

AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

TIME AND DATE:

10:30 AM, April 23, 2014

LOCATION:

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

PURPOSE OF MEETING:

The FY14 Second 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 AgriLife Research [TAR]
Texas Water Resources Institute [TWRI], an institute of TAR
Texas Water Development Board [TWDB]

REPRESENTATIVES

Joseph L. Peters	Chair, Member, TCEQ, Austin
David Villarreal	Member, TDA, Austin
Janie Hopkins	Member, TWDB, Austin
Kevin Wagner	Member, TWRI, College Station

AGENCY STAFF

Alan Cherepon	TCEQ, Austin
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INTERESTED PARTIES

Peter Van Metre	USGS, Austin
Lynne Fahlquist	USGS, Austin

MEETING SUMMARY:

I. Opening Remarks

The Chairman of the Agricultural Chemicals Subcommittee, Dr. Joseph Peters, called the meeting to order. Subcommittee members Mr. David Van Dresar (TAGD), Dr. Mark Matocha (TAES), and Mr. T. J. Helton (TSSWCB) were 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: Ms. Hopkins, the Task Force Chair, provided a summary on the TWDB's completed and planned sampling activities. Ms. Hopkins reported that the planned 2014 monitoring had just begun and will include the Carrizo-Wilcox, Seymour, Sparta, Yegua-Jackson, Queen City, and possibly the Lipan aquifers. Their sampling team is in the process of hiring a replacement sampler for one who left the agency in the past year. An additional sampling activity for the TWDB, for this groundwater monitoring season, will be sampling for methane gas in the various shale fracking plays in Texas. Ms. Lynne Fahlquist commented that the USGS has some older methane monitoring data available in their database, which is accessible on the Internet. She added that most of the methane values results were very low and also qualified in some way.

Mr. Cherepon reported on TCEQ's planned groundwater monitoring activities. The TCEQ will be sampling the on-going monitoring sites in the Panhandle region. This will include several Public Water Supply wells that have had higher atrazine concentrations in the past. However, due to a limited budget, very few lab analyses will be conducted, probably only about 5 samples by one method (525). All samples will be screened for atrazine and triazines by immunoassay analysis. Sampling will probably be scheduled for early to late June.

Education Task Force: Mr. Cherepon, a co-chair for the task force, had nothing to report. Dr. Matocha, the other co-chair, was not present.

PMP Task Force: Mr. Cherepon and Dr. David Villarreal, co-chairs of this Task Force, reported that assessments on all 57 pesticides from the State FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) Issues Research and Evaluation Group (SFIREG) list, as required by the EPA for the grant, was completed in 2012. No additional assessments were necessary for 2013 nor are any anticipated for the remainder of year unless evidence comes to light of a pesticide not currently on the list having contaminated groundwater in the state. Both co-chairs attended the recent Pesticide Regulatory Education Program (PREP) Water Quality course, and noted that other states check to see if there had been any new pesticides that had come into use recently, and attempt to sample for them. Texas will do the same annually. Dr. Villarreal said that very few newer pesticides have come into use in Texas, with the main exception being fipronil, but nothing has been raised to a level of concern at present. Mr. Cherepon added that TCEQ would have more funds in the next fiscal year for conducting pesticide analyses and perhaps do testing for fipronil and pyrethroids.

III. USGS Updated Pesticide Use Maps

Dr. Peter Van Metre provided a presentation on the updated pesticide use maps his agency released in late 2013, as well as what they have planned related to pesticide monitoring. He led off with a disclaimer that he did not do the actual work on this, and would pass on any questions he couldn't answer to those who did. He also said that pyrethroids have been on the USGS monitoring radar more recently.

The USGS monitors surface water and groundwater to see if pesticides are impacting water quality. They then apply analytical results and modelling to further define trends and to determine what additional monitoring may be needed. The modelling is especially helpful in projecting whether more of the pesticides will be transported to surface water or groundwater. They also have new analytical methods, such as for toxicity, which often is more important than total pesticide concentration, and new technology that can analyze a sample by one “universal” method rather than by what previously required five analytical methods.

In the past, the USGS based their pesticide use maps on five-year data based on county level use estimates. More recently the USGS has tried using annual data estimates at a higher resolution to produce better estimates and maps. This involves generating data extrapolated to the small to medium sized watershed scale. The process involves the combined use of data from three sources. One is an annual, privately contracted, proprietary, survey and statistical analysis that determines the amount of pesticides applied in multi-county crop reporting districts. The second is a survey to determine what active ingredients are used on the various crops and at what application rates. The third is the Census of Agricultural Information, which is either the 5-year or annual data from the United States Department of Agriculture’s National Agricultural Statistics Service (USDA NASS) which provides acreages of the various crops grown in each county. These three sources of data are combined to determine the amount of pesticides used on the county level, instead of reporting districts. When data is not available for an area, the USGS uses an estimate of median values from surrounding counties. The surveys are conducted by a contractor, so as to keep grower information hidden and free from Freedom Of Information (FOI) Act requests. These surveys are expensive and have about a two-year lag time. The analyses include qualifiers to indicate that the data are based on voluntary surveys, over limited areas, and are interpolated using best estimated values.

Slides of graphs and maps of analyses done over a period of several years were also shown. The graphics for glyphosate use over several years included a slide show of how the use patterns changed over time. Dr. Van Metre added that glyphosate use is presently about three times that of atrazine, and is the number one pesticide used in the United States today, based on quantity. In agriculture, corn and sorghum are the primary crops to which it is applied. Also, glyphosate requires a special analytical method which is fairly expensive (about \$350/sample). Fortunately, there is an immunoassay screening kit in use to reduce the number of samples that the USGS needs to send to the lab for analysis. The USGS employs cooperative screening and monitoring for glyphosate in the Midwest, collecting 1200 samples for screening, and a much smaller number for lab analysis.

Ms. Hopkins asked about the Texas map showing glyphosate application along what looks like the Blackland Prairie and segments of the Coastal Plain. Somebody answered that it was probably being applied to corn. Another issue that came up is that none of the data and graphics includes urban application data, and that the surveys include mixed-use (agricultural-urban) areas, so the data is likely an under-estimate, especially for larger urban areas. All the information presented is available on the USGS website.

Dr. Van Metre finished his presentation with a summary of present and future work. The USGS is trying to fill in existing gaps, as well as targeting some specific areas of special interest. Also, they are performing some work integrating surface water and groundwater studies for medium-sized watersheds (unfortunately being limited, for now, to one site – Chesapeake Bay). Considerable modelling is applied to help determine these areas and derive estimates. In Texas, for surface water areas, the USGS is sampling in two areas of the Rio Grande, the Trinity River near Dallas, the Frio, and Brazos Rivers. A groundwater study of the Coastal Aquifers has just been completed. Unfortunately, they underestimated the number of fields needed when setting up the database for this work. They are analyzing for 240 pesticides per sample, applying a new “universal” method, by which they can analyze by direct injection Liquid Chromatography/Mass Spectrum-Mass Spectrum analysis (LC/MS MS). The method only requires one liter of filtered water, and can detect pesticides down to the ten parts per trillion (ppt). The USGS is also resampling some monitoring wells in San Antonio, in the Edwards Aquifer, after a lapse of 10 to 20 years. The resampling includes continuous monitoring, and repeated sampling over shorter time periods. This work is supported by EPA’s Office of Pesticides, and includes small streams in the Midwest, as well as a regional study in the Southeast.

The USGS prioritizes their study areas using the following:

- EPA Level 2 Eco-Regions
- Farm Resource Regions (which overlay the Eco-Regions)
- Potential for anthropogenic impacts on water quality (urban/ag use mix)
- Reference sites present (streams)

Some areas considered include the Great Lakes, the Northeast, California/Western US, South-Central US, and the Great Plains.

Dr. Villarreal commented on how useful this info is to TDA for doing risk assessments on pesticides. Someone commented on how a number of pesticides can have common degradates (especially triazines), which could be confusing to someone unaware of this. Someone else asked if they have conducted any stream sampling in the Panhandle, but Ms. Fahlquist answered that she was not aware of any. Propazine monitoring in the region had been conducted by the USGS, and Syngenta, but concentrations were very low (in the ppt range). Ms. Fahlquist said she would send the data to TDA. Mr. Cherepon added that he did a presentation on atrazine and propazine detects in the Texas at one of the past ACS meetings and could send this to TDA as well. He also mentioned that the USGS study group in Kansas told him that a certain amount of propazine is produced as a byproduct in the production of atrazine and is thus present as an impurity. It was also pointed out that there is some cross-reactivity between triazines and their degradates when analyzing by immunoassay. One presentation at the PREP course in Helena, Montana two years ago showed how a degradate of simazine is the same as one for atrazine, and that they had mistakenly thought the degradates were all coming from atrazine. Ms. Fahlquist commented that there had been some off-label use of atrazine in the Panhandle, and Dr. Van Metre said that atrazine is also used in urban areas on lawns for weed control. Dr. Villarreal said that Mr. Ed Baker (Syngenta) presented to the ACS results of propazine monitoring of surface water

reservoirs in Central Texas. Mr. Cherepon added that the EPA website on re-registration originally indicated the registrar was supposed to conduct groundwater monitoring for propazine, but that eventually only surface water monitoring was conducted in the project. This may be due to little to no propazine being detected in previous groundwater samples. Also, atrazine levels have continued to decline in the Panhandle following TCEQ's intensive and annual monitoring, and education and outreach efforts to users in the region.

IV. Business Items – Subcommittee Charge and Focus Discussion

During the previous meeting of the subcommittee in October, Dr. Villarreal suggested the subcommittee consider changing its focus from agricultural chemicals to a broader range of chemicals that pollute groundwater, since pesticides are no longer being detected in high concentrations in Texas groundwater. Additionally, the main committee is also reviewing the subcommittees to determine whether any of them need to have their charges revised. The Chair laid out three potential options, as well as leaving room for any others the subcommittee members may want considered. These included:

- Expand the charge to include all chemicals that could potentially contaminate groundwater
- To only meet on an as-needed basis
- To dissolve the Agricultural Chemicals Subcommittee, only resurrecting it on an as-needed basis
- Other suggestions

Dr. Villarreal addressed the first option. He named his predecessor representatives from TDA, said there has not been as much interest or activity for pesticides, since pesticides in groundwater has not been a big issue in Texas in the past few years. He went on to suggest that if we are going to keep the subcommittee, we need to expand the focus to all chemicals, get additional agencies involved, such as the USGS, and to keep meeting semi-annually. The Chair said the original primary purpose of forming the subcommittee was to develop State Management Plans (SMPs) for pesticides and groundwater. The SMPs would be necessary to retain the use of certain pesticides under a proposed EPA Rule. Since the rule never materialized, and focus of the Subcommittee changed over the years. Dr. Villarreal said the Legislature is still very interested in water and water quality, and that is a reason to keep the subcommittee, just expand it to cover groundwater contamination by any chemicals.

Dr. Wagner asked if there were topics still requiring discussion in the ACS rather than the TGPC? If so, keep the ACS and expand the discussion to include other chemicals. However, if things can be handled in the full committee, we don't need the ACS. The Chair added that certain items, like reviewing the annual monitoring plan, could be done through emails. Ms. Hopkins said there were some pros and cons for either way to go. The full committee does the Legislative reports, the Joint Groundwater reports and similar items pertaining to its charge by the Legislature. The public doesn't always hear of the good things the subcommittee is doing. Dr. Villarreal thought that if the responsibilities of the ACS were not expanded, they could probably be handled by the

TGPC, but if the charge is expanded to cover all chemicals, it probably could not be conveniently handled by the full TGPC. This is probably also true of the other subcommittees, except the Public Outreach and Education Subcommittee.

Ms. Hopkins asked who would be taking over as chair of the ACS? The Chair wasn't sure, but thought it could be Mr. Cherepon; however, TCEQ administration might want to consider alternatives, especially if the scope is expanded. Mr. Cherepon said that EPA's FIFRA grant liaison has been hinting that the guidance for the upcoming years requires surface water be included in the grant work plan, goals, and objectives. Should this happen, a surface water aspect of the Pesticide Management Plan (At some point the SMP was renamed the PMP) would need to be developed and integrated into the existing generic PMP. We could possibly use the draft surface water PMP that an ad hoc committee developed several years ago, but it would require some additional work. Such a task may require the ACS remain in its present form to complete the surface water PMP, and probably TDA and TAES/TAR would want to remain involved in the process to address and protect their interests. Dr. Villarreal named the various subcommittees, and said that some are presently only meeting on an as needed basis. This approach may be best, if the charge is not expanded, to meet as needed, however often that may be. Dr. Wagner thought we should make any proposed changes to the ACS for a one year trial period, so that the changes could be properly assessed, then they could either be made permanent or further changes suggested. His proposal for changes was to expand the purpose to all chemicals, and to meet as needed. He also suggested a name change to the Groundwater Contaminant Subcommittee. Ms. Hopkins suggested we still meet semi-annually during the trial period.

At this point in the discussion, Dr. Peters asked if the Subcommittee had a final proposal that could be presented to the main Committee. Dr. Wagner restated the discussed final suggested changes in the form of a motion. The motion was composed of the following points.

- Change the name of the ACS to the Groundwater Contamination Subcommittee and expand its focus from pesticides only to all chemicals
- Make the change for a one-year trial period, and to reevaluate the charge of the Subcommittee after the one-year period
- Determine what additional members may need to and want to serve on the Subcommittee over the one-year period

The Chair responded to a question of whether we had a quorum to vote on this. He responded that four out of seven members were present which was probably considered to be a quorum; nevertheless, the subcommittee isn't as formal as the full committee, and thus a simple majority would be sufficient, since making charges for Subcommittees was the prerogative of the full committee which ultimately makes the decision, regardless. The ACS members who were present voted unanimously to pass the motion listing the suggested changes to be presented to the TGPC.

V. Information Exchange – Status Updates

Dr. Villarreal asked if anyone had an issue with applying more propazine in the Panhandle region, with regard to potential impact on the Ogallala Aquifer. This would be an additional or special use of propazine on cotton for which it is not presently labeled. It would require a Section 18 expansion of application of a chemical presently not allowed on cotton. There is a potential that this use could eventually move from a Section 18 special use to a Section 3, expanded use without time limitation. The characteristics of the chemical is the same or similar to atrazine. The potential and likelihood is that this would add to the amount of total triazines in the Ogallala Aquifer, and could compound any existing issues with triazines and their degradates. The drought situation could also exasperate the problem in that less water could result in higher concentrations. The USGS did a study on something similar in the Panhandle, and they concluded that concentrations would be expected to increase over time. Lynne Fahlquist added that the USGS publication on the study can be found through their website. Dr. Villarreal added that once propazine is approved for this expanded use, the overall use of propazine would be increased, which possibly would cause an overall increase in triazines impacting the groundwater. He stated that, because of his concerns, he was the only one at TDA holding up the approval, which he didn't want to give before getting input from this subcommittee. Mr. Cherepon brought up another issue: The USEPA looks at triazines as having similar/comparable characteristics with each other and thus they would add up the concentrations of all triazines and triazine degradates for determining impact. Additionally, since toxicity testing is also additive, it could also indicate more serious contamination, especially under the re-review of atrazine and endocrine disruptors. Should contamination levels reach high enough thresholds, this could potentially result in a more serious regulatory response. Dr. Villarreal suggested that should benchmarks be made more stringent for atrazine or triazines in general, then this could further cause future regulatory action. With the multiplication of concerns over atrazine, including effects on amphibians, potential carcinogenicity, environmentalists' protests, and frequent detection (including the Panhandle region), the sanctioning of yet another triazine could potentially or eventually tip the scales and result in regulatory actions.

Mr. Cherepon mentioned that Dr. Villarreal and he attended the PREP Water Quality course in Davis, California earlier in April. Mr. Cherepon will be presenting a summary of the course at the end of April at the EPA Region 6 pesticide meeting in Little Rock. He went over the various topics covered in the course. Dr. Villarreal added that Texas was asked to host the water quality class in two years, and they would be asking some of the subcommittee members and their agencies or organizations to make presentations.

VI. Announcements

The Chair repeated the information on the TCEQ Earth Day event that was mentioned at the Research Subcommittee meeting prior to the ACS meeting. Mr. Cherepon mentioned that the TCEQ Environmental Trade Fair will be held on May 6th and 7th. At the TGPC meeting in the afternoon, volunteers will be requested to help with the table exhibit.

VII. Public Comments

There was no public comment, there being no one present from the public.

VIII. Adjournment

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

Recorded and transcribed by Alan Cherepon.

In their afternoon meeting, the decision was made by the TGPC that its FY 2014 fourth quarter meeting would take place on Wednesday, July 16, 2014, at 1:00 P.M., in the TCEQ Building F Conference Room 2210. The ACS and the Groundwater Research Subcommittee hold their meetings once every other quarter (twice a year) on the same day as the TGPC meeting. Therefore the next ACS meeting will take place on the same date and in the same room as the fiscal year 2015 first quarter meeting of the TGPC. This date will be determined at the next quarterly meeting of the TGPC in July.