FY04 should complete the ambient screening of the state's major and minor aquifers for atrazine and metolachlor. The TWDB also has agreements with the North Plains and the Panhandle Underground Water Conservation Districts for each of them to collect groundwater samples. Both districts will be contacted in regard to cooperative monitoring.

As a continuation of the Site Selection Task Force Report, Mr. Alan Cherepon (TCEQ) provided a draft summary of cooperative groundwater monitoring and immunoassay analysis performed through July 2003. Over 300 well samples have been analyzed, mostly in the Edwards-Trinity, Trinity, and Ogallala aquifers. Only one atrazine detect above 0.3 ppb has been identified, at 1.57 ppb, and is located in Midland County. The final FY03 report will be presented at the next meeting.

Mr. Cherepon also provided a brief draft summary of FY03 Monitoring Plan accomplishments. Nearly all of the top five items have been completed, which totals about 465 well samples analyzed for atrazine and metolachlor, 20 laboratory samples, and 12 Public Water Supply systems. In the recent Panhandle trip by the TCEQ, analytical results indicate most of the atrazine concentrations were either decreasing or holding steady. Only four wells indicated small increases; two in Friona, one in the Deaf Smith County Fresh Water Supply in Hereford, and one in the Pioneer Hi-Pro location in Plainview. The wells at the Hale County Airport were also re-sampled, by the High Plains Underground Water Conservation District #1. Analysis was done by immunoassay method only, indicating where formerly there had been one large anomalous area for atrazine, there were now two on either side of the pump island/office area. Also, atrazine concentrations in Plainview PWS well 16 have also shown a marked increase since the well was put back into service. Still, there

were no concentrations above the 3.0 ppb MCL for atrazine. Lastly, several wells were re-sampled east of Austin, with little to no atrazine detected in this area.

Mr. Musick requested that the task force draw up the FY04 Monitoring Plan by the next quarterly meeting. He also would like to see time/concentration graphs for major representative wells in each of the five investigated PWS systems, and have them presented at the next quarterly meeting. This should make it easier to see trends in water quality.

Education Task Force: The Task Force Chair Dr. Bruce Lesikar (TCE), commented that he was putting together some of the findings in the High Plains region for use in upcoming educational activities. Mr. Cherepon asked him how the 5/28/03 Groundwater Conservation Districts Seminar series in College Station went. Dr. Lesikar said it went very well, was well attended by over 300, and was telecast to six other locations. Mr. Cherepon also mentioned a TAMU Ag program news release on the atrazine runoff prevention research that Monty Dozier and others had recently completed. This work was conducted at the Stiles Farm near Thrall.

III A. Point Source vs Non-Point Source Discussion

Mr. Musick noted this was a continuation of discussion begun at the last meeting, and briefly summarized the issue. The final two major PWS investigations were completed last year, with findings indicating little evidence for groundwater contamination through normal use/application of pesticides (nonpoint source). Many of the site findings suggest abandoned or deteriorating wells, playas or tailwater ponds were the possible sources or mechanisms for atrazine migration to the vadose zone and water table. He raised the question, where do we go from here with these findings, since we don't appear to have a good understanding of movement from surface water to vadose zone and groundwater table. What voluntary activities, BMPs, and educational efforts does the ACS think are appropriate? Are there research needs in this area prior to answering these questions?

Lynne Fahlquist (USGS) mentioned that her agency recently completed a study of the unsaturated and vadose zones in irrigated cotton fields in the Southern High Plains. The study involved installing and sampling 29 monitoring wells. No significant pesticides were detected, but instead, nitrate was detected nearly everywhere. She suggested atrazine degradates should be included in lab analysis as a way of determining relative age of the release. The USGS is also hosting a High Plains water quality seminar in Lubbock on 12/10/03, during which some of the issues and research in the local aquifers will be presented and discussed.

Dr. Jones commented that these research issues related to the point source/nonpoint source items would be a good subject to bring up at the Groundwater Research Subcommittee meeting in the afternoon. Mr. Musick suggested the ACS develop a research need description to determine whether these items have already been addressed, or whether additional research is needed. Dr. Jones asked when the last time a literature review was conducted (on the playa lake hydrology), and Ms. Fahlquist said that Dr. Bridget Scanlon at the BEG was doing so now. Mr. Cherepon added that the AWRA Spring Specialty Conference in Kansas City in May focused on water issues in agriculture, and may have also addressed some of these issues. However, the proceedings are not yet available

on the Internet.

Someone asked if there were any well protection programs already in place. Dr. Lesikar said the TEX*A*Syst program, well plugging videos, and fact sheets are all in place, and address some aspects of pesticide transport. Lee Parham (TDLR) added there are new well standards that should prevent some of the former problems with wells from recurring. Ed Baker (Syngenta) said that most pesticide problems were likely due to improper management, mixing/loading on the ground and near wells or surface water, instead of containment on diked concrete pads. The problem areas had little or no control of waste.

Mr. Musick identified a need for additional funding if the ACS wished to pursue these issues. Dr. Jones said the TWDB has recently reorganized their funding structure, which may permit some of these funds to fit into these funding needs of the ACS. The new funding structure allows for greater flexibility, and the TWDB may consider water quality, not just water quantity. Their funding for West Texas is an estimated $20 million over several years. Mr. Musick asked if there were any funding possibilities for private wells in the recent Farm Bill, and someone commented that he could check with the NRCS, as the Equip funds go through them. The ACS should draft a letter to the NRCS identifying specific programs and research needs, and determine the process for securing such funds. Dr. Lesikar asked about 319 funds, and Kevin Wagner (TSSWCB) said he could draft a proposal to the EPA to address this funding potential. Mr. Musick added that they will also be a discussion on funding cycles in the afternoon meeting. Everyone should also think through which funding is presently available, for which research and outreach areas, make a list of ones already mentioned along with those needed, and the ACS can solicit funding after getting comments back on the master list. The suggested research needs can also be submitted to the Groundwater Research Subcommittee. Mr. Walton (TSPCB) said that he didn't see any FIFRA funds available for the coming year. Dr. Jones added the 319 and Equip funds require substantial matching funds from the state, and if there was a possibility of linking the matching funds requirements to the TWDB funds, this problem may be solved. Mr. Musick asked Dr. Lesikar if Monty Dozier and the TCE had any past proposals they could rework and use for this. Dr. Lesikar said they probably do, and would check on this. These items should be addressed by the next meeting.

III B. Potential for Environmental Technology Verification Partnership in Atrazine Immunoassay Monitoring

Mr. Cherepon provided a brief overview of a new partnership opportunity related to immunoassay work he and the TCEQ has been involved in over the past few years. Battelle is managing an EPA program called Environmental Technology Verification (ETV), and are looking for partners in this effort. Specifically, they are conducting verification on existing technology related to atrazine analysis by commercially available immunoassay methods. They are looking for existing groundwater monitoring programs with experienced staff who can provide samples with known atrazine present, peer review of reports and data, and assistance in laboratory initiation, to actually set up and run the samples through analysis by various vendor-supplied equipment and kits. Mr. Cherepon was contacted by Battelle based upon the numerous papers he has presented, and has provided the program manager with significant information that has assisted the project in it's

formation stage. He may be asked to travel to their lab in Massachusetts to assist with the initiation and analysis. Should anyone else have an interest in this program, Mr. Cherepon can provide contact information following the meeting.

III C. Interagency Pesticide Database Update - 2003 Data Entry Summary

Dr. Joseph Peters (TCEQ) provided a brief update on the status of work on the Interagency Pesticide Database (IPD). The major effort is data input from both the USGS and TCEQ sampling efforts. The USGS data format is considerably different from TCEQ's and the database, requiring much work. TCEQ data includes both the Cooperative monitoring data and laboratory results from various Panhandle sampling and investigation trips. Most, if not all earlier pesticide data appears to be in the IPD. Mr. Musick added that a comprehensive update report, which will provide a better evaluation and interpretation of the data is planned during FY04. The completion of the screening of the State's aquifers by immunoassay, for atrazine and metolachlor, will mark a milestone in groundwater monitoring for pesticides in Texas, and updates on this work's progress will be provided at the quarterly meetings of the ACS.

IV. Information Exchange - Pesticide Link to Sperm Quality and Quantity - New Study Released, Implications

Mr. Cherepon gave a brief summary of a recent research effort which claims to have linked poor sperm quality and quantity to pesticides, possibly in drinking water. The co-authors are Shanna Swan of the University of Missouri, and Christina Wang of the REI Harbor-UCLA MedicalCenter, who conducted the study on nearly 500 couples in Columbia, MO, Minnesota, Los Angeles, CA, and NY, NY. The areas were chosen based upon their wide differences in existing data on sperm quality and quantity. The three main pesticides found in the subjects were alachlor, atrazine, and diazinon, which they suspect may be ingested through the drinking water. Mr. Cherepon conducted some brief Internet searches to locate reviews and commentary on this work, identifying several pros and cons sources. Critics say there was nothing related to the subject's lifestyles, eating habits, etc. in the study, which may be the real source of the pesticides, and that far too little information is provided, when many things can affect sperm. The basic complaint is there is no cause and effect provided in this research. One question inquired whether there have been any conclusive animal studies proving this link of poor sperm to pesticides. Mr. Cherepon said he wasn't aware of any, but is by no means an expert on the subject. A similar issue arose with DDT years ago. It wasn't that DDT caused any noticeable adverse health effects in humans, but rather it damaged and prevented certain animal reproduction abilities, notable in birds. There is definitely a need for additional research studies, with many of the recent ones studying the more difficult to identify sexual/entomological repercussions to humans. He added that, should additional research definitively link sperm quality to pesticides at low concentrations, this would likely cause a lowering of the Maximum Contaminant Level (MCL) for these pesticides. There were no further comments or questions.

Mr. Musick asked if Mr. Ed Baker with Syngenta, Inc. had any update on the EPA iRED for atrazine, which he gave a presentation on prior to the last meeting of the ACS. He said their were

140 watersheds identified for increased monitoring for atrazine in the US, with Texas having 8 of these, all strictly voluntary. All 8 of the PWSs in these watersheds have agreed to participate in the monitoring program during the high application period. The samples will be raw water, collected at the water intakes for the Public Water Supplies at each reservoir. Jeanette O'Hare (TDA) asked if any other pesticide registrants have gotten involved. Mr. Baker said they have not, but suspects they probably will. Mr. Musick asked what will be done with the data, who will maintain access. Mr. Baker said a website will be established, probably later this year, for each watershed involved. New data will be input through a secured website access, while the public can view the data on a regular website.

Mr. Cherepon had two additional information exchange items to share:

- EPA 5/30/03 update on the Scientific group review of studies of pesticides on amphibians
- EPA clarification on 7/11/03 of their stance on application of aquatic pesticides not requiring special discharge permits. This was the result of a case in California that addressed this issue.

V. Public Comments

There were no public comments made at this meeting.

VI. Announcements

Dr. Jones announced that the International Conference on Agricultural Science & Technology is being held in Houston on 10/12-15/03, with water issues to be addressed on 10/14/03.

The Texas Water Summit on agricultural water policy will be held at the Hilton North, in Austin, on 11/5-6/03. Three areas of interest include environmental flows, water transfers, and where will future water come from.

The Society of Environmental Toxicologists and Chemists will hold their national conference in Austin in mid-November.

The decision was made by the Texas Groundwater Protection Committee that the FY04 first quarter meeting of the Agricultural Chemicals Subcommittee will take place on 10/17/03 at 10:30 a.m., in TCEQ Building F, Conference Room 2210.

VII. Adjournment

Recorded and transcribed by Alan Cherepon.

Attachments

Draft Summary Reports on Cooperative Monitoring Program and FY03 Monitoring Activities
Handout Package for Point Source and Nonpoint Source Issues
Interagency Pesticide Database Update