Californians For Pesticide Reform

May 20, 2019

Chair Mary Nichols and Board Members
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: 19-5-4: Californians for Pesticide Reform's Comments on CARB's Community Air Protection Incentives 2019 Guidelines

Dear Chair Nichols and CARB Board Members,

On behalf of the 190+ member organizations of the statewide coalition Californians for Pesticide Reform, I would like to thank CARB staff for their work on the Community Air Protection Incentives 2019 Guidelines ("Guidelines") and for the opportunity to weigh in on said plan. CPR is a diverse, statewide coalition of over 190 member organizations working with communities on the frontlines of pesticide exposure to strengthen pesticide policies in California and protect public health and the environment. Member groups include public and children's health advocates, clean air and water groups, health practitioners, environmental justice groups, labor, farmers and sustainable agriculture advocates from across the state. We work with Latinx farmworker communities throughout California, but particularly in the San Joaquin Valley and Central Coast, areas disproportionately burdened with multiple health hazards.

Importance of Explicit Inclusion of Area Sources

We are pleased to see the Guidelines' clear instruction that ". . . air districts must use CAP incentives to reduce emissions consistent with the Community Emissions Reduction Programs, where area-wide sources may also be considered." Pesticide Toxic Air Contaminant ("TAC") emissions from agricultural fields (area sources) are among the most concerning sources of pollution for agricultural communities, as reflected by the dominance of the issue in the AB 617 selected community of Shafter and by comments made by residents from the Calexico/El Centro/Heber selected region during CARB's AB 617 hearing in September 2018. To achieve clean air quality in agricultural communities, such as these, it is imperative that all agricultural sources of Toxic Air Contaminant and criteria pollutant emissions be taken into account.

Reducing Pesticide TAC Emissions Comports with California Climate Investments - Reduced Pesticide TAC Emissions Will Result in Lowered Greenhouse Gas Emissions, Volatile Organic Compounds (VOCs), and PM 2.5 Levels and Will Ensure Better Soil Health

A total of 47 pesticides, including drift-prone, hazardous fumigant pesticides and the neurotoxic pesticide chlorpyrifos are classified as pesticide Toxic Air Contaminants. The Department of Pesticide Regulation's ("DPR's") Pesticide Use Reporting Data reveals that California depends heavily on these fumigant and chlorpyrifos TAC pesticides, with approximately 40 million pounds of them applied each year to California fields.[i] The most heavily used pesticide TACs in California –

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fumigants – are among the most toxic pesticides applied to fields and are among the top 10 most highly hazardous pesticides used near schools.[ii] Residents are concerned about the chronic as well as acute health effects of exposure to these highly hazardous pesticides.

In addition to putting communities' health at risk, a number of these fumigant TACs – at least chloropicrin and the metam fumigants (approximately 21 million pounds of which are used each year) – cause the release of nitrous oxide (N_2O) at the time of application[iii], a greenhouse gas nearly 300 times more potent than carbon dioxide[iv]. One study alone reported a 700% increase in N_2O emissions following a chloropicrin fumigation[v]. Fumigant TACs are also ozone-contributing Volatile Organic Compounds, among the top 10 VOC sources in the San Joaquin Valley, accounting for as much as 5-10% of all VOC emissions in this ozone nonattainment area.[vi] Moreover, recent studies have documented fumigant TACs' contribution to secondary organic aerosols, a major component of PM2.5[vii]. PM2.5 is the dominant cause of criteria air pollutant health impacts, including lung and heart problems, which disproportionately affect environmental justice communities. Recent lab tests from UC Riverside found that MITC, the main breakdown product of metam fumigants, increased secondary organic aerosol formation 12-fold.[viii]

Besides their direct contribution to greenhouse gas emissions, pesticide TACs can be harmful to the climate in another way. They impair the soil's ability to sequester carbon.[ix] Fumigant and other pesticides disturb the biological community that plays an essential role in determining soil structure, organic matter content and key soil functions (e.g. infiltration, water-holding capacity, aeration, and cycling of nitrogen (N), carbon (C) and other nutrients). Nitrogenase activity, which is the key enzyme involved in nitrogen fixation has been shown to be less prevalent in soils exposed to pesticides.[x] In one study, applications of the Toxic Air Contaminant Captan was found to decrease the population of aerobic diazotrophs (nitrogen-fixing bacteria and archaea).[xi] When N fixation is inhibited, then greater nitrogen-based fertilizer applications (organic or synthetic) will be required, with the likely result of increased N_2O emissions.

CARB/Air District Authority Over Pesticide TAC Emissions After Pesticidal Use

CARB's authority to regulate pesticides listed as Toxic Air Contaminants (TACs) once they enter the ambient air is unimpeded by the Department of Pesticide Regulation (DPR) or any other agency, because a pesticide that is a TAC is no longer in DPR's exclusive jurisdiction once it enters the ambient air. The courts have ruled that while DPR has jurisdiction to regulate the application of pesticides that are TACs, CARB's regulatory authority to maintain jurisdiction of pesticides as TACs once they enter the ambient air is not divested, and is in fact, primary.[1] The California Supreme Court has pointed to lengthy legislative history and environmental laws as evidence that the California legislature intended to give CARB and Air Pollution Control Districts unimpeded authority to regulate the ambient air.[2] Thus, the legal authority of both CARB and APCDs to regulate pesticides once they enter the ambient air is clear.

Importance of Incentives to Support Farmers' Reduction of Pesticide TAC Use

We urge CARB to explicitly recognize small- and medium-scale farmers as eligible for incentive funding to reduce, and transition off of, TAC pesticides, in favor of more ecological practices. Farmers willing to transition off of pesticide Toxic Air Contaminants through adoption of more ecological pest practices, such as biological, cultural, non-chemical, and least toxic pest

[1] *Harbor Fumigation, Inc. v. County of San Diego Air Pollution Control Dist.* (1996) 43 Cal. App. 4th 854, 870
[2] *W. Oil & Gas Assn. v. Monterey Bay Unified Air Pollution Control Dist.*, 49 Cal. 3d 408

management practices, should be eligible for AB 617 incentive funding. However, we do not think farmers should be eligible for AB 617 incentive funding if their plans are simply to adopt other equally regrettable pesticide alternatives, such as pesticides recognized by the state of California as carcinogens, reproductive and developmental toxicants, cholinesterase inhibitors, or priority pesticides for assessment and monitoring.

Special Considerations in Providing Farmer Incentives

- AB 617 incentives funding should be available to cover all aspects of implementation of more ecological practices: from seeking expertise from technical advisers (e.g., from Resource Conservation Districts, Cooperative Extension, and IPM specialists) to on-farm implementation, to sharing of lessons learned through on-farm demonstrations and other peer-to-peer education.
- We realize that unlike some other types of emissions reductions, reducing pesticide TAC emissions is not necessarily as simple a process for farmers as purchasing a better filtration system. Changes at the farm level can be more complicated than emissions reductions in other sectors. We recognize that changing farming practices is a multi-step, multi-year process and urge that AB 617 incentives be made available in accordance with the special needs of farmers.
- AB 617 incentives funding should provide additional support so that lower-income and socially-disadvantaged farmers can effectively access this funding and any additional resources available, in accordance with the Farmer Equity Act of 2017.
- The Guidelines propose the applicant for funding must provide at least 15% of a project's CAP incentives eligible costs from non-public sources. This is not a realistic requirement for small- and medium-scale farmers who often operate on the very margin of survival.
- For similar reasons, we believe it is important that farmers be eligible for advance payments and not simply reimbursement for their incurred costs.
- The Guidelines discuss the importance of ensuring the cost effectiveness of funded projects. Again, it is likely that some of the changes made at the farm level could be more costly than emissions reductions strategies in other sectors. However, we hope and expect that CARB would take into account the benefits to communities of improved health, including fewer incidences of asthma, hospital visits, allergies, fewer diagnoses of behavioral and cognitive disorders, as well as protection of water and soil resources, and provision of ecosystems services, such as the protection of pollinators. A true measure of cost effectiveness is impossible without taking these benefits into account.

Co-benefits of Reducing Pesticide TACs, Especially for Children

We are encouraged by CARB's recognition of the importance of supporting projects that provide co-benefits. By providing incentives to farmers to reduce their use of pesticide TACs, California would also be supporting climate change mitigation and resilience as well as helping to protect community health through reduction of air, soil and water contamination and by safeguarding the agricultural and natural ecosystems upon which we all depend. Moreover, reduction in use of, and exposure to, these pesticide TACs would help address the disparate health impacts experienced by farmworkers and rural communities living next to fields—mostly poor people and people of color. Finally, in the midst of an insect apocalypse, reduction in TAC pesticides would help to protect critical biodiversity, particularly of pollinating insects, upon which we're reliant for continued food production, along with healthy soil.

Importance of Grounding AB 617 in Community

As described in the Guidelines, ". . . the Community Air Protection Program has the primary objective of being responsive to community concerns and priorities to provide immediate air quality benefits. . .". CARB calls on the Air Districts to ". . . actively engage with members of heavily-impacted communities, follow their guidance, and address local sources of concern." In light of these directives, it is imperative that the community play a more significant role in the following:

- Program nonperformance by the air districts should include failure to center/abide by community priorities.
- Rather than simply withholding funds from areas in need, if an air district remains in non-compliance of its AB 617 obligations, CARB should step in and help implement AB 617 directly on the ground, rather than punish the local communities for the failure of a local air district to do its job.
- Review of compliance and incentives program review should incorporate feedback from local Steering Committee members.
- In selected AB 617 communities, Community Steering Committees should determine selection of projects, rather than simply being informed about the ones selected by air districts.

We Support Staff's Proposal that the Board Delegate Authority to the Executive Officer to Add New Project Categories

We believe allowing the Executive Officer to add new project categories in order to respond to local needs is appropriate and in alignment with the intentions of AB 617 to address local air quality concerns. As noted in the Guidelines, "A number of communities have already identified some high-priority concerns, but conversations are still ongoing, and many communities are likely to identify additional opportunities." It is critical that AB 617 is flexible enough to ensure that all local concerns are addressed and that all sources of Toxic Air Contaminants and criteria pollutants are incorporated.

Sincerely,

Sarah C. Aird
Co-Director

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[i] According to the California Department of Pesticide Regulation's 2016 Pesticide Use Reporting data, ~14 million pounds of the fumigant 1,3-dichloropropene (Telone), ~8.5 million pounds of the fumigant chloropicrin, ~12.5 million pounds of the MITC-generating fumigants metam sodium and metam potassium, ~2.5 million pounds of methyl bromide and ~900,000 pounds of chlorpyrifos were used in 2016 alone. *https://www.cdpr.ca.gov/docs/pur/pur16rep/top_100_ais_lbs_2016.pdf* .

[ii] California Department of Public Health, California Environmental Health Tracking Program, Public Health Institute. "Agricultural Pesticide Use Near Public Schools in California," April 2014. https://www.indybay.org/uploads/2014/04/29/agricultural_pesticide_use_near_public_schools_in_california.pdf

[iii] Spokas K, Wang, D, Venterea R. "Greenhouse gas production and emission from a forest nursery soil following fumigation with chloropicrin and methyl isothiocyanate." *Soil Biology & Biochemistry*, Volume 37, Issue 3, March 2005. 475–485. https://doi.org/10.1016/j.soilbio.2004.08.010

[iv] Greenhouse Gas Emissions: Overview of Greenhouse Gases - Nitrous Oxide Emissions, *https://www.epa.gov/ghgemissions/overview-greenhouse-gases*.

[v] Spokas K, Wang D. "Stimulation of nitrous oxide production resulted from soil fumigation with chloropicrin." *Atmospheric Environment*, Volume 37, Issue 25, August 2003. 3501-3507. *https://doi.org/10.1016/S1352-2310(03)00412-6*.

[vi] CARB, "Community Air Protection Incentives 2019 Guidelines." 2-2: "Oxides of nitrogen (NOx) reductions remain important in ozone nonattainment areas and may be a co-benefit of some projects."

[vii] U.S. EPA, "Secondary Organic Aerosol (SOAs) Research," *https://www.epa.gov/air-research/secondary-organic-aerosol-soas-research*.

[viii] Yee L.D., Warren B.A., Cocker III D.R. "Secondary Organic Aerosol (SOA) and Ozone Formation from Agricultural Pesticides." *University of California Riverside Undergraduate Research Journal*, Volume II, 2008. 67-74. *http://ssp.ucr.edu/files/V2-2008.pdf*.

[ix] Fox JE, Gulledge J, Engelhaupt E, Burow ME, McLachlan JA. "Pesticides reduce symbiotic efficiency of nitrogen-fixing rhizobia and host plants." *Proceedings of the National Academy of Sciences USA*, Volume 104 , June 2007. *10.1073/pnas.0611710104*.

[x] Id.

[xi] Martınez-Toledo MV, Salmeron V, Rodelas B, Pozo C, Gonzalez-Lopez J. "Effects of the fungicide Captan on some functional groups of soil microflora." *Applied Soil Ecology*, Volume 7, 1998. 245–255. *https://doi.org/10.1016/S0929-1393(97)00026-7*.