

September 2021 Pest Management Newsletter

What Strategies Reduce Drift from Aerial Applications?

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This month's Weed Science contest aims to recognize strategies that reduce drift from aerial applications.

Aerial applications make up approximately 50% of the herbicide applications that are applied in Arkansas field crops. It is a vital part of our field crop agricultural industry within the state, but aerial applications are also used in managing forests and pastures. With the diversity of plants, trees, and crops grown in the state, it is crucial to minimize drift from these applications to limit off-target injury. We often discuss drift reduction strategies for ground-based applications; however, aerial applications are often not addressed. Like ground-based applications, the number one thing that affects spray drift is wind speed and direction (Picture 1). However, we cannot manage this factor other than deciding to not spray in worst-case scenarios. Therefore, we focus on other factors to reduce drift that we can actually manage.

Based on the following factors presented, please select or fill-in-the-blank the correct strategies that can be implemented on aircraft to reduce spray drift when applying pesticides:

1. **Application pressure:** Increase or Decrease?
2. **Nozzles:** Equip _____ Stream Nozzles. (Hint: this word means uncurved and rhymes with eight)
3. **Flight height:** Increase or Decrease?
4. **Air speed:** Increase or Decrease?
5. **Nozzle deflection angle:** 0° (horizontal) or 90° (vertical)?

There are multiple other factors that can influence spray drift from aerial applications, but these factors mentioned can drastically alter drift potential. It should also be noted, although these factors can significantly reduce drift potential, it does not mean there will be absolutely no drift. It also does not mean that this application setup would maximize coverage and provide good pesticide efficacy. Applications are often a game of give-and-take, and it is impossible to maximize both drift reduction and pesticide coverage/efficacy.

To win a prize, be the first to email me at tbutts@uada.edu with the correct responses for each question (1-5).

Good luck!



Picture 1. Aerial pesticide application from an AirTractor with some downwind physical spray drift visible. Photo courtesy: Jonair Ltd.