

Cranberry Sampling: (from the Final Summary Report: Aerial adulticiding intervention response to Eastern Equine Encephalitis virus (EEEV), Massachusetts, 2019

In making the determination as to whether or not cranberries needed to be sampled during the 2019 event, the Board, with the assistance of MDAR, reviewed past documents to try to understand the reasoning behind this action. It found that cranberry sampling begun taking place during the 2006 aerial spray. At that time, Anvil 10+10 ULV did state that it could be used over agricultural settings. At that time the Board, through MDAR, filed for a Section 18 with EPA which would allow the off-label use of the product due to a public health emergency. As part of the findings, there was a determination that sampling of cranberries would be conducted. In 2009, the manufacturer of the product added that use pattern onto the label. It was unclear as to why DPH continued to collect samples, but they did so for subsequent years.

During the early stages of organizing the 2019 spray event, the DPH indicated that they did not see a need to test cranberries as they had done in the past. Due to the fact that the Board was still in the stages of discovering the history of cranberry sampling, it was determined that MDAR would conduct the sampling. MDAR used guidance provided by DPH when sampling.

Results of 4 samples that took place on August 8th, 15th, 21st and 28th of cranberries testing for sumithrin revealed no detectable levels of sumithrin in any sample, whether taken prior to or after either spray event. Since no measurable residues of sumithrin were detected in any of the cranberry samples, the consumption of cranberries harvested from bogs located in the spray areas would not be expected to pose health concerns.

Due to resources issues, allowances made by the pesticide label and the sample results the 2019 samples and previous years' results, the Board, in consultation with MDAR, determined to discontinue the practice of sampling cranberries.

Surface Water Quality Sampling:

The Massachusetts Department of Environmental Protection ("MassDEP") conducted an extensive monitoring program to ensure that public water supplies were safe for human consumption and that surface waters were safe for public use. MassDEP conducted monitoring before and after each aerial spraying event, with assistance from public water suppliers who performed water quality testing of their water supplies, to ensure that the public was not exposed to the short-lived Sumithrin pesticide and piperonyl butoxide synergist.

Sumithrin was detected in 5 of 58 samples collected from surface water bodies that are not drinking water sources of the non-public water supplies water samples and the synergist PBO was detected in 53 of the non-public water supplies water samples. However, all detected concentrations were far below the U.S. EPA Aquatic Life Benchmark Concentrations for fish and invertebrates. The highest concentration of Sumithrin was 0.051 ug/L, detected in a sample collected from Manchaug Pond in Sutton, MA in Spray Event 3 in Middlesex and Worcester Counties. The highest concentration of PBO was 0.334 ug/L, detected in a sample from Lake Nippenicket in Bridgewater, MA during Spray Event 2.

MassDEP conducted extensive monitoring throughout August and September of 2019 in response to aerial spraying conducted by the Board. Analytical results for the 277 samples collected during the six spray events conducted during this period indicate that concentrations of Sumithrin and its PBO synergist

were far below the U.S. EPA Benchmarks for human health risk level of concern and the U.S. EPA Aquatic Life Benchmark Concentrations for fish and invertebrates. For the full report, see <https://www.mass.gov/doc/response-to-eastern-equine-encephalitis-virus-mosquito-control-aerial-spray-events-2019/download>