Neonicotinoids Update
October 21-22, 2020 Pesticide Program Dialogue Committee Meeting

Background:

- The nitroguanidine-substituted neonicotinoid insecticides are broad-spectrum insecticides that are currently registered for use on many agricultural crops, in non-crop areas (e.g. poultry houses, nurseries, forestry), in residential areas, on pets and pet premises, and in commercial settings. The class includes the active ingredients clothianidin, thiamethoxam, imidacloprid, and dinotefuran.
- EPA initiated registration review for imidacloprid in 2008 followed by thiamethoxam, clothianidin, and dinotefuran in 2011.
- In 2014, EPA published a benefits assessment on the treatment of soybean seeds with neonicotinoids.
- In 2016 through 2017, the agency published the preliminary bee assessments, other ecological risk assessments (birds, mammals, aquatics, etc.), and draft human health risk assessments.
- In total, over 1.3 million comments were received on all the neonicotinoid assessments, of which approximately 700 were unique/substantive.
- EPA published additional benefits assessments on cotton and citrus in December of 2017, along with a revised seed treatment assessment.
- In February 2020, as part of Registration Review, EPA published the proposed interim decisions for the nitroguanidine-substituted neonicotinoids (clothianidin and thiamethoxam, dinotefuran, and imidacloprid), and acetamiprid; a chloropyridinyl neonicotinoid, for a 60-day public comment period, which was extended to May 4, 2020. Based on further requests for extension from stakeholders, EPA then re-opened comments for an additional 30 days through June 2020.
- In February 2020, EPA also released supporting ecological risk assessment documents, which included final (revised) bee risk assessments, responses to comments, addendums and literature reviews, along with additional human health risk assessment documents, and nineteen benefits assessment documents for the nitroguanidine-substituted neonicotinoids.

Key Points:

- The agency's benefits assessments noted the importance of this class of chemicals in Integrated Pest Management programs (IPM); in mitigating numerous pests (e.g., Asian citrus psyllid, mealybugs, cotton bollworms) across a wide variety of crops (e.g., citrus, corn, cotton, grapes, soybeans), and non-agricultural scenarios (e.g., poultry houses, livestock feedlots/barns, commercial buildings).
- EPA's final bee assessments employed multiple lines of evidence (e.g., Tier I & II endpoints, Tier III (full field studies), incidents) and noted the potential for on-field risk from some uses,

and identified uses with higher potential for risks. However, dietary risk to bees was considered low for other uses such as seed treatments.

- EPA's draft ecological risk assessments noted potential risk to aquatic invertebrates from spray drift and run-off, as well as to birds and mammals from potential exposure to treated seed.
    - To reduce risks to bees and aquatic organisms, the agency proposed a number of soil and foliar application rate reductions, application timing restrictions, language on labels that advises homeowners not to use neonicotinoid products, and spray drift reduction measures.
    - Additionally, the agency proposed requiring advisory language on labels to reduce the likelihood of bird and mammal exposure.
- Potential human health risk varied by chemical, but overall identified potential risks were limited and addressed with proposed personal protective equipment (PPE).
    - Also, EPA proposed cancelling spray uses of imidacloprid on residential turf due to risks identified to residential occupants exposed to treated turf following application.
- The public comment period for the nitroguanidine-neonicotinoids proposed interim decisions closed on June 6, 2020. Approximately 190,000 comments were received amongst the four nitroguanidine-substituted neonicotinoids with approximately 300 unique/substantive comments. The agency is currently reviewing these comments.
- The agency anticipates publishing the Interim Decisions in 2021.