

CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION TECHNICAL UPDATE

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The plenary session included an update on fumigant regulatory activities in California by the Department of Pesticide Regulation (DPR). In this presentation, DPR provides an update on its scientific and technical activities. The presentation focuses on two issues: development of a process to approve tarps assigned 60 percent buffer zone reduction credit in California and development of a computer model to estimate fumigant emissions.

In 2012, the U.S. Environmental Protection Agency (U.S. EPA) updated soil fumigant labels to include safety provisions that included requirements for buffer zones and other related measures. The labels included “credits” for certain tarps to reduce buffer zone distances. U.S. EPA has maintained a list that would allow the reduction of buffer zone distances of up to 60 percent with the use of certain tarps. The tarp list was created from the results of laboratory tests measuring the mass transfer coefficient of several types of tarps at conditions considered to be ambient humidity (35 to 45 percent). Conditions in California often result in high humidity conditions under the tarps. A study conducted by U.S. EPA found that permeability of some tarps considered high-barrier films increased by 2 to 3 orders of magnitude under high humidity conditions (90 percent), but the data are limited. DPR has requested tarp manufacturers to test the 60 percent buffer credit tarps for permeability under high humidity and submit the results to DPR. DPR will discuss its evaluation of the data.

DPR is developing a modified version of the HYDRUS computer model to estimate fumigant emissions under a variety of conditions. Previous DPR work has shown that certain soil characteristics such as soil water content are some of the more important factors affecting emissions. To estimate the variability of soil characteristics, DPR has collected soil samples from 15 fields just prior to fumigation. DPR will present data on the soil variability and the variability in HYDRUS-simulated emissions of 1,3-dichloropropene and chloropicrin.