



18 January 2023

California Department of Pesticide Regulation

CalEPA Headquarters

1001 I Street

Sacramento, California 95814

Specific email address for comments on proposal: < dpr22005@cdpr.ca.gov >

RE: *“TEXT OF PROPOSED REGULATIONS: Title 3. California Code of Regulations, Division 6. Pesticides and Pest Control Operations, Chapter 2. Pesticides, Subchapter 4 Restricted Materials, Article 4. Field Fumigation Use Requirements, Amend section 6448 to read:” and “California Environmental Protection Agency, Department of Pesticide Regulation, 1,3-Dichloropropene Field Fumigation Requirements, Established January 1, 2024”.*

TriCal appreciates the opportunity to comment on DPR’s proposed regulations on 1,3-D. We acknowledge the significant effort undertaken by DPR to obtain new and relevant field-scale, empirically-derived 1,3-D fugitive emissions data for use in their proposal. Regulatory decisions and policies that directly and significantly affect any regulated community must prioritize empirical data as the most reliable source of data, should carry more weight than modeling exercises, and should be used to refine model inputs that are often subject to numerous, and often excessively conservative, assumptions. Below are specific comments on (1) toxicological endpoints; (2) setbacks to occupied structures; (3) the new soil moisture requirement; (4) the requirement for 24-inch injection specifically for tree and vine applications; and (5) refining the 50% tarping method.

1. Toxicological Endpoints

DPR’s proposed special regulation, unique to California, is only necessary because DPR has chosen to be significantly more conservative than the global regulatory community (e.g., USEPA; the European Food Safety Authority, the Australian Pesticides and Veterinary Medicines Authority, the Japanese Ministry of Agriculture Forestry, and Fisheries, and others) regarding the subjects of 1,3-D acute and long-term inhalation toxicity. Importantly, this is particularly true when comparing the regulatory approaches taken by the United States Environmental Protection Agency’s Office of Pesticide Programs (USEPA-OPP) for this product to that proposed in the DPR draft regulation. Compared to USEPA-OPP’s current (2019-2022), comprehensive evaluation, DPR’s approach to regulating exposure potential encountered by non-occupational bystanders to 1,3-D exaggerates acute inhalation toxicity by 45-fold (USEPA-OPP acute inhalation endpoint 2,519 ppb vs. Cal-DPR endpoint of 55 ppb). Similarly, DPR’s approach exaggerates long-term/lifetime inhalation toxicity by 54-fold (USEPA-OPP long-term exposure endpoint is 30.2 ppb vs. Cal-DPR endpoint of 0.56 ppb). In stark contrast with DPR, USEPA-OPP, in its 2019-2022 comprehensive evaluation, found the potential risks associated with acute and long-term, non-occupational bystander inhalation exposures to 1,3-D to be acceptable, with no need for additional regulation beyond the current federal label.

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The excessive degree of conservatism employed by DPR leads to significantly different regulatory outcomes compared to Federal and Global regulatory agencies that have conducted modern, comprehensive evaluations of 1,3-D. These uneven regulatory outcomes place California growers that rely on 1,3-D for pre-plant nematode control at a serious competitive disadvantage to growers in other states and countries. As DPR has previously acknowledged, there is no commercially viable alternative to 1,3-D for pre-plant nematode control. The net effect of overtly conservative regulations, such as what is presently being proposed, means loss of agricultural output from California and higher food costs to residents of California.

2. Setbacks to Occupied Structures:

DPR's proposed definition of occupied structures will help reduce interpretation discrepancies and confusion at the County enforcement level. Per DPR, occupied structures will include, "*residences, onsite employee housing, schools, convalescent homes, hospitals, businesses, or other similar sites identified by the CAC.*". We appreciate the further clarification by DPR that, "*non-residential agricultural buildings, including barns, livestock facilities, sheds, and outhouses, are not by default considered to be an occupied structure.*", as these structures are only occupied for very short durations of time. We seek clarification from DPR that as long as these non-residential agricultural buildings are not occupied for at least 24 consecutive hours that they are not to be considered occupied structures and are therefore not subject to the setback distance in effect.

The setbacks for some application methods are excessively large and present a significant burden for growers. This is especially true for applications that do not utilize TIF tarps and need to occur in the Nov-Dec-Jan-Feb "winter season" due to cropping cycles or a historical reliance on natural rainfall to meet the current and pending soil moisture requirements. The approach used by DPR to model the proposed setbacks, while technically sound, used a weather dataset from Parlier (DPR, 2022) because that dataset resulted in the highest concentrations and hence the largest setbacks, compared to weather data from 9 other high fumigant use locations in the state that DPR evaluated. As a result, growers in those areas where the local meteorological conditions (microclimate) results in a lower incidence of inversions and low wind speed conditions, and concomitantly lower 1,3-D concentrations in ambient air would be required to implement larger setbacks than would actually be required to meet the 72-h 55ppb acute threshold. To allow more flexibility for growers in less vulnerable regions of the state that utilize non-tarped applications and rely on natural rainfall to meet the current (and proposed) soil moisture requirement, we request that DPR consider revising the proposed setbacks by using county-level meteorological data to account for subregional differences, instead of the currently proposed "one size fits all" statewide approach. A preliminary analysis of CIMIS weather data shows that Kern County, for example, has a significantly lower frequency of low wind speed conditions than some other counties within the San Joaquin Valley (e.g., Merced County), yet under the current proposal, all areas, statewide, are required to implement setbacks that are based on the meteorologically worst-case location and hence will be larger than required to ensure safety.

Growers need flexibility, everyone wishes to conserve water, and the potential for refined regional or subregional setback tables for each 'grouping' of application methods may help achieve this. Grower reliance on natural rainfall to meet DPR's proposed higher soil moisture requirement will only increase under these new regulations, and if growers are forced to do applications in the March-Oct period to avoid the excessively large setbacks proposed for the Nov-Feb period statewide, the sum total of water that would be used, and not conserved for other purposes, could be significant. For example, if 10,000 acres/year of non-tarped crops now have to shift their application dates from their current application timing (Nov or Feb) to March-October to avoid large setback distances and therefore must now use irrigation to achieve the new soil moisture requirement (i.e., DPR's prescribed 3 inches of water per acre), then this will equate to approximately 814 million gallons of water/year used (10,000 acres * 3 acre-inches of water/acre * 27,154 gallons per acre-inch water). This seems a wasteful use of a limited natural resource, and is one that potentially can be tempered by using refined modeling approaches to better reflect exposure potential by analyzing inversion frequencies and durations on a regional or subregional basis as opposed to a statewide-by-month basis.

3. Soil Moisture Requirement:

Under "Soil Moisture Requirements", DPR proposes three (3) options for compliance with "*the minimum soil moisture of 50% of field capacity at a depth of three to nine inches below the surface when the fumigation occurs*". While we agree with the defined depth as a means to significantly reduce 1,3-D emissions potential without sacrificing product efficacy and the general need for a soil moisture requirement, we note that:

- A. To be consistent with USDA's Feel & Appearance Method and other USEPA- and DPR-approved fumigant labels that are the basis for DPR's proposed soil moisture text, the correct terminology is "Available Water Capacity (AWC)", which is similar to, but not synonymous with, "field capacity".
- B. DPR should consider consulting with soil scientists and irrigation experts on the suitability of DPR's Option 1, which reads, "*Irrigate with three inches of water 48-72 hours prior to fumigation with 1,3-D.*". Based on our experience, this would be too much water for some soil types, such as those with high clay and/or silt content. Instead of a static volume of water prescribed for any soil type or existing level of soil moisture, it may be more appropriate to simply require "a minimum of 50% Available Water Content at a depth of three to nine inches below the surface when fumigation occurs.", and then allow the growers and their irrigation specialists to determine how much water is needed to achieve this soil moisture requirement on any given field.

C. Requirement for 24-inch injection specifically for Tree and Vine applications:

DPR proposes that tree and vine applications must utilize 24-inch injection, instead of the current standard 18-inch injection. This proposal aims to apply additional and specific conditions to a group of crops (perennials), instead of relying on the proposed regulatory framework (setbacks) to mitigate bystander risk. Consider a scenario where there are no occupied structures within 500 feet of a 20-acre walnut replant field that will be fumigated in March. Under the proposal, tree and vine growers would be specifically prohibited from using an 18-inch injection depth, yet a grower of another high/max use rate crop would be allowed to use the 18-inch injection method. Grower access to different application methods should be controlled by setback distances and application timing, and should not be based on the type of crop that will be eventually planted into the treated field.

D. Refining the 50% Tarping Method:

While the regulatory intent and benefit of this new method are clear, we note that a 50% (strip) tarping requirement will not necessarily benefit the grower. If the added expense of strip tarping is assumed by some growers, it would be significantly more beneficial to these growers if the fumigated strips aligned with the intended tree rows of the pending orchard. Few, if any growers, will adopt this new application method if the tarped strips are out of alignment with the pending tree rows.

Tree row spacing differs by tree type. For example, walnuts may be on 25-foot tree row spacing while almonds may be on 21-ft tree row spacing. Given that commercial strip fumigation film results in an 11-foot treated swath, the percentages of a hypothetical field strip tarp fumigated with tarped strips that aligned with the eventual tree rows would range from 40% to 60%. We request that DPR evaluate the lower-bound scenario of 40% tarp coverage to see if this still meets DPR's emissions reduction goal when used in combination with the other requirements for tree and vine applications, such as higher soil moisture and/or deeper injection depth.

Reference Cited:

Luo, Y. 2022. Modeling for mitigation measures to reduce acute exposure from 1,3-Dichloropropene, modeling approach #1. DPR Memo.

Sincerely,

A handwritten signature in black ink that reads "Mike Stanghellini". The signature is written in a cursive, flowing style.

Mike Stanghellini
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