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Pesticide Management To Protect Water Quality Common Sense Tips For Safe Aerial Spraying

Aerial application of seeds, fertilizers, and pesticides plays an important role in agriculture. The USDA estimated in 1988 that more than 25 percent of all agricultural chemicals were applied aerially and more than 50 percent of all commercial applications of pesticides were aerial.

To assure safe application of agricultural chemicals, farmers and ranchers can use a common sense approach when working with aerial sprayers. Commonsense tips for safe aerial spraying include hiring a certified applicator, clarifying responsibilities, preventing wind drift, drawing a map, leaving unsprayed buffer zones, and notifying your neighbors.

Hire A Certified Applicator

If you cannot hire an experienced local applicator whom you know, be sure to check the qualifications of any applicator you hire from other regions or states. You may wish to call your Department of Agriculture or your state Pest Control Board (Department of Agriculture and Industries in Alabama) to determine the certification status of the applicator.

Certified pilots are qualified to apply agricultural chemicals safely and professionally by following label directions and by considering drift, exposure, and disposal.

Clarify Responsibilities

When hiring an aerial applicator, be sure to clarify where mixing, loading, and plane rinseout will occur, who will rinse and dispose of empty containers, who will post reentry signs where required, and who has responsibility for errors or misapplication. Plane rinseout is best done in flight over the field.

Be sure to establish whose responsibility it is for making go/no-go weather decisions. Remember, there are few absolutes to be considered in the go/no-go decision process other than foul weather, maximum and wrong direction winds, and obvious inversion conditions, which can cause damaging drift problems. Professional pilots are experts at interpreting the effects of changing weather conditions on operational plans

of each job. Pilots can often alter their droplet size, nozzle position, spray volume or pattern, and boom height to compensate for existing wind and temperature conditions that impact drift.

Prevent Drift Problems

The best way to prevent drift is to avoid windy spraying conditions. When wind is above a certain velocity, the potential exists for damaging off-target drift. Table 1 can serve as a guide to recognizing atmospheric stability. Aerial spraying should not be attempted at wind velocities greater than 12 miles per hour.

Table 1. Wind Velocity Guide.

Miles Per Hour	Observations
Less than 1	Smoke rises almost vertically.
1 to 3	Direction of wind shown by smoke drift, but not by wind vanes.
4 to 7	Wind felt on face, leaves rustle; ordinary wind vane moved by wind.
8 to 12	Leaves and small twigs in constant motion, wind extends light flag.
13 to 18	Picks up dust and loose paper, small branches are moved. Application should not be made under these conditions.
19 to 24	Small trees with leaves begin to sway; crested wavelets form on inland water. Application should not be made under these conditions.

Source: Working With Aerial Applicators, 1993.

Weather channels give up-to-date estimates of wind velocity. Check your local weather conditions before scheduling aerial application of pesticides.

Draw A Map

Identify the fields you want treated and any crucial areas to avoid. Keep the map simple and easy to read during flight with boundary landmarks clearly identified. Use highly visible flags to mark bound-

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aries not readily apparent from the air. Review the map with your pilot and carefully identify the following nearby features:

- Hazards to flight such as power lines, antennas, or wire fences.
- Ponds, creeks, streams, or wetlands.
- Sensitive crops or organically grown crops.
- Sinkholes.
- Buildings, recreational areas, or neighbors close to the target field.

Leave Buffer Zones

A buffer strip of at least 100 feet is recommended near water supplies, abandoned wells, wetland areas, sensitive crops, recreational areas, and downwind neighbors. If this area must be sprayed, use ground equipment when the wind is favorable. It is wise to leave at least 50 feet of unsprayed buffer between sensitive areas even with ground equipment. A lawsuit arising from off-site damage could be expensive.

Notify Your Neighbors

Let your neighbors know that you have called in an aerial applicator. Try to give them as much notice as possible, especially if they keep bee hives, have field workers near the application site, or grow sensitive or organic crops. In fact, when you need an aerial applicator most, your neighbor may need one also.

Be prepared to tell them what chemical the applicator will be spraying, its characteristics, and why crop treatment is important. Check with your county Extension agent, agricultural chemical dealer, or sales representative for this information.

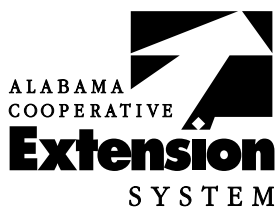
Show them your field map and plans. Good public relations can be as simple as a handshake or a phone call. Long before you need an aerial application, let your neighbors know that you are as concerned about safety and environmental protection as they are.

References

Olexa, M. T. 1990. Laws Governing Use And Impact of Agricultural Chemicals: An Overview. Circular 887. Florida Cooperative Extension Service. University of Florida. Gainesville, FL.

Prevent Pesticide Spray Drift. 1993. Fact Sheet. Alliance For A Clean Rural Environment. Washington, DC.

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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