22 March 2017

Mr. Tim Johnson
California Rice Commission
1231 I Street, Suite 205
Sacramento, CA 95814-2933

APPROVAL OF RICE PESTICIDES PROGRAM MANAGEMENT PRACTICES FOR 2017

Thank you for submitting the final 2016 Rice Pesticides Program (RPP) Annual Monitoring Report (AMR) on 29 December 2016. This report was submitted to meet the conditions of Resolution R5-2010-9001. The Central Valley Water Board staff review of the AMR is in the attached memorandum.

The AMR and 21 February 2017 recommendations reported on the 2016 RPP monitoring results and provided recommendations for the 2017 season. Thiobencarb monitoring during the 2016 season measured detections above the thiobencarb performance goal of 1.5 parts per billion (ppb) during three events at Colusa Basin Drain 5 (CBD5) and three events in Colusa Basin Drain 1 (CBD1), located downstream of CBD5. The thiobencarb water quality objective of 1 ppb was not exceeded at the municipal water intakes for the Cities of Sacramento and West Sacramento, nor at the California Rice Commission’s (CRC’s) Sacramento River monitoring site.

Following detections of thiobencarb above the performance goal at CBD5 and CBD1, the CRC conducted special monitoring of seven sites located upstream of site CBD5. Excursions above the performance goal were measured at two of the seven sites, both located in Glenn County.

The 2017 recommendations letter proposes several actions to be taken in response to the thiobencarb excursions. The proposal has been developed in coordination with the Department of Pesticide Regulation (DPR). The 2017 recommendations are to:

1) Coordinate with DPR on monitoring two sites north of the CBD5 location;

2) Communicate the results of the assessment of use-to-flow variances resulting from weather conditions and drought related irrigation requirements to the Central Valley Water Board (e.g., thiobencarb usage rates may increase when water restrictions disallow midseason lowering of water levels on fields because thiobencarb does not require direct contact with weeds to be effective); and

3) Limit the use of the thiobencarb liquid formulation to ground only applications in a targeted area in Colusa and Glenn Counties north of Highway 20 and west of the Sacramento River.

These actions were recommended in addition to the continuation of those practices required by the Resolution and 2016 AMR approval letter.

I approve the CRC’s 2017 RPP recommendations. I am also requiring that the CRC share the monitoring schedule for sites GC1 and GC2 with Central Valley Water Board staff. Due to recurring detections above the performance goal, the Central Valley Water Board is considering revisions to the Resolution. Any revisions to the Resolution will be developed in coordination with CRC, DPR, and County Agricultural Commissioners, with input from stakeholders.
If there are any questions regarding this approval or status of the Rice Pesticide Program, please contact Ashley Peters at 916-464-4857 or Ashley.Peters@waterboards.ca.gov.

*Original signed by*

Pamela C. Creedon  
Executive Officer

Enclosure

cc: Roberta Firoved, California Rice Commission, Sacramento  
RPP stakeholders (by email)
On 30 November 2016, the California Rice Commission (CRC) submitted the 2016 Annual Monitoring Report (AMR) for the Rice Pesticides Program required by Resolution No. R5-2010-9001 (Resolution). Staff emailed the AMR to stakeholders on 2 December for their review. The City of Sacramento responded with one comment requesting that a footnote in Table 2 of the report be revised.

On 29 December 2016, the CRC submitted a revised AMR complete with the requested change and supporting lab and field documentation. The CRC submitted recommendations for the 2017 thiobencarb use season on 21 February 2017.

SUMMARY OF THE 2016 SEASON

The CRC monitored at four upstream sites (Figure 1) in 2016:

- Colusa Basin Drain (CBD) above Knights Landing (CBD1)
- Colusa Basin Drain #5 in the Colusa National Wildlife Refuge (CBD5)
- Butte Slough at Lower Pass Road (BS1)
- Sacramento Slough Bridge near Karnak (SSB)

In addition, the CRC monitors Sacramento River at Village Marina/Crawdads Cantina (SR1), a site just upstream from the water supply intake for West Sacramento. The sampling, performed by Kleinfelder, occurred during a ten-week period from 20 April to 28 June. The Cities of Sacramento and West Sacramento monitored for thiobencarb at their water supply intakes, SRR and WSR, respectively, for the same time period.

RPP monitoring results for thiobencarb from all parties are shown in Table 1. The CRC uses two laboratories, North Coast (subcontractor for Valent [the registrant]) and California Laboratory Services (CLS), for analysis of thiobencarb. The performance goal for sites where MUN is redesignated is 1.5 parts per billion (ppb) and the water quality objective for sites with MUN is 1.0 ppb (secondary maximum contaminant level). There were three detections above the performance goal at CBD5 (1.9 ppb [17 May]; 11 ppb [24 May]; 2.2 ppb [26 May]) and three at CBD1 (3.2 ppb [24 May]; 2.8 ppb [26 May]; 1.7 ppb [7 June]) during 2016.
Special monitoring was conducted at sites N, RD 68, Q, P, I, K, and L, which contribute to CBD5 (see Figure 2), to investigate the source of elevated thiobencarb concentrations. These sites were sampled for thiobencarb on 31 May (N and RD 68), 2 June (N and RD 68), and 9/10 June (all). These sites were selected based on the watershed drainage assessment completed for the Irrigated Lands Regulatory Program by the CRC in 2004. Two detections above the performance goal were measured during special monitoring at Road 68 (1.9 ppb) on 31 May and at Site N (1.6 ppb) on 2 June. Both of these sites are located in Glenn County. One other detection of thiobencarb occurred at Site K (0.54 ppb) in Colusa County, below the performance goal.

There were no detections of thiobencarb above the secondary maximum contaminant level at the water intakes for the Cities of Sacramento and West Sacramento or at CRC’s Sacramento River site (all non-detect).

RECOMMENDATIONS FOR THE 2017 SEASON
In their 2017 recommendations to the Executive Officer, the CRC outlined four potential influences on the 2016 thiobencarb exceedances. They are:

1) Decreased flows and water depth at monitoring sites, particularly at Site CBD5;
2) No-spill mandates implemented by the irrigation district resulted in increased use of non-contact herbicides such as thiobencarb;
3) Thiobencarb use increased for sedge weed control. Thiobencarb use for sedge weed control was in decline from 2006 to 2013 due to resistance to the herbicide; and
4) Increased violations of waterhold and seepage requirements in Colusa, Glenn, and Sutter Counties.

An evaluation of wind speed and precipitation during the use season did not identify any correlation with the exceedances.

The CRC recommended three actions for the 2017 season in response to detections of thiobencarb above the performance goal. These actions include the following:

1) Coordinate with DPR on monitoring two sites (GC1: 39°24’23.88, 122°4’49.95”; GC2: 39°24’23.53, 122°3’20.86”) north of the CBD5 location. The monitoring would be part of the DPR surface water program with CRC providing laboratory analysis;
2) Share the results of the assessment of use-to-flow variances resulting from weather conditions and drought related irrigation requirements with the Central Valley Water Board (e.g., thiobencarb usage rates may increase when water restrictions disallow midseason lowering of water levels on fields because thiobencarb does not require direct contact with weeds to be effective); and
3) Limit the use of the thiobencarb liquid formulation to ground only applications in a targeted area in Colusa and Glenn Counties north of Highway 20 and west of the Sacramento River.¹

In addition to the recommendations outlined above, the CRC will continue to implement the following actions based on requirements of the Resolution and 2016 approval letter:

1) Implement aggressive efforts to provide targeted outreach to industry and education to growers, Pest Control Advisors (PCAs), applicators, dealers, and distributors during the 2017 season. Examples of outreach include:

¹ This area was identified as a likely contributor to the detections of thiobencarb above the performance goal based on the special monitoring conducted during the 2016 monitoring season.
a. Continuance of the mandatory thiobencarb stewardship meetings;

b. Support the County Agricultural Commissioners (CACs) if actions are taken against an individual for repeat non-compliance;

c. Increase outreach with emphasis on counties where violations occur;

d. Maintain contact with applicators and PCAs;

e. Continue increased funding to counties for off-hours surveillance inspections;

f. Outreach via letters and the CRC website with emphasis on counties where violations occur.

2) Continue the approved practices as outlined in the Resolution;

3) Continue to implement water quality monitoring and reporting consistent with the Resolution; and

4) Continue stakeholder outreach activities including collaboration with the cities, DPR, CACs, and the Central Valley Water Board.

STAFF CONCLUSIONS AND RECOMMENDATIONS

Detections above the 1.5 ppb performance goal occurred six times during the 2016 monitoring season, three times each at sites CBD5 and CBD1. In addition, two detections above the performance goal were observed during special monitoring at sites RD 68 and N, located upstream of CBD5, in Glenn County. Excursions above the performance goal were not observed at any other locations in 2016. There were four thiobencarb detections at the municipal water supply intakes with a maximum concentration of 0.13 ppb. In recent years, detections above the performance goal have been observed five times at CBD5 and one time at CBD1 in 2015; and three times at CBD5 in 2014.

The RPP report contained the information necessary to review and evaluate the program. Staff agrees that the continued period of drought may have contributed to the detections of thiobencarb above the performance goal. In addition, the number of waterhold and seepage violations in Colusa, Glenn, and Sutter Counties are another potential source of increased thiobencarb concentrations. Although the performance goal of 1.5 ppb in the rice drainages was exceeded, the water quality objective at the cities’ water intakes was met.

Staff agrees with the CRC’s recommended actions for 2017. Due to continued exceedances of the performance goal, a greater emphasis on those growers in areas where water quality problems continue to occur is necessary. Of the actions recommended by the CRC, monitoring of two additional sites north of site CBD5 and limitation of liquid thiobencarb use to ground applications in a targeted Colusa and Glenn County area require significant coordination with DPR and the CACs. However, these targeted actions focus specifically on those growers and areas that special monitoring have identified as contributing to recurrent exceedances.

Staff recommends approval of the current management practices with the stipulation the CRC move forward on the following actions: 1) work with DPR to implement monitoring of two additional locations upstream of site CBD5; and 2) support limitations on aerial applications of liquid thiobencarb. The Central Valley Water Board should be notified of the schedule for the additional monitoring. The CRC should also provide an update on the implementation of these alternatives at the RPP October stakeholders meeting, as well as in its annual monitoring report.
Figure 1: RPP Monitoring Sites (taken from RPP report)
Figure 2: 2016 Special Monitoring Sites (taken from RPP report)
<table>
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<th>CBD5</th>
<th>BS1</th>
<th>CBD1</th>
<th>SSB</th>
<th>SR1</th>
<th>WSR</th>
<th>SSR</th>
<th>Sacramento River at SSR Intake (percent)</th>
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Notes:
- = not sampled
**BOLD** = exceedance of performance goal
ND = not detected above laboratory reporting limits
ppb = parts per billion
SSR = City of Sacramento River intake
WSR = City of West Sacramento River intake