DRIFTING TOWARD EXTINCTION, OR . . .

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Drifting Toward Extinction, Or? is a video presentation relating to spray drift issues in aerial application. It focuses on the decision-making responsibility that an aerial applicator has in deciding whether or not to make an application. In today's program, we will show only two short segments of this video which concentrate on the importance of this decision making process. The videotape was produced by the Professional Aerial Applicators Support System (PAASS), a program of the National Agricultural Aviation Research and Education Foundation. PAASS is dedicated to raising the level of professionalism among all aerial applicators by offering supplementary training to help them avoid aircraft accidents and drift incidents.

We also will briefly discuss the new bulletin produced by the UW-Extension's Pesticide Applicator Training program, *Managing Pesticide Drift in Wisconsin: Field Sprayers*. Although this bulletin's primary focus deals with field sprayers, much of the information it contains equally applies to aerial applications. Based on the findings of the Spray Drift Task Force (SDTF), this bulletin describes what drift is, how it occurs, and drift management practices. Most importantly, it also describes the critical role the pesticide applicator has in deciding whether to spray once the applicator arrives at the site.

Factors Affecting Drift. By now, most aerial applicators are familiar with the factors affecting spray drift and the common practices to minimize drift (summarized below).

Drift is affected by . . .	**Therefore, minimize drift by . . .**
Droplet size	• Spraying course droplets (>150 microns) • Pointing nozzles towards back of the aircraft and maintaining slow aircraft speed to minimize air shear
Nozzle height	• Maintaining low application height (typically 8 feet for field crops)
Boom Length	• Using the shortest boom length that is practical (70% or less of wingspan)
Wind speed	• Applying pesticides when wind speed is low (10 mph or less) • Delaying spraying until when wind is blowing away from sensitive areas
Swath adjustment	• Continuing the practice of swath adjustment (amount depends on wind speed and proximity to sensitive areas)

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The findings of the SDTF show that when good application practices are followed, all but a small percentage (2%) of the spray is deposited on target. Although drift cannot be eliminated totally with current technology, there are many ways to minimize drift to levels approaching zero. Even at these low levels, however, when drift cannot be reduced far enough through altering equipment setup and application technique, buffer zones may be imposed to protect sensitive areas downwind of applications. Being that most drift occurs between 0 feet to 25 feet downwind of the application site, it makes sense to provide buffer zones to protect nontarget areas.

The Applicator Factor. Aerial applicators are in control of many of the factors which affect drift. One such factor not mentioned in the table above is the applicator himself. Fatigue, stress, and pressure from supervisors and/or customers all take their toll on an applicator's decision-making ability—yet, the quality of that decision rests solely on the pilot. Retaining customer satisfaction needs to be balanced with making safe, efficient applications.

If you, as a pilot, conclude that drift is likely and serious consequences unavoidable, or if you cannot adequately assess this risk (e.g., because of temperature inversion or no wind), DO NOT make the application. This may at times place you in a difficult position, but applying a pesticide under the wrong conditions is worst than not applying it at all!

- Remember, under Wisconsin law, if your supervisor or customer knows that spraying under current conditions will cause a violation, it is illegal for him/her to coerce or compel you to spray.

Easing the Applicator Factor. Applicators must continue to be active in their local aviation associations, participate in fly-ins and PAASS continuing educational sessions, and make use of available tools to help increase their confidence in making the correct decision about whether or not to spray. One such tool is AgDRIFT®. AgDRIFT® is a computer model jointly developed by the SDTF, EPA and USDA. It allows users to input application, meteorological, and environmental variables to predict the motion and direction of spray material released from aircraft. AgDRIFT® has been approved by EPA for predicting the exposure part of the risk assessment process; information from the risk assessment will ultimately be reflected on pesticide labels.

References

PAASS. Drifting Toward Extinction, Or? 1997 (videotape).

UW-Extension. Managing Pesticide Drift in Wisconsin: Field Sprayers. 1999 (bulletin).

Spray Drift Task Force. A Summary of Aerial Application Studies. 1997 (bulletin).