



# Required Licensing For Applying Pesticides Using Spray Drones

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September 2025

Aerial drones are powerful tools for agriculture and have become very popular for precision mapping and pest management (Figure 1). Spray drones that are developed for the purpose of applying pesticides have great utility for pest management in rugged terrain and environmental conditions that limit the accessibility of larger, ground-based machinery. Aerial drones can also increase applicator safety, reduce time spent navigating terrain and the risk of pesticide exposure by offering remote machine operation and even automation during applications.



**Figure 1.** A spray drone being deployed to treat weeds growing in rugged terrain that is not easily accessible with large machinery. Photo courtesy of Dr. Andrew Howell, North Carolina State University

Several certifications, licenses, registrations, and possible exemptions are required before being permitted to apply pesticides with an aerial drone in South Dakota.

The South Dakota Department of Agriculture and Natural Resources (DANR) has the following aerial applicator license requirements for **commercial** applicators:

- Category G – General (Core): required to validate all other applicator licenses
- Category 17 – General Aerial (Core): permits using aerial vehicles to apply pesticides

Commercial pesticide applicators hoping to make pesticide applications from the air will also need licensing in additional categories that apply to the specific environments in which those aerial applications will be made, such as Category 1 – Agricultural Plant Pest Control to make aerial applications on crop plants (row crop, specialty crop, and rangeland management). Category 7 – Right-of-Way Pest Control is required when applications are performed along public roads, rights-of-way, utility corridors, railways, pipelines or similar areas. You can find a full list of commercial applicator categories offered in South Dakota on this DANR web article ([danr.sd.gov/Agriculture/Inspection/Pesticide/ApplicatorsDealers/docs/Explanation%20](https://danr.sd.gov/Agriculture/Inspection/Pesticide/ApplicatorsDealers/docs/Explanation%20)

[of%20Commercial%20Pesticide%20CERTIFICATION%20Category%20Classifications%20UPDATED%2009\\_01\\_2024.pdf](#)).

Commercial pesticide applicators must pass exams in each required category to become certified and eligible for licensure. Exams can be taken at SDSU Extension's Regional Extension Centers and participating Extension County Offices, which can be found on this DANR webpage ([danr.sd.gov/Agriculture/Inspection/Pesticide/ApplicatorsDealers/ApplicatorTestingSites.aspx](http://danr.sd.gov/Agriculture/Inspection/Pesticide/ApplicatorsDealers/ApplicatorTestingSites.aspx)). You can find a full description of testing procedures on this SDSU Extension webpage ([extension.sdstate.edu/south-dakota-commercial-pesticide-applicator-certification-testing](http://extension.sdstate.edu/south-dakota-commercial-pesticide-applicator-certification-testing)).

DANR has the following aerial applicator license requirements for **private** applicators:

- Private Applicator License: permits the use of restricted-use pesticides by individuals on their owned, rented, or leased properties
- Aerial Endorsement: permits using aerial vehicles to apply pesticides

Private applicators may certify by completing one of the approved trainings provided by SDSU Extension (i.e., online course, passing the proctored private applicator exam, or attending one three-hour webinar). Approved trainings can be found on this SDSU Extension webpage ([extension.sdstate.edu/applicator-training-pesticides](http://extension.sdstate.edu/applicator-training-pesticides)). To receive the aerial endorsement, private applicators must pass the aerial applicator exam, which is offered in person at SDSU Extension Regional Centers and participating County Offices. Appointments are required, and each exam is allotted for four hours. Information about testing locations and scheduling can be found on the SD DANR webpage: ([danr.sd.gov/Agriculture/Inspection/Pesticide/ApplicatorsDealers/ApplicatorTestingSites.aspx](http://danr.sd.gov/Agriculture/Inspection/Pesticide/ApplicatorsDealers/ApplicatorTestingSites.aspx))

Since drones are considered aircraft, the Federal Aviation Administration (FAA) also maintains the following certification requirements for operating spray drones:

- FAA Part 107 Certificate: required to operate/pilot a drone (applies to drones under 55 lbs.)
- FAA Part 137 Certificate: required to apply fertilizers, nutrients, pesticides, plant regulators, or seeds using unmanned aerial systems (UAS)
- Class 3 Medical Certificate: required if operating drones 55 lbs. or more
- Part 137 Exemption: required to waive certain aircraft requirements, and for drones  $\geq 55$  lb.
- Drone registration: required for drones weighing more than 0.55 lbs.
- Remote ID (drone identification): required for most drones operating in U.S. airspace

Once all requirements have been met, follow application instructions found on the specific herbicide, fungicide, or insecticide labels and complete pesticide application records for each treated area to comply with all pesticide-use regulations.



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