



# PEST CONTROL OPERATORS OF CALIFORNIA

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Nan Singhasemanon  
Assistant Director  
Pesticide Programs Division  
Department of Pesticide Regulation  
Sent via email:  
[Nan.Singhasemanon@cdpr.ca.gov](mailto:Nan.Singhasemanon@cdpr.ca.gov)

Dear Nan,

The Pest Control Operators of California (PCOC) appreciates the opportunity to comment on the draft Statement of Work (SOW) for the California Council on Science and Technology (CCST) to conduct a study on fumigants and fumigant alternatives. As a non-profit trade association that represents 80+ percent of California's total pest control operators, we are a key stakeholder that can provide the breadth and depth of technical and practical expertise as well as institutional insights that are critical to ensuring that this study is conducted with practical and scientific integrity. We are writing to provide background on the structural fumigant market in California and why sulfuryl fluoride is an essential tool as well as to comment on the draft SOW.

### **Background information about the structural fumigant market.**

Sulfuryl fluoride has been used to control economically significant pests in California, *Incisitermes minor*, a species of termite in the family of *Kalotermitidae* commonly known as the western drywood termite, and powder post beetles, which are of the *Lyctinae* family, in structures since 1961. Sulfuryl fluoride became the primary residential fumigant after Methyl Bromide was discontinued in the late 1990s. In fact, Dow AgroSciences was awarded the Stratospheric Ozone Award by The Environmental Protection Agency (EPA), as sulfuryl fluoride was deemed The Alternative Treatment for its replacement of Methyl Bromide in 2002.

Drywood termites are primarily located in California, Hawaii, and through the southeastern United States, such as Florida and the Caribbean. This pest requires specific climatic conditions to exist and thrive. The importance of delivering a property with the designation of "termite-free" as part of a real estate transfer is critical for Californians. If left untreated, drywood termites and wood-destroying beetles can cause extensive damage to wood members within the structure. In many cases, the affected timbers can be the ones that support the structural integrity of the building, which, if left unchecked and untreated, can result in significant and expensive damage, upwards of \$18 billion<sup>1</sup> annually. In fact, there is currently a university research study under peer-review for publication in the Economic Journal of Entomology that will have many more details on the economic fallout for Californians if they do not have access to essential tools like fumigation. For most citizens of California and the rest of the United States, their home is the most valuable asset they own.

<sup>1</sup> Zilberman, D., and Lewis, V. 2022. *The economic benefits model supports the use of sulfuryl fluoride for drywood termites in California*. Methyl Bromide Alternatives Organization Conference Presentation, San Diego, CA, slide 5.

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### EXECUTIVE OFFICES

1510 J STREET, SUITE 230 • SACRAMENTO, CA 95814 • PH: (916) 372-4363 • FAX (916) 372-5437  
[WWW.PCOC.ORG](http://WWW.PCOC.ORG)

In the fiscal year 2022, there were roughly 800,000 wood destroying organism (WDO) inspections conducted in California. However, only 115,000 fumigations were conducted based on those inspections, which equates to 12- 15% of the jobs inspected resulting in fumigation in California. The remaining 85-88% of treatments utilized localized spot treatments, the applications for and limitations to which are described further below.

Additionally, the California Structural Pest Control Act (SPCA) defines what constitutes an inaccessible area in 1990(b)(2):

*Inaccessible subareas or portions thereof and areas where there is less than 12 inches of clear space between the bottom of the floor joists and the unimproved ground area. And 1990(d) Even though the licensee may consider the following areas inaccessible for purposes of inspection, the licensee must state specifically which of these areas or any other areas were not inspected and why the inspection of these areas is not practical: furnished interiors; inaccessible attics or portions thereof; the interior of hollow walls; spaces between a floor or porch deck and the ceiling or soffit below; stall showers over finished ceilings; such structural segments as porte cocheres, enclosed bay windows, buttresses, and similar areas to which there is no access without defacing or tearing out lumber, masonry or finished work; built-in cabinet work; floors beneath coverings, areas where storage conditions or locks make inspection impracticable.*

At the point that an area is defined to be inaccessible, the only effective alternative to fumigation, based on decades of research, is to deface / tear down portion(s) of the structure and rebuild, which is economically infeasible. To fully identify the extent of the infestation and the size/location of the colony(s), further destructive exploratory examination would be necessary. Opening, removing, tearing down, and otherwise defacing building construction elements would require consultation with contractors and architects with knowledge of local building codes and load bearing framing design for safe removal and replacement of damaged structural timbers. This process can only reasonably be done at a Time and Material rate with true costs unknown and uncapped to consumers. The best inspection tool in the industry today is visual inspection.

Fumigations are highly regulated and frequently inspected by the County Agricultural Commissioners in California. Fumigations resulting from a wood-destroying organism report are required by law according to the SPCA to be performed by licensed pest control operators. Before a property undergoes fumigation, it is inspected to determine the extent, if any, of infestation within the structure, including the attic, subareas, and living spaces. If these infestations are known or suspected to be in wall voids or inaccessible areas, then fumigation of the entire space or structure is recommended. These regulations are specified in SPCA 1991 (A) which states:

- (8) Exterminate all reported wood-destroying pests. Such extermination shall not be considered repair under section 8516(b)(12) of the code. If evidence indicates that wood-destroying pests extend into an inaccessible area(s), recommendation shall be made to either:*
- (A) enclose the structure for an all-encompassing treatment utilizing materials listed in Section 8505.1 of the code,*
  - or*
  - (B) use another all-encompassing method of treatment which exterminates the infestation of the structure, or*
  - (C) locally treat by any or all the following:*
    - 1. exposing the infested area(s) for local treatment,*
    - 2. removing the infested wood,*
    - 3. using another method of treatment which exterminates the infestation. (If any recommendation is made for local treatment, the report must contain the following statement: "Local treatment is not intended to be an entire*

*structure treatment method. If infestations of wood-destroying pests extend or exist beyond the area(s) of local treatment, they may not be exterminated.”)*

It is critical to note that local spot treatments are not considered alternatives to fumigation, which is an all-encompassing treatment. Local spot treatments can only be utilized when the infestation can be accurately identified, through visual inspection. As an example, SPCA 1999.5: False and Misleading Advertising was added in 2001 because of a significant rise in consumer complaints filed against companies that were over-marketing the effectiveness of alternative treatments, suggesting that they were comparable applications to whole structure fumigation.

Over the years, some industry practitioners have utilized freezing (liquid nitrogen), microwave systems, electrocution, dust and liquid termiticides, and citrus-based products in an attempt to eliminate infestations. These treatments have limited application and do not affect colonies that extend into inaccessible areas (i.e., they are solely spot treatments because they can only affect the specifically treated wood member, or localized “spot”). The SPCA recognizes heat treatment as an all-encompassing treatment option; however, most applicators offering heat treatments limit their use to smaller structures or to specific area treatments due to significant limitations in scalability and efficacy on larger, more complex construction. Additionally, industry has been involved in significant research into potential alternatives over the years. Most studies evaluated potential alternatives for efficacy compared to fumigation. These continuous evaluations have all concluded that there are no viable alternatives to fumigation at this time, despite decades of research.

In addition to wood boring insects, bedbugs, rodents, and cockroaches are significant public health pests, which have also become increasingly impactful to Californians, for which sulfuryl fluoride is uniquely able to treat. Without the use of fumigation for these public health pests, consumers, many of them living in low-income and multi-family housing, are forced to deal with traumatic infestations for extended periods of time. Bed bugs are often resistant to localized treatments or require several treatments to impart efficacy, meanwhile occupants are living with bed bugs and spreading them everywhere they go.

Regarding efforts for increased oversight, PCOC sponsored legislation establishing The Structural Fumigation Enforcement Program. This program created a “self-tax” for every fumigation performed in key counties. Funds collected under this program are used to supplant existing state funding, allowing California County Agricultural Commissioner offices to double the number of inspections performed annually and improving the overall practices of our industry with regards to worker and public health and safety.

In addition to strict adherence to federal regulatory requirements, fumigations in California adhere to the most restrictive registered labels, state regulations, and county inspections in the world as dictated by California regulations (e.g., California Aeration Plan) to ensure safety for workers, residents, and bystanders. In collaboration with DPR, each phase of the fumigation process has been methodically evaluated and scientifically engineered to provide margins of safety for everyone involved. Collaboration and continued communication and dialogue has greatly improved the practices of the industry and protected workers and public health through the years.

In addition to structural fumigations, PCOC also represents California pest control companies that perform fumigation for post-harvest applications for the domestic food supply, and quarantine and pre-shipment (QPS) applications required by USDA and other countries. These applications are critical to the US food supply and US trade for our economy.

## Food Safety:

- Through the Food Safety Modernization Act (FSMA) which became law on January 4, 2011, food handling facilities are required to have adequate plans in place to prevent and respond to potential threats to the safety of domestic food supply. Access to effective pest management tools, including fumigation with sulfuryl fluoride are necessary to comply with the specific requirements and public health protection objectives of FSMA. Many times, fumigants are included into an integrated pest management (IPM) program at pre-determined levels alongside other treatment methods, such as sanitation, pheromone trapping, and rodent monitoring/trapping, or may be used as a last resort when these IPM methods are ineffective. Regardless of how fumigation fits into a facility's IPM program, restricting or eliminating the ability to fumigate could cause the business to violate FSMA regulations, jeopardizing food safety, or force the use of alternative pest management strategies that pose greater risks to public health, our food supply, and the environment.

## Quarantine and Pre-Shipment:

- For Quarantine and Pre-Shipment exports, fumigation is a requirement by the government (USDA) as well as foreign trade regulations by receiving countries. Post-harvest fumigation has had multiple grants offered and studies conducted on various fumigants and alternatives to fumigation – most of these have been conducted by members of the USDA-ARS team. These phytosanitary regulations are global requirements that would need careful exploration and discussion with not only USDA, but all country governments that receive goods from the United States.

## Comments on the draft SOW.

Given the significant impact that the findings of this study may have on future regulatory and policy decision-making, it is critical that this study design provide the basis for a robust and accurate assessment of the identified fumigants and potential alternatives especially because the identified fumigants provide necessary and unique services in California. Many aspects of the study that CCST is being asked to conduct, specifically looking at alternative treatments, have been completed by various independent third-party researchers over the past several decades. The results of some of these prior studies have provided the foundation for the laws and regulations currently in place with regards to termite inspections, reporting, and treatment.

It has been noted that the CCST team will be the suggested body to run this research project. PCOC believes this suggestion is pre-conceived and raises concern over bias for a team that is not experienced in this field of research science. We, therefore, request substantiation for why CCST is recommended to lead this research project. The process for a study of this magnitude of significance not only to the pest control industry, but also the residents of California should be put out to bid with Requests for Proposals (RFPs) submitted for consideration. We believe the UC system is best equipped to tackle such a multi-faceted study, based on their expertise, allowing for a scientifically substantiated process and credible results.

In the assessment of any potential alternatives, it is critical that the uses of the identified fumigants are considered with sufficient detail and specificity to ensure that any prospective alternatives fit the exact niche. For example,

- It is not sufficient to just identify the pests intended to be controlled by the identified fumigants (Section A1).
- The life-stage of the pest, the season or timing of use to account for pest pressures, and other pest-specific factors must be considered. Similarly, the use sites and timing of applications must also be considered in more robust detail than is currently framed (Section A3).
- Additionally, efficacy is not the only consideration when other pesticide groups/chemistries or potential alternatives are assessed because the viability of any solution is much broader than solely efficacy (Sections A2). Finally, if the potential risks of the identified fumigants are considered, then the benefits must also be considered (Section A5).

- The current draft SOW is written in such a way that presumes fumigant alternatives to the identified already exist, which is inappropriate given the study has not yet been conducted (Sections B and C).
- Additionally, certain questions presume that the potential alternatives are already developed sufficiently for consideration (Sections B5d, C5a), which does not set the stage for an unbiased study that should conduct a robust assessment of potential alternative viability.
- Similarly, the study must address barriers to further development because these potential alternatives may require additional substantial studies before considering any of the other potential barriers (e.g., introduction, acceptance, etc.) (Sections B7, C5a).
- The consistent reference to “promising” related to potential alternatives must be clearly defined, especially as it appears that this is the threshold intended to inform potential regulatory/policy changes (Sections B6, C5).
- Finally, it appears inappropriate for the study to be assessing potential marketplace incentives for certain companies over others (Section B8) given that DPR is a regulatory authority and will likely be perceived as interfering with business conduct and free enterprise.

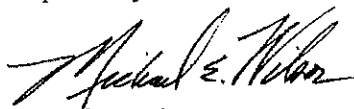
The assessed potential alternatives must be consistent with the specific pests and specific uses of fumigants to be considered as a potential alternative.

- The assessment of only environmental conditions for potential applicability to use in California is very limited (Section B2). There are many other conditions relevant to pesticide use and viability (e.g., cultural practices, agronomic practices, structural settings/footprints), etc., and again, efficacy should not be the only consideration.
- The details associated with structural fumigants are not comprehensively represented in the current draft SOW, which must include an assessment not only of crop-pest specific combinations, but also of site-pest specific combinations (Section B4).
- Another important factor to consider with the use of alternatives is their commercial viability. After assessment of the efficacy of the alternatives, they must also be evaluated for their viability when used in commercial settings.
  - For example, in the attached research articles addressing the question specific to research over the past 20 years, you will see that many of these alternatives do not meet legal standards for lender requirements or regulations within the Structural Pest Control Board who is responsible for preventing unsubstantiated claims and false advertising of such alternatives being viable as a whole structure treatment. Finally, the research on potential alternatives must consider the byproducts of options that may preclude them from being researched for applicability in California (e.g., related to climate change; housing; human health; etc.) (Section C).

Please find the attached (Appendix A) published studies which have been conducted over the years, which address alternatives to fumigation. Based on this list of research, PCOC and industry are not aware of alternatives to fumigation which provide a safe level of efficacy and protection to the people of California.

PCOC is happy to answer any questions and provide information to the CCST as they work through this process. We look forward to further engagement with the Department regarding this SOW and study design given the significant comments and concerns identified after our brief review.

Respectfully,



Michael E. Wilson  
 CEO  
 Pest Control Operators of California

# Appendix A

Ebeling, W. 1975. Wood-destroying insects and fungi. In: *Urban Entomology*. University of California Division of Agriculture Science, Berkeley, California, pp. 128-216.

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Rust, M. K., and J. Venturina. 2009. Evaluation of chemical localized treatment for drywood termite control (PDF). *Final Report to the California Structural Pest Control Board, Sacramento, California*, pp. 1-31.

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Potter, M. F. 2011. Termites. In: *Handbook Pest Control*. 10th ed. Franzak & Foster, Cleveland, OH, pp. 293-441.

Lewis, V., and B. Forschler. 2014. Management of drywood termites: Past practices, present situation, and future prospects. In: Dhang, P. (ed.) *Urban Insect Pest: Sustainable Management Strategies CABI*, London, pp. 130-153. Perry, D.T., D.H. Choe. 2020. Volatile Essential Oils Can Be Used to Improve the Efficacy of Heat Treatments Targeting the Western Drywood Termite: Evidence from Simulated Whole House Heat Treatment Trials. *Journal of Economic Entomology, vol. xx, no. xx*, pp. 1-10.

Perry, D.T., D.H. Choe. 2020. Volatile Essential Oils Can Be Used to Improve the Efficacy of Heat Treatments Targeting the Western Drywood Termite: Evidence from a Laboratory Study. *Journal of Economic Entomology, vol. xx, no. xx*, pp. 1-9.