



FACTS ABOUT THE AERIAL APPLICATION INDUSTRY

SIZE

- There are approximately 1,350 aerial application businesses in the United States and 1,430 non-operator pilots.
- Of those 1,350 businesses, approximately 94 percent of the owners are also pilots.
- NAAA represents more than 1,800 members.
- According to NAAA records, aerial application operations are located in 46 states—all but Alaska, New Hampshire, Rhode Island and Vermont.

IMPORTANCE

- Aerial application is often the only, or most economic, method for timely pesticide application. It permits large and often remote areas to be treated rapidly, far faster than any other form of application.
- When wet soil conditions, rolling terrain or dense plant foliage prevents other methods of treating an area, aerial application may be the only remaining method of pest treatment.
- Aerial application is conducive to higher crop yields, as it is non-disruptive to the crop by treating above it and not within it.
- Aerial application does not cause soil compaction, hence preventing soil runoff.
- The aerial application of crop protection products results in greater harvest yields of crops. This in turn results in less land being used for agricultural production, hence the preservation of important wetland and forest eco-systems important to carbon sequestration and habitat to threatened and endangered species.

SCOPE

- Aerial application accounts for just under 20 percent of all applied crop protection products on commercial farms in the U.S. and nearly 100 percent of forest protection applications.
- In addition to agricultural aviation, the industry provides fire-fighting and public health application services to combat disease-carrying mosquitoes.
- According to a USDA Economic Research Service Report, of the United States' 408 million acres of cropland, about 70% (286 million acres) is commercially treated with crop protection products. Out of that, the agricultural aviation industry treats 71 million acres of cropland aurally each year.
- Based on a 2012 NAAA survey, the five most commonly treated crops among aerial applicator operators are corn, wheat/barley, soybeans, pastures/rangelands and alfalfa, but aerial applications are used on nearly all crops.

EQUIPMENT

- On average, each aerial application business has 2.1 aircraft, ranging in price from \$100,000 to \$1,400,000 depending on hopper size, engine type and engine size.
- 87% of the aircraft used are fixed-wing; the remaining 13% are rotorcraft/ helicopters.
- Of the combined fleet, 67% are turbine powered and 33% have piston engines.

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- Ag aircraft are ruggedly built to handle 30 to 100 takeoffs and landings every day from rough landing strips, and they offer protection and good visibility for the pilot.
- Today's aircraft utilize sophisticated precision application equipment such as GPS (Global Positioning Systems), GIS (geographical information systems), flow controls, real time meteorological systems and precisely calibrated spray equipment.
- Precision application equipment allows for less pesticide product being applied to more acres and greater fuel efficiency, and can ensure an even more targeted delivery by further mitigating off-target drift.

TRAINING & SAFETY

- The average aerial applicator pilot has 21.3 years of experience in the industry, whereas the average aerial applicator operator has 27.4 years of experience.
- Ag pilots have their commercial pilots' licenses. They also must be registered as commercial pesticide applicators in the states in which they make applications and must meet the requirements of Federal Aviation Regulations Part 137 which allows for low-level aviation operations.
- NAAA developed the Professional Aerial Applicators' Support System (PAASS) to provide pilots continuing education about safety, security and drift mitigation. PAASS is attended annually by nearly 2,000 pilots and operators and has resulted in markedly improved safety and environmental stewardship statistics.
- NAAA's Operation S.A.F.E. (Self-regulating Application & Flight Efficiency) program enables aerial applicators to attend fly-in clinics and have their aircraft professionally analyzed for spray pattern uniformity and droplet size.
- NAAA works with the federal government to invest in researching, developing and testing aerial application technologies to strengthen the safe application of crop protection products by air.

AGRICULTURAL AVIATION PRIORITY ISSUES

- **Obstacles** – In the last 10 years, 7.2 percent of aerial application fatalities were the result of collisions with towers, while collisions with power lines account for an additional 12.3 percent of the accidents and 13 percent of the reported fatalities in the industry. NAAA is urging the FAA to provide improved guidance on marking obstacles, including expanding tower marking guidance to include all guy wire and free-standing towers more than 50 feet in height.
- **Funding** – Federal funding for aerial application research must be maintained, as it improves the precision and efficacy of aerial application. In addition, USDA economists have found that every dollar invested in agricultural research has a \$20 return to the American economy.
- **NPDES Permits** – NAAA is lobbying Congress to exempt duplicative, unnecessary and burdensome NPDES pesticide general permits for pesticide applications. The Federal Insecticide, Fungicide & Rodenticide Act requires the safety of pesticides to water before they may be registered for use.
- **Taxes and User Fees** – The current exemption for agricultural aviation from federal aviation fuel excise taxes must be maintained for ag aviators and they must be exempt from user fees. The majority of agricultural aviation operators do not use public airports; rather they use their own private landing strips and rarely, if ever, use or show up on the nation's air traffic control system network because they are restricted category aircraft that fly at low altitudes in un-congested airspace.