

# How to Avoid Chemical Trespass When Applying Pesticides

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Keeping pesticides confined to the target area is an on-going problem. We can't blame our neighbors if they get upset because our pesticides drift onto their property. If drift problems become too frequent or too serious, some of our most useful pesticides could be withdrawn or their use severely restricted by regulations. This publication offers suggestions for reducing problems from pesticide drift.

• **Low-volatile esters are not really low volatile.** Indeed, they are less volatile than the old high-volatile ones (butyl esters), but the LV esters are still considerably more volatile than amines. LV esters are more susceptible to movement because gases can move farther than spray droplets, and can come off of previously sprayed plants or soil. Choose the amine form if there are susceptible plants in the area.

• **Even nonvolatile chemicals can drift.** Small spray droplets can move considerable distances in some weather conditions.

• **Keep spray droplets as large as practical.** For most pesticide usage, especially with 2,4-D-type herbicides, a minimum size of 0.2 gal/min (for example, Spraying Systems 8002) flat fan nozzle tips and a maximum of 30 psi pressure are sufficient for good coverage. Smaller nozzle tips or higher pressure can produce too many "fines," or small droplets, which can easily move laterally to non-target areas. Some herbicide labels call for application at higher pressure. Apply these products with extra caution. Flood-type nozzles can reduce spray drift by producing larger droplets at low pressure. They produce a less precise pattern than flat fan nozzles, but in many situations they are satisfactory. Consider using a new

generation of flat fan nozzles designed for lower pressures when the precision of the flat fan is required.

• **A windscreen may reduce drift.** A windscreen around the boom and reaching near the sprayed surface may reduce drift. To avoid a chimney effect, place windscreens above the boom. Because the spray pattern cannot be seen by the operator, sprayers can be equipped with tip monitors to detect plugged nozzle tips.

• **A drift-control adjuvant,** such as Nalcotrol, may help reduce the production of small droplets, thereby reducing drift.

• **Proper timing** of herbicide application can help avoid damage to nearby plants. For example, grapes are readily injured by 2,4-D-type herbicides (such as Crossbow). The greatest damage to fruit production seems to be when drift occurs after the fruiting cluster has emerged but before bloom, generally mid- to late-May. Always avoid drift, but in areas where grapes are grown, not spraying during sensitive stages may be the safest approach. Observe the same principle with other sensitive plants in your area.

• **Use wide-angle nozzle tips to keep the boom low.** Research indicates that doubling the boom height quadruples drift. Of course, the drift potential from aerial application is considerably higher than from ground application.

• The biggest single weather factor involved in drift is **wind.** Even relatively light breezes can carry small droplets a long distance. Generally, spraying early in the morning is preferable to afternoon or evening. If you are spraying near sensitive crops, limit your applications to times when winds do

not exceed 5 mph. Spraying when slight winds are away from sensitive crops may be safer than spraying when the air is calm.

• Consider not spraying those areas nearest to sensitive crops. Leave a buffer zone.

• Do not apply pesticide to dusty soil that might later be carried on winds to sensitive crops or aquatic areas.

• Do not apply pesticides to areas where treated soil is likely to be carried by water to where sensitive crops are grown.

Avoiding chemical trespass is the responsibility of each pesticide user. This requires intelligent management and great care. Pesticide labels include useful information about any special characteristics of the product related to off-target movement.

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