

# **AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD**

## **TIME AND DATE:**

10:30 AM, July 15, 2009

## **LOCATION:**

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

## **PURPOSE OF MEETING:**

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

## **ATTENDEES:**

### **AGENCIES**

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

### **REPRESENTATIVES**

Joseph L. Peters	Chair, Member, TCEQ, Austin
Richard Eyster	Member, TDA, Austin
Janie Hopkins	Member, TWDB, Austin
Kevin Wagner	Member, TAR, College Station
Donna Long	Member, TSSWCB, Temple
Bruce Lesikar	Member, TAES, College Station

### **AGENCY STAFF**

Alan Cherepon	TCEQ, Austin
David Villarreal	TDA, Austin

### **INTERESTED PARTIES**

None present

## **MEETING SUMMARY:**

### **I. Opening Remarks**

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

### **II Task Force Reports**

**Site Selection Task Force:** Janie Hopkins (TWDB), the Task Force Chair, indicated that the TWDB is continuing its sampling and taking cooperative samples for TCEQ. The TWDB had a two-week halt in sampling activities due to precautions against the “swine” flu. Totals for the monitoring season have reached 377 samples with monitoring conducted mainly in the south and central Coastal Plain. Some sampling also has taken place in the Blaine (20), the Yegua (13), in the Sparta, Rustler, Queen City, and Edwards Trinity Plateau aquifers (< 10), and in the Ellenburger - San Saba and Hickory aquifers (25, for isotope analysis). She also reported on TWDB’s activity in securing a laboratory contract for the next monitoring season. They have already put out a request for bids for 2010 to several laboratories. Alan Cherepon (TCEQ) added that TCEQ continues to do immunoassay analyses for five pesticides as reagent kits are available, and he is still waiting on samples from the USGS. He will be presenting the 2009 pesticide monitoring summary as the next agenda item.

**Education Task Force:** Bruce Lesikar (TCE), the Task Force Chair, provided a brief update on education efforts in Texas. They have been working with the POE Task Force on FAQs, with two recent ones prepared, working with Alan Cherepon, on pesticides. These are available through the Texas Groundwater Protection Committee Website. Plans are presently being developed for additional activities in 2010.

**PMP Task Force:** Alan Cherepon (TCEQ) reported that TCEQ would be assessing pesticides at the end of the 2009 calendar year and that the task force would meet to go over the pesticide assessments later in the year.

None of the other task forces were active.

### **III. 2009 Groundwater Pesticide Monitoring Summary**

Mr. Cherepon (TCEQ) provided handouts and gave a presentation giving a summary of the 2009 groundwater pesticide monitoring activities. There are still a number of incomplete tasks, such as pending lab results, ongoing reception of cooperative samples from the TWDB, and expected cooperative samples from the USGS. The talk covered changes from last year, on-going monitoring, urban monitoring, and cooperative monitoring efforts. Changes from the 2008

monitoring included replacing analyses for OP/carbamates and chlorpyrifos with acetochlor and glyphosate. Analyses continued for atrazine, diazinon, and 2,4-D. Additional changes included purchasing more kits to run more immunoassay analyses, adding one lab method and several pesticides to the 525.2 lab method, sampling earlier and in both the Panhandle and the urban area around Austin, sampling a few additional wells, and receiving cooperative samples from the USGS for immunoassay analysis only. Maps of sampling locations were provided for each area. Major monitoring points are summarized below.

#### On-Going Monitoring in the Panhandle:

- PWS wells and a few private wells were sampled in seven towns.
- 135\* immunoassay analyses were performed for five pesticides.
- 19 samples were analyzed for 49 pesticides using four methods at the laboratory (pending).
- There were nine atrazine detections on samples from wells with had previous detections. The high on atrazine was 1.35 ppb. There were six glyphosate detections > 0.1ppb, with a high of 3.1 ppb. There were two low acetochlor detections and three diazinon detections > 0.025 ppb, with a high of 0.06 ppb.

#### Urban Pesticide Monitoring in the Greater Austin area:

- 71 samples were captured for immunoassay analysis for five pesticides. This included samples from 19\* wells, 17\* springs, and 4\* QA/QC samples.
- 197\* immunoassay analyses were performed. The highest atrazine detect was 0.19 ppb, the highest diazinon detect was 0.03 ppb, and none of the other pesticides were detected by immunoassay.
- 40 samples were sent to the LCRA laboratory for lab analysis by four methods (pending)

#### Cooperative Monitoring:

- 113 well samples were collected by the TWDB and analyzed by TCEQ.
- 444 immunoassays were performed for five pesticides
- There were few detections of pesticides and only in trace concentrations. The highest atrazine detect was 0.2 ppb. There were 11 diazinon detects > 0.1 ppb, with the highest at 0.47 ppb; 11 glyphosate detects > 0.1 ppb, with the highest at 0.2 ppb; one acetochlor detect at 0.1 ppb; and four 2,4-D detects, with the highest at 0.88 ppb.
- One sample vial was broken and one test tube was broken before the atrazine analysis could be conducted.
- 10 samples were not analyzed due to an insufficient number of samples to warrant using the reagents.

In summary, for this monitoring season, 776\* immunoassay analyses for five pesticides have been completed to date. 59 samples were delivered to the laboratory for pesticide analyses by four methods. Only a few trace amounts of pesticides were detected thus far. Laboratory and additional immunoassay results are still pending. In answer to two questions posed at the meeting: The USGS sampling is anticipated to take place by the end of the fiscal year, and glyphosate is the active ingredient in Roundup and Rodeo products.

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\* The wrong values were presented at the meeting; these are the corrected numbers.

#### **IV. Business Items**

None were scheduled for this meeting.

#### **V. Information Exchange**

##### **The 6<sup>th</sup> Circuit Court of Appeals pesticide application permit ruling**

Mr. Cherepon (TCEQ) provided a brief update on the recent 6<sup>th</sup> Circuit Court of Appeals ruling requiring National Pollutant Discharge Elimination System (NPDES) permits for all pesticide applications in or near water. Not much has changed since the initial ruling, so the TCEQ NPDES staff decided to present an update at the next ACS meeting instead of this meeting. EPA has requested, and was granted a 2-year stay of the rule so as to develop a plan and general permit for uniformity across the nation. TCEQ staff participated in a recent teleconference with EPA and TDA. They anticipate that a draft general permit format will be developed and presented to the workgroup at EPA by the end of August. Bruce Lesikar (TAES) asked if EPA has defined what is meant by “near water”, to which Richard Eyster (TDA) responded “No”. The ruling is also being challenged, not by the EPA, but by pesticide manufacturers, applicators, and others. They hope to at least get a re-ruling by the entire court of nine judges, which they hope would overturn the initial ruling by three judges. Meanwhile, everyone is moving ahead as if the ruling will remain in effect. Mr. Cherepon asked if anyone was doing an impact study to determine the cost of implementing this program. Richard Eyster responded that TDA estimates it will require about 66,000 permits if a general permit is allowed. There is no estimate on the permit cost at present.

##### **SFIREG Update**

Dr. Villarreal (TDA), the region VI representative for the water quality committee of SFIREG, provided an update on the recent SFIREG meetings and activities. At the most recent meeting of the committee, three issues related to pesticides and groundwater were addressed.

- Some pesticide labels have groundwater statements that are unenforceable and inconsistent.
- With regard to aquatic benchmarks there is a question as to how states should address low detects below these levels. There is also a need for EPA to develop more of these. There are some issues in the way EPA’s Office of Pesticide Programs and Office of Water develops benchmarks.
- How does EPA want states to address metabolites. Also, there is the recent development of a water monitoring technology (passive membrane sampler) that may be useful in monitoring metabolites and determining their source.

At the SFIREG meeting EPA indicated they will work at correcting these issues, improving consistency, making the label language enforceable. The two offices will work together to work out their differences, and will work on pesticide benchmarks for chemicals most used and detected in water. One member said she did not understand the issue, and thought that all pesticides had benchmarks as part of their registration testing process. This is not the case, as

there are so many new pesticides developed each year, and the setting of benchmarks is not required for registration. Another issue is that technology and laboratory methods keep lowering the levels at which chemicals can be analyzed, and new research keeps applying this to indicate why benchmarks should be lowered, as lower and lower concentrations are implicated in being harmful to either human health or the environment. The Polar Passive Organic Chemical Integrated Sampler (PPOCIS) is being used and championed by the USGS. The technology uses a membrane that passively accumulates certain molecules of contaminants, like metabolites. It is low cost, and simple to use. Some concerns were voiced by the subcommittee that the data gathered by such a system could possibly be misinterpreted and used to argue problems where there are none.

### **Discussion on Dr. Tyrone Hayes Atrazine Research as presented at the January Hot Science-Cool Talks forum at UT**

Mr. Cherepon attended a presentation by Dr. Tyrone Hayes at the University of Texas on 1/30/09. Dr. Hayes' research is related to the negative impact of atrazine on frogs and the inferences on other aquatic life and on human health. He makes numerous claims, which were summarized in a handout provided by Mr. Cherepon. Some of the major items brought up by Mr. Cherepon included:

- Dr. Hayes background in research on the effects of atrazine on frogs
- His initial research for Syngenta, which he was told to scrap.
- Two Syngenta representatives were also present at the forum but not at this meeting.
- Dr. Hayes negative comments about EPA and Syngenta
- Since other agriculture representatives are present (TDA and TAES), some of the issues might be discussed

Dr. Villarreal asked about Dr. Hayes background, to which Mr. Cherepon said he is a professor conducting research at the University of California, Berkley, has published at least one paper on the atrazine effects on frogs, in Science and is conducting ongoing research. Dr. Peters and Mr. Cherepon have discussed some of the issues with Dr. Hayes research findings and inferences. Ms. Donna Long added that she recalled some comments in Science criticizing the lack of details in the paper and pointing out that additional considerations need to be addressed. Dr. Hayes seems to be jumping to conclusions not warranted by his research results.

Dr. Lesikar asked what the purpose of the document (handout) was and whether the subcommittee is accepting this document and agreeing with it. He stated that he didn't think we could adequately address these issues, since they would require considerable time, research, and money. Mr. Cherepon replied with the following.

- The subject of this research is relevant to the subcommittee's business of protecting groundwater from pesticides.
- Dr. Hayes' claims are very serious and even though they may be erroneous could potentially sway public and political opinion and policy.
- No one really questioned Dr. Hayes at the end of his presentation at the forum, so there was no challenge to his work.

- The handout is not being accepted by the subcommittee, but only a summary of major points and issues from Dr. Hayes research that are relevant to the subcommittee for open discussion and possible refutation.
- Dr. Hayes may have connections with people who can possibly influence the President's decisions, much like the President's appointments of administrators to such agencies as the EPA, which recently chose not to contest the ruling of the 6<sup>th</sup> Circuit Court of Appeals on requiring NPDES permits for pesticide applications in or near water.
- Rather than wait until something develops from Dr. Hayes' research that might sway policy, Mr. Cherepon thought it would be prudent to be aware of the issues and be more proactive.
- The handout is a bulleted list of the key points from Dr. Hayes presentation and from other postings on his website.

Dr. Lesikar pointed out that Dr. Hayes was a little too quick to attribute abnormalities or certain types of cancer to atrazine without proper consideration of other possible causes such as lifestyle or other environmental factors. Dr. Villarreal said he agrees with Mr. Cherepon, that we need to be aware of this work and be ready to address at least some of the questions that may be asked, to counter any misinformation. Dr. Lesikar added that we may not have done a good job of educating the public on risk assessment, that anomalies occur in nature even in pristine environments, that actual cause and effect cannot be deduced from casual relationships, and how limited information can be used to promote a certain argument. It may require considerable time, money and effort to validate or invalidate Dr. Hayes results and conclusions. Mr. Cherepon brought his attention to bullet 6, which supports the statement that investigating a specific model or theory of effect may take 40 years to fully investigate. Ms. Long said there is recent research indicating that very low doses of pharmaceuticals can impact amphibians and humans at concentrations much lower than pesticides. These additional possible causes or environmental factors were not considered by Dr. Hayes. Mr. Cherepon noted how the USGS is detecting pesticides in parts per trillion, resulting in the EPA requiring states to monitor and assess pesticides detected at these low levels. This indicates that measurements, even without any consideration as to their real substance, sometimes affect policy and the work our agencies are performing. Dr. Lesikar thanked Mr. Cherepon for bringing this work to the attention of the subcommittee. Dr. Villarreal concluded the discussion with a statement that people have been trying to come up with a replacement pesticide for atrazine, but thus far have not found anything as effective, inexpensive, or safe.

## **VI. Announcements**

Ms. Long said that she brought copies of the Nonpoint Source Annual Report for subcommittee members to take. Ms. Hopkins announced a Carrizo-Wilcox Conference will be held and sponsored by the TWDB around October 17-18, 2009.

## **VII. Public Comment**

No public comments were made.

## **VIII. Adjournment**

With no further announcements or public comment, the meeting was adjourned.

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Recorded and transcribed by Alan Cherepon.

In their afternoon meeting, the decision was made by the Texas Groundwater Protection Committee that its FY10 first quarter meeting would take place on 10/26/09 at 1:00 P.M., in TCEQ Building F, Conference Room 2210. The 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 2009 Groundwater Pesticide Monitoring Summary

Summary of key points being made by Dr. Tyrone Hayes on atrazine impacts on frogs for subcommittee discussion