Appointment

To: Gelso, Brett [gelso.brett@epa.gov]; Wyatt, TJ [Wyatt.Tj@epa.gov]; Berwald, Derek [Berwald.Derek@epa.gov]; Kaul, Monisha [Kaul.Monisha@epa.gov]; Becker, Jonathan [Becker.Jonathan@epa.gov]; Hawkins, Caleb [Hawkins.Caleb@epa.gov]; Coy, Murphey (Richard) [coy.richard@epa.gov]; Tindall, Kelly [tindall.kelly@epa.gov]; Suarez, Mark [Suarez.Mark@epa.gov]; Jones, RDavid [Jones.Rdavid@epa.gov]; Johnson, Hope [Johnson.Hope@epa.gov]; Mallampalli, Nikhil [Mallampalli.Nikhil@epa.gov]; Waterworth, Rebeccah [Waterworth.Rebeccah@epa.gov]; Hanson, Charmaine [Hanson.Charmaine@epa.gov]; Hodde, Whitney [Hodde.Whitney@epa.gov]; Smearman, Stephen [Smearman.Stephen@epa.gov]; Prieto, Rafael [Prieto.Rafael@epa.gov]; Paisley-Jones, Claire [Paisley-Jones.Claire@epa.gov]; Post, Jessica [Post.Jessica@epa.gov]; Kells, Bradley [kells.bradley@epa.gov]

CC: Anderson, Neil [Anderson.Neil@epa.gov]

Attachments: RE: Treated Seed Petition Team Meeting

Start: 2/15/2022 7:00:00 PM
End: 2/15/2022 8:00:00 PM

Recurrence: (none)

Required Attendees: Wyatt, TJ; Berwald, Derek; Kaul, Monisha; Becker, Jonathan; Hawkins, Caleb; Coy, Murphey (Richard); Tindall, Kelly; Suarez, Mark; Jones, RDavid; Johnson, Hope; Mallampalli, Nikhil; Waterworth, Rebeccah; Hanson, Charmaine; Hodde, Whitney; Smearman, Stephen; Prieto, Rafael; Paisley-Jones, Claire; Post, Jessica; Kells, Bradley

Optional Attendees: Anderson, Neil

2/15/22 Registration Review Coordination Meeting Agenda

1. **(2:00 to 2:20pm) Methomyl and ESA (Murphy, Nikhil, Derek, Kelly, Rebeccah, Caleb, Charmaine, Whitney, Steve, Rafael).**

Deliberative Process / Ex. 5

2. **(2:20 to 2:40pm) Armed Forces Pest Management Board (Claire, Jonathan, Nikhil, Brett, All)**

Background: Available data at the board's level; potential paths forward to get more detailed data; opportunities to solicit information from DoD

3. **(2:40 to 3:00pm) Treated seed petition litigation. (All)**

Deliberative Process / Ex. 5

Here are the items BEAD was tagged:

Claims Presented in the Petition and Lead Division for Response

1. Environmental Impacts of Neonicotinoid Seed Coat Treatments
   a. Use and usage information for neonic treated seeds [lead = BEAD]

   b. Use to protect the growing plant rather than the seed itself [lead = All]
   c. Negative effect of neonics on the seed itself [lead = BEAD]
   d. Depending on the crop, up to ninety percent of the insecticide is either scraped off the seeds and blown away as dust during machine planting, or sloughed off into the surrounding soil and groundwater. [lead = EFED]
2. Treated Article Exemption Applicability for Treated Seeds
   a. Pesticide-coated seeds were neither mentioned in the regulation text nor in the Federal Register notice accompanying the exemption. [lead = OGC]
   b. The Harmonization Paper instead indicates that such coated seeds should be excluded from the exemption: only for protection of the seed itself [lead = OGC]
   c. Environmental harms stem from both the effects of the coatings that come off the seed and from the gross overuse of this systemic class of insecticides. Uncontained dust and contamination from these coatings is killing honey bees by the many millions and imposing a potentially catastrophic hazard to aquatic systems across the nation. Both freshwater and marine systems and the invertebrate and vertebrate wildlife—such as fish and waterfowl—that they contain are being harmed. In addition to direct mortality to birds from ingesting neonicotinoid-coated seeds, indirect mortality is resulting from the destruction of rural invertebrate life across a vast portion of the United States. Coated seeds are planted year after year and the active ingredients have long half-lives in most soils, exceeding the planting intervals. Thus, the contamination has swiftly built up to, and past, harmful levels in America's lands and waters. [lead = EFED]
   d. The exemption has allowed unregistered, unlabeled insecticides to outcompete and displace other FIFRA-registered insecticides and other less risky crop protection methods in U.S. agricultural markets. Their aggressive marketing has directly led to vastly more use of insecticides on crops for which no insecticides were needed or used by farmers in the years before these products were sold. This prophylactic use of coated seeds is incompatible with the principles of Integrated Pest Management [lead = BEAD/RD/OGC]
3. EPA's Coating Product Approvals
   a. EPA has failed to fully assess the adverse effects, described in this Petition, of the systemic insecticide beyond the seed coating process. [lead = EFED/HED]
   b. EPA's Risk Assessments (RAs) for the coating products ignore numerous risks of planting the resulting seeds, such as the toxic abraded dust-off, due to EPA's inclusion of the coated seeds themselves under the Treated Article Exemption. [lead = EFED/HED]
   c. EPA's risk assessors are not actually analyzing the external effects and risks of the abraded coatings is repeated in the Preliminary RAs for the neonics. [lead = EFED/HED]
   d. The Agency's claims that the risks are addressed "outside of" the formal RA process are not supported by any evidence. [lead = EFED]
   e. The large majority of the coating products were "conditionally registered" under FIFRA, indicating that key information needed for their full risk evaluation was not produced by the registrants to allow an unconditional registration. Extensive information gaps remain for the resulting coated seeds. [lead = RD/EFED/OGC]
4. Major Reviews and Studies on Harms of Coated Seeds.
   a. Peer-reviewed, published studies illustrate harmful effects from these coated seeds, effects that EPA's RAs for the coating chemicals have failed to assess. [lead = EFED]
5. Honey Bee Kills and Other Costs
   a. Use of neonic treated seeds is resulting in pesticide contamination of vast areas extending far beyond the planted fields. [lead = EFED]
   b. Honey bee kill incidents caused by neonicotinoid-coated seeds have numbered in the hundreds and likely many more. These incidents have likely killed hundreds of millions of individual bees due to acute dust-off kills and chronic damage to bee hives. [lead = EFED]
   c. Honey production and the overall profitability of their business have drastically declined, while their workloads and personal stress have multiplied. [lead = BEAD/OGC]

d. Sublethal doses can result in honey bee colony damage through chronic effects, including compromising the behavior, health, and immunity of colonies, thus causing them to collapse under the additional stress of pathogens and parasites. [lead = EFED]
e. Costs of neonicotinoid-coated seeds and their resulting contamination include, at a minimum, these foreseeable categories: 1) harmful honey bee colony effects and resulting reduced yields of pollinated crops; 2) reduced production of honey and other bee products; 3) financial harm to beekeepers and consumers; 4) loss of ecosystem services; and 5) market damage from contamination events. Estimated cumulative, direct, and indirect costs of this contamination to date across these five categories are in the tens of billions of dollars. [lead = EFED/BEAD]
f. The harm to native bees, which are essential pollinators but that lack commercial valuation, is nationwide and incalculable. Unmanaged and often living in contaminated soil, species such as bumblebees, ground-nesting mining bees, alkali bees, squash bees, and long-horned sunflower bees are harmed by repeated, persistent use of the coated seeds. Adverse impacts to other species of native bees that are not ground nesters also has been identified. [lead = EFED/BEAD]
g. None of the risks to native bees are captured in EPA's Pollinator RAs issued in 2016 and 2017 for the three main active ingredients in the seed coating products: imidacloprid, clothianidin and thiamethoxam. [lead = EFED]

6. Harm to Threatened and Endangered Species
   a. Pesticidal coated seeds may affect broad groups of non-target animals including wild and managed bees, other beneficial terrestrial insects, aquatic invertebrates and birds. Within each of these animal groups are many threatened and endangered species protected under the ESA. [lead = EFED/Tracy]
   b. The 2017 listing of the rusty patched bumble bee, mentioned above, is one example of species listed partially because it is directly affected by the use of neonicotinoid coated seeds. Two butterflies listed in 2014 also had neonicotinoid-coated seeds explicitly singled out by the FWS as a significant factor that led to their listings: Dakota skipper (Hesperia dacotae) and Poweshiek skipperling (Oarisma poweshiek). Petition notes ten threatened and endangered terrestrial insects that EPA should consider (see page 24 of petition for list of species). [lead = EFED/Tracy]
   c. EPA has not consulted with the expert agencies—the FWS or National Marine Fisheries Service (NMFS)—on any neonicotinoid insecticide product registration or on the exempted coated seeds as required under the ESA when "effects" on any listed species or their critical habitats are foreseeable. Since ninety-five percent of the land area in the country that is affected by any neonicotinoid product is affected by the coated seeds, obviously consultation on the seeds' effects is required. The more than 140 million acres planted across the country overlaps the habitats of, or otherwise affects, literally *hundreds* of listed species. [lead = EFED/Tracy]
   d. The *obvious* failures to date are the three ESA-listed species for which the planting of neonicotinoid-coated seeds already are labeled by the FWS as significant factors in their listings, again, the rusty patched bumble bee, Dakota skipper and Poweshiek skipperling. [lead = EFED/Tracy]
7. Lack of Yield Benefits
   a. Two thorough reviews of the published science on crop yields by Petitioner Center for Food Safety (CFS), first in 2014 and then updated in 2016, show that use of neonicotinoid coated seeds actually provides no net yield benefit to farmers across the majority of crop planting contexts. [lead = BEAD]
   b. Not only can there be no yield benefits, in some cases there can be a yield reduction. [lead = BEAD]
8. Aquatic Contamination
   a. Recent studies address the severe aquatic contamination associated with neonicotinoids, which are water soluble. Their increasing contamination of ditches, streams, groundwater, lakes, rivers, and marine areas is now being documented. Researchers across the United States are finding high levels, exceeding vital standards set by experts to protect aquatic life. The coatings applied to crop seeds are a primary source of the contamination. [lead = EFED]

b. EPA failed to adequately consider pathways of contamination to aquatic systems when it approved the coating products. [lead = EFED/RD]
c. On January 12, 2017, EPA released its *Preliminary Aquatic Risk Assessment to Support the Registration Review of Imidacloprid.* While containing many conservative assumptions and admitted uncertainties, for seed treatment uses EPA found ongoing *chronic* effects for many aquatic invertebrates and some group likely to suffer *acute* effects. While EPA failed to do the required ESA Section 7 analysis, it is transparent that listed threatened and endangered aquatic invertebrates may be adversely affected by the same chronic and/or acute effects. [lead = EFED]

9. Labels On Neonicotinoid-Coated Seed Bags and Tags
    a. The label language for the bag tag is unenforceable by EPA's own statements and its inactions. [lead = OGC/OECA]
    b. Even were it enforceable, the seed bag or tag language is utterly inadequate to reduce or mitigate the harm caused by contaminated neonicotinoid dust and talc, or the grown plants themselves, to honey bees. The bag labels are inadequate to protect against the vast spectrum of other environmental and economic impacts, including, but not limited to, damage to soil health, harm to ESA-protected species and the extensive water contamination. [lead = OGC/RD]
    c. EPA misuses its labeling authority and arbitrarily assumes that the seed coating companies—applying the liquid coatings mostly in industrial buildings—can be given warnings and use directions adequate to ensure that FIFRA's safety standards will be met during the actual use of the pesticidal seeds in the environment. [lead = OGC/OECA]
10. Past Statements by EPA, USDA Officials and Others
    a. Past statements from the EPA show understanding of harmful effects from treated seeds due to systemicity and abrasion of dust off the seeds. [lead = PRD/RD/OGC?]
11. Other Systemic Seed Coating Chemicals
    a. EPA has already approved or has indicated its intent to approve, including, but not limited to, Fipronil, Sulfoxaflor, Cyantraniloprole and Flupyradifurone for seed treatment use. Some of these may not yet be registered for seed coating use; however, based on EPA's practices with the neonicotinoids, it is foreseeable EPA will approve them for that use. [lead = RD/OGC]

Respectfully,
Brett R. Gelso, Ph.D.
Economic Analysis Branch
Team Lead Economist
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