

Pesticide Drift and Prevention

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Pesticide Drift

- ▶ Drift:
 - ▶ The movement of pesticide through the air away from the intended target
 - ▶ Can be in the form of mist, particles, or vapor (gas)
 - ▶ Can be noticeable as a cloud, spray, dust, or invisible and odorless
 - ▶ Is not limited to agricultural activities

Pesticide Drift

- ▶ Drift not limited to the period during or immediately after an application
 - ▶ Spray drift occurs during or shortly after the pesticide is applied
 - ▶ Post-application drift occurs after an application is completed



Pesticide Drift

Pesticide Drift



Pesticide Drift

- ▶ To protect people and the environment from harm
 - ▶ Strict standards concerning drift and rules limiting applications to minimize drift
 - ▶ Pesticide laws focus on spray drift that causes harm, or has a potential to do so.

Are some pesticides more likely to drift?

YES

Is All Drift Illegal?

NO

Food and Agricultural Code

▶ Section 12972

The use of any pesticide by any person shall be in such a manner as to prevent substantial drift to nontarget areas.

California Code of Regulations

▶ Title 3, Section 6000, Definitions

"Substantial drift" means the quantity of pesticide outside of the area treated is greater than that which would have resulted had the applicator used due care...



Food and Agricultural Code

▶ Section 12973 – Conflict with labeling

The use of any pesticide shall not conflict with labeling registered pursuant to this chapter which is delivered with the pesticide...

Food and Agricultural Code

▶ Section 12973 – Conflict with labeling

Directions for Use

Restricted Use Pesticide

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

This product cannot be reformulated or repackaged into other end-use products.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Food and Agricultural Code

▶ Section 12973 – Conflict with labeling

Spray Drift Buffer Restrictions

- A 25 foot vegetative buffer strip must be maintained between all areas treated with this product and lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.

Food and Agricultural Code

▶ Section 12973 – Conflict with labeling

- Do not allow spray to drift from the application site and contact people, structures people may occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

California Code of Regulations

▶ Title 3, Section 6614(a) -

Protection of Persons, Animals, and Property

An applicator prior to and while applying a pesticide shall evaluate the equipment to be used, meteorological conditions, the property to be treated, and surrounding properties to determine the likelihood of harm or damage.

California Code of Regulations

- ▶ Title 3, Section 6614(b)
 - ▶ Notwithstanding that substantial drift would be prevented, no pesticide application shall be made or continued when:
 1. There is a reasonable possibility of contamination of the bodies or clothing of persons not involved in the application process;

California Code of Regulations

- ▶ Title 3, Section 6614(b)
 - ▶ Notwithstanding that substantial drift would be prevented, no pesticide application shall be made or continued when:
 2. There is a reasonable possibility of damage to nontarget crops, animals, or other public or private property; or

California Code of Regulations

- ▶ Title 3, Section 6614(b)
 - ▶ Notwithstanding that substantial drift would be prevented, no pesticide application shall be made or continued when:
 3. There is a reasonable possibility of contamination of nontarget public or private property, including the creation of a health hazard, preventing normal use of such property...



Preventing Drift

Drift Prevention

- ▶ Read the label
 - ▶ Wind speed restrictions
 - ▶ Do not apply when an inversion layer exists
 - ▶ Maximum wind speed allowed (can be 10 mph)



Drift Prevention

- ▶ Read the label
 - ▶ Nozzle size restrictions
 - ▶ Some labels specify the size and type of nozzle to use

Table 1. Movement of spray particles.

Droplet diameter (microns)	Size classification (ASAE* equivalent)	Time required to fall 10 feet	Lateral movement in 3 mph wind
5	Fog	66 minutes	3 miles
20	Very fine	4.2 minutes	1,100 feet
100	Very fine	10 seconds	44 feet
240	Fine/medium	6 seconds	28 feet
400	Coarse	2 seconds	8.5 feet
1,000	Extremely coarse	1 second	4.7 feet

*American Society of Agricultural Engineers.

Source: Akesson and Yates, Annual Review of Entomology, 1964.

Drift Prevention

Example from label

- For ground boom applications, apply with nozzle height no more than 4 feet above the ground or crop canopy when wind speed is 10 mph or less at the application site as measured by an anemometer.
- Use coarse spray according to ASAE 572 definition for standard nozzles or VMD of 475 microns for spinning atomizer nozzles.

Drift Prevention

- ▶ Evaluate treatment site and surrounding areas
 - ▶ Are there any sensitive sites?
 - ▶ Workers in adjacent field
 - ▶ Houses
 - ▶ Roads
 - ▶ Possible use of a "spotter"
 - ▶ Bodies of water

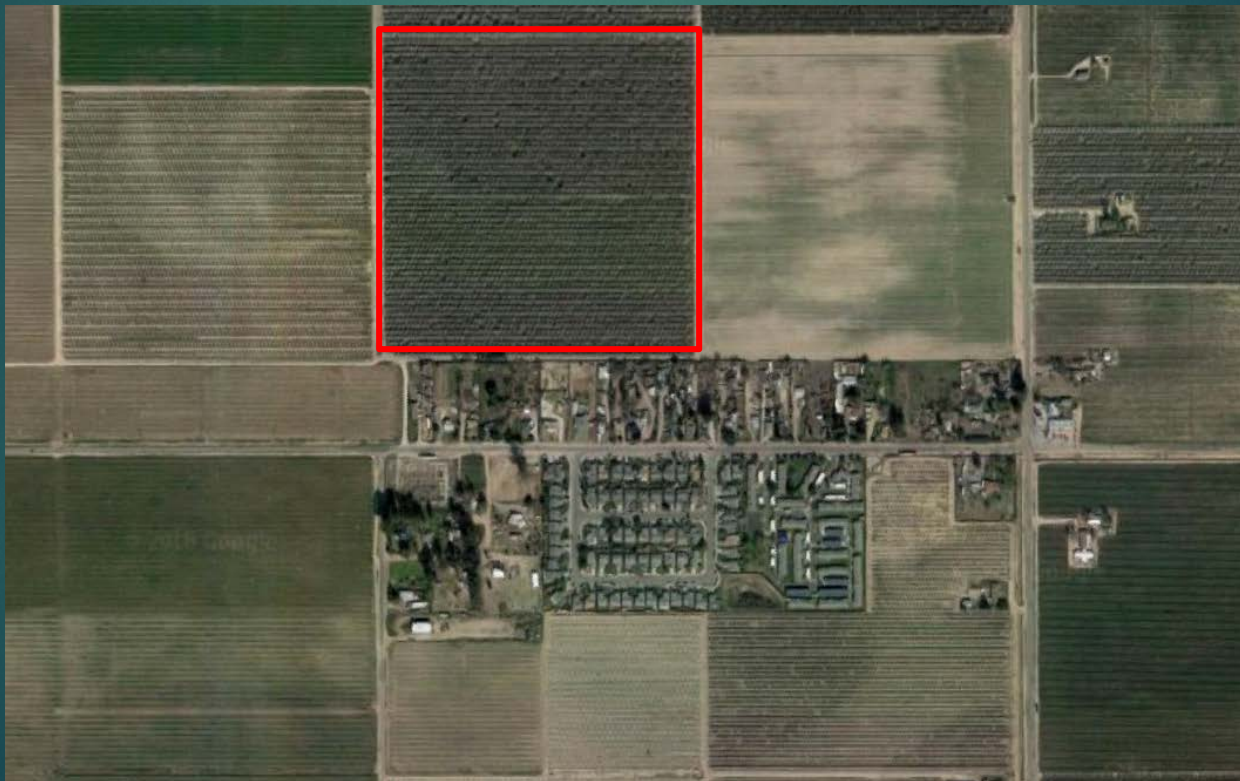
Drift Prevention

- ▶ Evaluate treatment site and surrounding areas



Drift Prevention

- ▶ Evaluate treatment site and surrounding areas

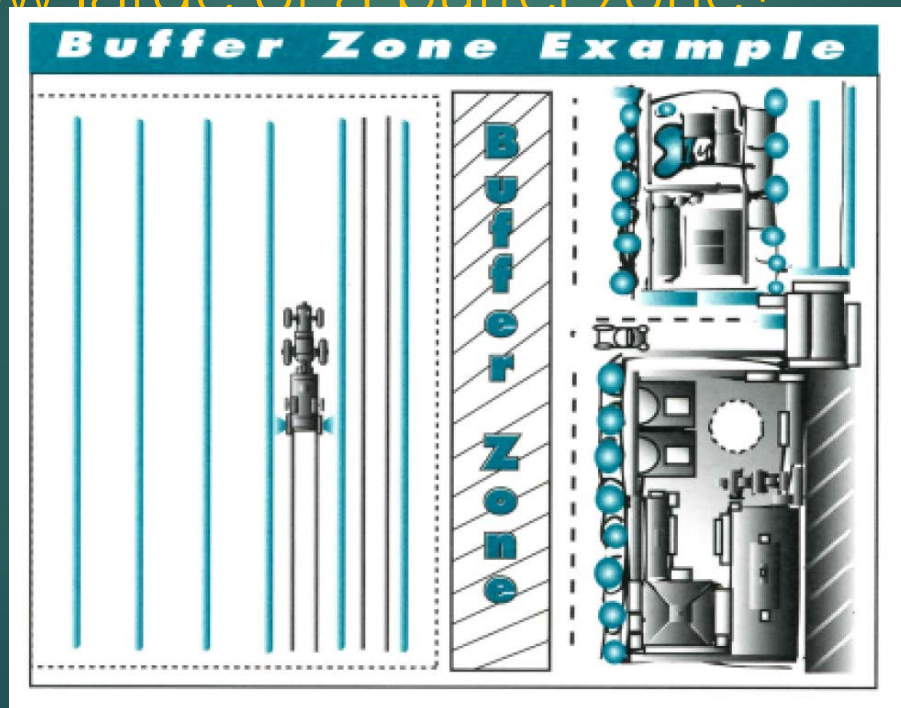


Drift Prevention

- ▶ Evaluate type of pesticide to be used
 - ▶ Is it applied as a dust?
 - ▶ Is it diluted with water?
 - ▶ What is the dilution rate?
- ▶ What type of equipment to be used
 - ▶ E.g. Airblast sprayer, ground boom sprayer, power duster

Drift Prevention

- ▶ Establish buffer zones near sensitive sites
- ▶ How large of a buffer zone?







The End