



Changes in the Management of 1,3-D October 6, 2016

The California Department of Pesticide Regulation (DPR) is updating the way it manages the fumigant pesticide, 1,3-Dichloropropene (1,3-D). The pesticide (the most common product containing 1,3-D is Telone) is used to control insects, nematodes, and other organisms in the soil that threaten a variety of crops, including sweet potatoes, almonds, strawberries, grapes, and carrots. It has been used in the U.S. since 1954 and in California since 1970, primarily in the San Joaquin Valley and the Central Coast regions.

In 2007, the U.S. Environmental Protection Agency classified 1,3-D as a likely carcinogen, and it is included on California's Proposition 65 list of chemicals known to the State to cause cancer. California is the only state to limit how many pounds of this pesticide can be used annually in any area.

1,3-D is also a restricted pesticide and, as such, can only be applied by trained, certified applicators under a permit from a County Agricultural Commissioner. While all pesticides have legal requirements that specify methods of application, how much can be applied, safety precautions, and other use restrictions, pesticides that require permits can be restricted further.

The primary revisions, which take effect in January 2017, include

- An annual limit of 136,000 pounds* within each 6 mile by 6 mile area known as a township. (Townships are used to track pesticide applications.) Currently township limits are between 90,250 pounds and 180,500 pounds per year.
- Discontinuing the current practice of carrying forward or “rolling over” unused allocations of 1,3-D from one year for use in future years.
- A ban on the use of this pesticide during December, when weather conditions tend to make air concentrations higher.

Frequently Asked Questions

Why does DPR regulate the use of 1,3-D?

California grows much of the produce in the nation, and many growers use pesticides to prevent pests from destroying their crops. U.S. EPA has determined that 1,3-D is safe to use in agriculture and it is very effective at tackling pests that would destroy crops such as almonds, grapes, sweet potatoes, strawberries, and others. However, this pesticide is a likely carcinogen and DPR wants to ensure that, when it is used in California, public health and the environment are protected. As a result, DPR has set limits regarding how much can be used annually.

What are the current rules governing the use of 1,3-D?

DPR's current regulations allow growers to use varying amounts of 1,3-D in a township annually. The current limits range from 90,250 pounds to 180,500 pounds provided growers use less in other years. While DPR no longer allows growers to use more than 180,500 pounds



annually in a township, it does allow unused allocations of the pesticide to be carried over into the following years. As a result of these flexible limits, some growers often used more than 136,000 pounds of this pesticide annually per township. That will no longer be allowed to continue.

Why is DPR changing the rules for using 1,3-D?

In 2015, DPR completed a complex and more in-depth scientific study of this chemical than had previously been performed, known as a risk assessment. The [risk assessment of 1,3-D](#) helped to establish what level of this pesticide can be present in the air with a minimal risk of cancer for humans. DPR has used this new analysis to determine how many pounds of 1,3-D growers will be allowed to use annually and still remain protective of human health.

How did DPR determine the new limits on how much 1,3-D growers can use?

DPR scientists looked at the exposure that might occur over a person's lifetime, which is the standard practice for estimating cancer risk. In the case of 1,3-D, which is a fumigant, that exposure occurs through the air in the trace amounts of the chemical that are emitted after it is injected into the soil.

Using the risk assessment, DPR calculated the maximum air concentration that a person would have to be exposed to--averaged over 70 years--that would still keep the cancer risk at a minimum. DPR scientists determined that level, known as the regulatory target, to be 0.56 parts per billion (ppb).

If the air concentration exceeds 0.56 ppb in any one year, it does not necessarily result in an adverse health effect, since the risk is based on the average concentration over 70 years. DPR then looked at what amount of 1,3-D growers could use without exceeding that concentration in the air. To determine the appropriate limit, DPR looked at how pesticides behave under different weather conditions, existing air monitoring data, and the different methods by which the pesticides are applied. DPR concluded that 136,000 pounds could be used in each township and still protect human health.

What is the cancer risk from exposure to 1,3-D under these limits?

The new limits minimize the risk that a person will get cancer from exposure to 1,3-D. These restrictions mean that if 100,000 people lived and worked in a township where 136,000 pounds of 1,3-D is used every year for 70 years, there is less than a 5 percent chance that one person in the township would develop cancer from exposure to 1,3-D.

Why will DPR not allow use of 1,3-D in December?

DPR's goal is to limit the amount of this pesticide in the air. During the month of December, the variable weather and atmospheric conditions tend to make air concentrations higher. DPR has therefore decided to prohibit the use of this pesticide during December.

* All pounds of 1,3-D are adjusted using application factors that include fumigation method, month, and region.