Californians For Pesticide Reform

January 17, 2017

Via Online Submission

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Re: Comments on Revised Proposed Short Lived Climate Pollutant Reduction Strategy

On behalf of the 190+ member organizations of the statewide coalition Californians for Pesticide Reform, I would like to thank ARB staff for their work on the November 2016 Revised Proposed Short-Lived Climate Pollutant Strategy and for the opportunity to weigh in on said strategy. I also write to express the coalition's concerns that: a) little progress has been made to lay out a comprehensive strategy to reduce sulfuryl fluoride emissions and b) that ARB focus its methane reduction efforts on incentivizing the adoption of appropriately-managed carbon grazing practices rather than prioritize the construction of polluting high-tech methane digesters.

Sulfuryl Fluoride (SO_2F_2)

ARB states that "[a]dditional research is required before sulfuryl fluoride mitigation measures can be proposed" and that "ARB will continue working with DPR to assess mitigation measures to sulfuryl fluoride emissions."[1] Although ARB has developed a timeline for developing and implementing measures intended to reduce other SLCPs, we are concerned that ARB has established no plan or timeline to begin reducing sulfuryl fluoride emissions, which ARB notes comprise 20% of the state's F-gas emissions. SO_2F_2 is also – as CPR Steering Committee member organization Pesticide Action Network documents in their attached comments on ARB's September 2015 "Draft Short-Lived Climate Pollutant Reduction Strategy" – an extremely toxic pesticide of grave public health concern.

In 2015, ARB stated it would "continue to monitor the use of [sulfuryl fluoride] as well as potential substitutes."[2] In its November 2016 draft proposal, ARB commits only to "continue working with the DPR to assess mitigation measures to sulfuryl fluoride emissions,"[3] with no details provided about what this work entails, whether there are deadlines attached, additional research being promoted, etc.

[1] *"Revised Proposed* Short-Lived Climate Pollutant Strategy," Air Resources Board, November 2016, p. 97.
[2] "Draft Short-Lived Climate Pollutant Reduction Strategy," Air Resources Board, September 2015, p. 57.
[3] *"Revised Proposed* Short-Lived Climate Pollutant Strategy," Air Resources Board, November 2016, p. 97.

As ARB notes, sulfuryl fluoride's main use, accounting for 82 percent of all usage in 2013, is as a structural pest control fumigant to kill drywood termites in homes and buildings. ARB notes that many termite control companies have "begun using alternative termite control methods, including orange oil, structure heating or extreme cooling, microwaves, and electricity."[4] Yet one of the concerns ARB implies through its citations to the state of Florida's Department of Agriculture and Consumer Services guide for residential homeowners on termite treatment and the University of California at Riverside's Department of Entomology July 2009 review of sulfuryl fluoride structural fumigation is that other treatments are not as comprehensive and effective. Yet at least one orange oil product – XT-2000 Orange Oil – currently being used on the market – has been identified, along with fumigations and heat, as a primary treatment that puts entire structures under warranty. Many pest control companies using orange oil offer multi-year warranties, often equivalent to fumigation warranties.[5]

No pest control method guarantees against future infestations, and it is problematic for ARB not to take more serious action in light of the fact so many termite businesses today offer existing, frequently-used alternatives to sulfuryl fluoride, such as orange oil and heat to control termites. We do not believe it is reasonable for ARB to refrain from acting until there is peer-reviewed science about those methods' equal effectiveness when there is on-the-ground market proof of these alternatives' effectiveness and existing science shows how harmful sulfuryl fluoride is to both the climate and human health.

Considering that sulfuryl fluoride is an extremely potent short-lived climate pollutant, reported by ARB to have a GWP of 6,840 and comprising 20% of the state's F-gas emissions, it is incumbent on ARB to take stronger measures to implement restrictions on the use of SO_2F_2. We believe sulfuryl fluoride's significant contribution to greenhouse gas emissions as well as the viability of alternative treatments and the co-benefits of alternative treatments, such as orange oil, impel ARB to work with DPR to immediately begin phasing out the use of sulfuryl fluoride, at least with respect to structural fumigation. We urge ARB to begin working with DPR on a phase out plan.

Methane

In relation to the goal of reducing methane emissions by 40% by 2030, we strongly encourage ARB to look at *land management* as a key component of agriculture-related methane production and not just focus on costly, high-tech methane digesters as a solution, which often result in localized pollution in disadvantaged communities. In appropriately-managed rotationally grazed perennial grasslands and shrublands – the very same that have the greatest carbon sequestration potential – actively growing plants (herbaceous to woody) and the soil ecosystem work together to ensure that more carbon is sequestered than emitted, easily compensating for the methane produced by livestock.[6] We urge ARB to support pasture-based strategies to achieve methane reduction and air and water quality co-benefits.

Sincerely,

Sarah Aird, Co-director
Californians for Pesticide Reform

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[4] *Ibid.*

[5] http://www.pacificcoasttermite.com/termite-control/treatments/xt2000-orange-oil/, http://www.planetorange.com/termite-and-pest/, https://eliminitetermite.com/faq/

[6] a. Jones, C. 2010. The Back Forty Down Under: Adapting Farming to Climate Variability. The Quivira Coalition Journal No. 35, pp. 11-16.

b. Frisch, T. 2015. SOS: Save our Soils: Dr. Christine Jones Explains the Life-Giving Link Between Carbon and Healthy Topsoil. Acres Vol 45, No.3.

PESTICIDE ACTION NETWORK • NORTH AMERICA

RECLAIMING THE FUTURE OF FOOD AND FARMING

October 30, 2015

California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Sulfuryl Flouride not adequately addressed in SLCP Draft Strategy

I am writing to urge the California Air Resources Board to more completely and comprehensively address sulfuryl fluoride (SO_2F_2) in the Draft Short-Lived Climate Pollutant Reduction Strategy (Draft Strategy), consistent with the requirements of SB 605.

Sulfuryl fluoride is an extremely potent short-lived climate pollutant, reported in the Strategy to have a 20-year GWP of 6,840 and effectively comprising 25% of the states F-gas emissions. It is an extremely toxic pesticide of grave public health concern; it is a neurotoxin, the cause of fatalities, illness and disabilities among workers and the consuming public.

Because of this, sulfuryl fluoride has been banned in Europe from 2007 onwards in agriculture and from 2010 on, in quarantine/pre-shipment uses.

The U.S. EPA proposed in 2011 to ban the national use of sulfuryl fluoride over a three-year period, finding that "when combined with other fluoride exposure pathways, including drinking water and toothpaste, EPA has concluded that the tolerance (legal residue limits on food) [of sulfuryl fluoride] no longer meets the safety standard under the Federal Food, Drug, and Cosmetic Act (FFDCA) and the tolerances for sulfuryl fluoride should be withdrawn." [1] At least 45 published studies have reported an association between fluoride and reduced IQ in children.[2]

Despite these moves in Europe and the USA to eliminate the use of sulfuryl fluoride, its global use is increasing rapidly (e.g., by roughly 5%/year 1999-2007[3]) with California as leader in its use. California is the world's largest single emitter of this potent SLCP.

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[1] http://archive.epa.gov/agriculture/ag-center-archive/web/html/napr11.html#sulfuryl
[2] http://fluoridealert.org/studies/brain01/

[3] "Sulfuryl fluoride in the global atmosphere", J Huang et al., Journal of Geographic Research, Vol. 114, Issue D10

The SLCP legislation (SB 605, Lara) assigns the duty to "complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state" including, by definition, sulfuryl fluoride. However, within the draft Strategy, SO_2F_2 is barely mentioned, with but a summary paragraph in the Strategy, repeated verbatim in Appendix A. In terms of "identifying research needs to address any data gaps" (SB 605), the research needs (Appendix B) has only one sentence regarding SO_2F_2.

Additional requirements of SB 605 that have not been met include:

- "Complete an inventory of sources and emissions of short-lived climate pollutants"

  Rationale: Each sector of use needs to be fully identified and characterized before emissions can be addressed. It is not enough to refer to DPR records.

- "Assessment of the current status of controls that directly or indirectly reduce emissions"

  Rationale: there are alternatives available in every sector, each with its own considerations. These must be fully described and assessed before emissions can be addressed.

- "Identification of opportunities and challenges for controlling emissions"

  Rationale: again, alternatives to SO_2F_2 exist and need to be fully identified

- "Recommendations to further reduce emissions"

  Rationale: without specific recommendations on next steps, no Strategy has been identified, let alone a "comprehensive strategy" as mandated by SB 605.

A pollutant of this importance, being a serious threat to public health and the environment both as a growing climate-forcing agent, and as a dangerous pesticide, must be given full consideration in the Strategy as mandated by law. To ignore SO_2F_2 is to revert from California as leader in addressing climate change and public health, to California as promoter of the global adoption of this toxic short-lived climate pollutant.

Sincerely,

Margaret Reeves

Senior Scientist