

CHAPTER 1

Regulations

LEARNING OBJECTIVES

- ☑ Explain the FAA regulations governing the application of pesticides by air.
- ☑ Summarize the regulations involving the use of Unmanned Aircraft Systems (UAS), or drones, both in general and specifically for pesticide application.
- ☑ Outline the certifications you may need (both FAA and pesticide certification) when applying pesticides by air.
- ☑ Identify which aerial applications and employees involved in them are covered by the Worker Protection Standard.
- ☑ With respect to advance notification of aerial applications, explain:
 - Who may receive such notification.
 - Who must provide such notification.
 - How and when notification is to be given with respect to the application.
 - What must be included in notification.
 - How pest emergencies and changes in application date affect notification requirements.

Note: Words in *italics* throughout this manual are defined in the glossary.

This chapter presents laws and regulations pertaining specifically to the aerial application of pesticides. However, when you prepare for and make such applications, you must understand and comply with all the pertinent pesticide laws and regulations discussed in your base category training manual.

☞ In explaining regulations, we only paraphrase the actual wording found in the laws and rules. Also, this manual is revised once every 5 years, and laws may be changed (or new laws enacted) in that time. Consult the laws and rules themselves to determine what you must do to comply with them. The most applicable state and federal laws and rules are listed in an appendix in your base category manual.

FAA Regulations

The U.S. Federal Aviation Administration (FAA) certifies agricultural aircraft operations and enforces Federal Aviation Regulations (FARS) pertaining to aircraft operation (Figure 1). An *agricultural aircraft operation* is a business that operates aircraft for the purpose of:

- Dispensing any *economic poison* (e.g., pesticides).



Figure 1: FARS Section 14, part 137 of the *Code of Federal Regulations* specifically addresses agricultural aircraft operations.

- Dispensing any other substance intended for plant nourishment, soil treatment, propagation of plant life, or pest control.
- Engaging in dispensing activities directly affecting agriculture, horticulture, or forest preservation.

FAA regulations concern such areas as aircraft operation, aircraft inspection and maintenance, *ferrying* routes, operation altitude, pilot licensing, and medical exams.

☞ In Appendix A we provide a summary of the FAA agricultural aircraft operator certification requirements and process.

Applicants for aerial applicator pilot certification must hold and maintain a commercial pilot's license and have a current Class II Medical Certificate. If you work as a *pilot in command* for an agricultural aircraft operator, you also need an endorsement letter from that operator or a person designated by that operator. The aircraft you fly must be equipped with approved and properly labeled seat belts and shoulder harnesses for each pilot station.

Unmanned Aircraft Systems

Drones, more technically known as Unmanned Aircraft Systems (UAS), are being used more and more in agriculture and elsewhere (Figure 2). In agriculture, people use drones to gather a wide variety of data about the condition of crops, fields and livestock

FAA Regulations for Small Drone Use

In 2016, the FAA released a set of regulations governing the use of small drones—those weighing under 55 pounds. These regulations are known as FAA's Small UAS Rule (14 CFR part 107) of the Federal Aviation Regulations—usually shortened to just “Part 107.” Like other FAA regulations, the sUAS rule has the overarching goal of preventing hazards to users of the national air space and the public while maintaining national security.

Some of the regulations under Part 107 include:

- Pilot certification (must be at least 16 years old).
- UAS must always be in visual line of sight (VLOS) at all times, without the aid of binoculars or similar devices.
- Daylight only operation of UAS with appropriate anti-collision lighting.

The list above only notes a few of the regulations you must follow when using a UAS for commercial purposes. Make sure you follow **all** regulations. The gray box provides resources for finding about more about UAS regulations.

Regulations for Large Drones

The FAA also has regulations for drones weighing more than 55 lbs. People intending to fly large UAS must seek FAA approval. The FAA decides the merits of each request for larger drones on a case by case basis under the current Section 333 process. This is the rule Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA). If approved, operating rules and aircraft requirements for large UAS will be the same or similar to those in the sUAS rule.



Figure 2: If you want to operate a small drone for anything other than hobby purposes, you must comply with all FAA regulations. In the image above, UW-Extension professor Brian Luck demonstrates use of a drone. (Photo by Sevie Kenyon, UW-Madison)

Drones and Pesticide Use

It's important to note that the Part 107 regulation are independent of the FAA regulations discussed at the beginning of this chapter for the application of “economic poisons” (Part 137). So, pilots using drones for purposes covered by Part 137 must comply with provisions of **both** regulations (Parts 107 and 137). For example, to apply pesticides from a small UAS, pilots must hold an agricultural aircraft operator certificate (Part 137) **and** the UAS certificate (Part 107). They also, of course, must be certified to apply pesticides, which we discuss in the next section. Some of these regulation are outlined in Table 1.

Note as well that regulations governing the use of applying pesticides by air that we discuss later in this chapter, apply to both manned and unmanned (UAS) aircraft. These include:

- The provisions for the advanced notice of aerial applications in ATCP 29.53(2), and
- Only pesticides labeled for aerial application may be applied by UAS.

TABLE 1: COMPARISON OF SOME REGULATIONS DEPENDING ON WHETHER YOU USE DRONES TO APPLY PESTICIDES OR NOT

REGULATION	PURPOSE OF DRONE USE	
	USE FOR GATHERING DATA ONLY (NO PESTICIDE USE)	USE FOR APPLYING PESTICIDES
FAA CERTIFICATES NEEDED	UAS Certificate (Part 107).	UAS Certificate (Part 107) and Agricultural Aircraft Operator Certificate (Part 137).
CAN A PERSON NOT CERTIFIED TO USE A UAS MANIPULATE THE UAS CONTROLS?	Allowed when they are under supervision of a UAS-certified pilot.	Not allowed. Whoever controls a UAS that is applying pesticides must have both FAA certificates as noted above.
STATE PESTICIDE APPLICATION CERTIFICATION NEEDED	None	Anyone applying a Restricted-Use Pesticide or anyone using any pesticide as a commercial applicator for-hire must be certified in a base category and the Aerial Application subcategory.

Drone Regulation Resources

Below are some web resources for learning more about UAS use and regulations.

- FAA UAS Website: https://www.faa.gov/uas/getting_started/
- FAA Rule 333 explanation (for larger drone approval): https://www.faa.gov/uas/beyond_the_basics/section_333
- UAS in Agriculture Learning Network: learnuasag.org/
- A drone app that helps you determine restrictions or requirements at the location where you want to fly: www.faa.gov/uas/where_to_fly/b4uflly/

Other Regulations

Besides the FAA rules we just covered, there are other federal and state regulations you should know about and follow regarding aerial pesticide application.

Pesticide Certification

ATCP 29 requires certain applicators to be certified in order to apply pesticides from aircraft. Note that this applies to pilots of both manned aircraft and UAS operations.

Private Applicators

If you want to apply or direct the application of a restricted-use pesticide (RUP) from aircraft as a private applicator, you must be certified first as a private applicator in one of the following private base categories:

- General Farming (100/101)
- Fruit Crops (112/113)
- Greenhouse & Nursery (104/105)

Following one of the above certifications, you must then be certified in the “Aerial Application” subcategory. To become certified in the subcategory you must pass a written examination covering the information provided in this manual.

Commercial Applicators

A commercial applicator for-hire must be certified in both a commercial base category and the “Aerial Application” subcategory before using or directing the use of **ANY** pesticide via aircraft. Following are commercial base categories:

- Field and Vegetable Crops (1.1)
- Fruit Crops (1.2)
- Forestry (2.0)
- Turf & Landscape (3.0)
- Aquatic Pest Control (5.0)
- Right-of-Way (6.0)

Commercial applicators not-for-hire wanting to apply restricted-use pesticides via aircraft need to be certified in one of the base categories above along with the “Aerial Application” subcategory.

Once you become certified as an aerial applicator, you may apply pesticides aerially within any of the above base categories in which you are also certified.

Mixer-loaders

Be sure that workers who mix or load pesticides into your aircraft have met the appropriate certification requirements. If certification is required, such workers must be certified as applicators in the appropriate private or commercial base category(ies) or as mixer-loaders.

Pesticide Labels

Review the pesticide label to understand the legal requirements and use restrictions for the pesticide you will be using and designations of which type of aircraft is or is not acceptable. Confirm that there are no prohibitions to applying any of the prescribed materials

by air. Check to see if there are restrictions such as *buffer areas*, spray material dilution parameters, air temperature requirements during application, time of day spraying, sensitive crop restrictions and environmental precautions (Figure 3).

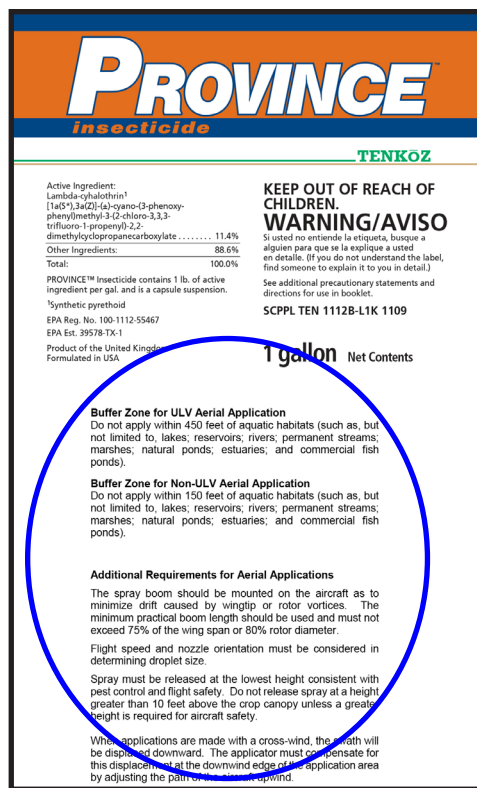


Figure 3: This label shows some specific requirements when using the product for aerial applications. Note that this label is used strictly as an example, and is not meant as a recommendation of the product.

WPS

The federal Worker Protection Standard (WPS) for Agricultural Pesticides covers aerial pesticide applications made to agricultural plants. With respect to such applications, aerial applicators, mixer-loaders, flaggers, and others involved in applying pesticides or maintaining application equipment are considered pesticide handlers under the WPS.

Under WPS, the agricultural employer (e.g., farmer) and the owner of a commercial agricultural establishment (e.g., commercial application business) must provide proper protections to their employed handlers. **These protections are discussed in your base category manual. Make sure you follow these WPS requirements.**

Advance Notification

The person who owns or controls a site where pesticides will be aerially applied, or someone acting on that person’s behalf, must provide notification of the application at least 24 hours in advance to anyone who meets **both** of the following criteria:

- Resides on a parcel of land that is immediately adjacent to the parcel that contains the application site and that is no more than ¼ mile from the actual site of application.

Adjacent Parcels

Parcels are immediately adjacent if they are directly contiguous; are separated only by a road, railway, or utility right-of-way; or are separated only by a government-owned land corridor or waterway having a width of 66 feet or less.

- Requests such notification from the landowner or person controlling the use of the land where pesticides are aerially applied during the same calendar year.

The notification may be oral or written and must include:

- The intended date and time of application,
- The brand or common name of each pesticide to be applied, and
- The location of the application site.

Cooperate with your customer to ensure he/she gives proper notice to adjacent residents. Doing so will help maintain good relations between the public and aerial applicators.

If the application date changes after notice is given, the person responsible for giving notice shall issue a

corrected notice as soon as reasonably possible before the application begins. In such a case, the corrected notice can be given less than 24 hours before the application.

residents before an emergency aerial application must be made. When this occurs, give notice as soon as reasonably possible before or after the emergency application. The notice must contain a brief explanation of the circumstances constituting the emergency.

Special Situations

In the case of a sudden pest outbreak, there may not be enough time to give 24-hour advance notice to adjacent

More Notification Information

The person requesting the notification of aerial applications made adjacent to their land must include the following in their request:

- The requester's name,
- Mailing address,
- Property location, and
- Telephone number.

Migrant labor camp operators must make such a request on behalf of workers if the camp meets the conditions of being an adjacent parcel.

NOTE TO READER: As discussed in "How to Pass the Certification Exam," material on a shaded background such as this (or any material in the appendices) is not covered on the certification exam but is supplied as added reference material.

Site Security

While not a legal requirement, it is very important aerial application operations pay more attention to security issues. Because of heightened concerns about terrorism and sabotage, the operation should make sure application equipment, facility sites, and pesticide storage areas are secure from unauthorized use. All aerial application operations need some measure of site security in place to minimize crime, prevent unauthorized access, and protect company assets.

If a breach of security or suspicious activity does occur, immediately contact the local police or sheriff's department. The U.S. Department of Homeland Security requests that operations also report security breaches, threats, or suspicious behavior to the local FBI field office. Information on the location of the nearest FBI office is available at <http://www.fbi.gov>.

See Appendix B for more information about security issues.

Chapter 1 — Notes Page

Remember that all questions on the certification exam are based on the Learning Objectives found at the beginning of each chapter. Review those Learning Objectives and use this page to make notes on your understanding of those objectives. Writing notes can be a good aide in learning and understanding information.