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A recent study, “Association Between Exposure to Pyrethroid Insecticides and Risk of All-Cause and Cause-Specific Mortality in General U.S. Adult Population (Wei Bao, MD, PhD; Buyun Liu, MD, PhD; Derek W. Simonsen; Hans-Joachim Lehmler, PhD from the University of Iowa College of Public Health).” published online in December 30, 2019 in the Journal of the American Medical Association Internal Medicine purports to demonstrate a link between pyrethroid exposure and increased mortality from cardiovascular disease.

The Pyrethroid Working Group, an industry alliance comprised of the following companies: AMVAC Chemical; BASF Corporation; Bayer CropScience; FMC Corporation; Syngenta Crop Protection; and Valent U.S.A. LLC., reviewed the article and provided a preliminary rebuttal, whose points are posted below.

- The analysis did not account for family history of cardiovascular disease – even though genetics represent one of the most significant factors for CVD.
- The study relied on self-reporting for key variables that are known to contribute to CVD-related mortality, such as smoking, alcohol consumption and physical activity. Potential recall biases in self-assessments such as these can severely impact results.
- There was no definitive exposure determination in the study. The metabolite used as an indicator is also found in the environment as a plant and environmental degradate and is not itself of concern.
- The determination was also based on a single urine spot sample, which cannot support conclusions on long-term exposure and does not adjust for factors such as body weight and sex.
- The study results do not align with the significant body of evidence that does not show these effects, even at extremely high exposure levels.

The fact is pyrethroids are registered by the EPA after careful consideration of the potential environmental and human effects of these products. The registration of all pesticide products undergoes regular review every 15 years (and the pyrethroids are undergoing a 15-year review now) to refine risk assessments in light of current data. To date, the overwhelming preponderance of evidence demonstrates that pyrethroids pose minimal risk to humans if used according to label specifications.

In addition, the AMCA also has scientific experts in experimental design and statistical inference reviewing the study to further comment on the study. The AMCA will post additional information as it becomes available.