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The Importance of Agricultural Aviation

Having grown up in the agricultural aviation industry, I always knew that crop dusting was important. I've been around it for years and have even worked for an aerial application business, so I assumed that I completely understood the importance of this industry. However, after doing my research, I've found that I completely underestimated the need for these operations. Ag pilots cover almost $\frac{1}{3}$ of the cropland in the United States, and most of this cropland is treated multiple times each season (agaviation.org). They spend long days flying at low levels, which results in them being more prone to accidents than most other pilots. Ag pilots carry more weight on their shoulders than most people would think. They risk their lives each and every day for their family and for the farming industry.

Crop dusters fly both fixed wing aircraft and helicopters to evenly cover fields of high-yield crops with fertilizer and pesticides. These crops range from corn, wheat, barley, soybeans, alfalfa, cotton, potatoes, and more (aopa.org). The chemicals they use are all formulated to perform a different task. Pilots will spray herbicides to kill off weeds and plants that could harm the main crop. Insecticides are used to kill bugs that eat or corrupt the crop. Fertilizer is sprayed to ensure that the crop is receiving the nutrients it needs like potassium and nitrogen. All in all, the chemicals used in the agricultural aviation industry are to promote healthy growth of the crop and conserve soil for the next season. This being said, the chemicals can be toxic, and most of them pose risk to the pilots and the ground workers. Transporting, mixing, loading, and spraying chemicals all require a certain amount of training before you are able to perform any of these tasks safely. Transporting chemicals and other hazardous materials requires a Hazmat certification. To spray restricted use pesticides in the state of Texas, a pilot must be licensed or certified by the TDA (texasagriculture.gov). Other tasks involving chemicals, including ground work and loading, require proper training to ensure a safe workplace.

Ag pilots spray a very large amount of land in the United States and in other countries. The 2017 USDA Census of Agriculture states that there are 347 million acres of land in the United States, and 28% of this cropland is treated by aerial application (Industry Facts). 28% may not seem like much, but some croplands have higher output rates than others. Furthermore, as the population continues to rise, every



acre of land becomes more essential to mankind. Pilots also play an important role in the health of ranches and rangeland by spraying for pests in pastures and grazing areas. This ensures healthy livestock and a sustainable food supply for the ranch animals. “Aerial application is often the safest, fastest and most efficient, and most economical way to get the job done” (agaviation.org). Agricultural aircraft can cover ground very quickly, making it easy to knock out multiple fields in a day. They also allow for the soil to go untouched by equipment, preventing soil compaction, which can lead to soil runoff. Ag planes can get places that most ground application equipment cannot. For example, mesquite forests are sprayed from the air rather than on the ground. This prevents damaging equipment from driving through rough terrain and is more safe for the applicator.

Aerial applicators play a large role in the protection of forests in the United States, as well. “Nearly 100 percent of forest protection applications are made by the agricultural aviation industry.” (aviation.org) Aerial firefighting is a huge factor in protecting our forests. The planes allow for the firefighters to be up in the air and away from the fire to put out loads of fire retardant. This keeps the pilot safe and lets him choose exactly where he would like to drop his load. Agricultural aviation also protects forests by spraying herbicides and other pesticides. “Invasive plant species are threatening native tree regeneration in forests across the United States.” (maineforest.org) Invasive species grow quickly due to the lack of predators and can often be very hard to slow down when they are growing in a perfect environment. When these species of plants or other pests begin to take over, they hinder the growth of the native species. Herbicides are usually the best way to slow the growth of invasives, and aerial application is often the best way to implement the use of these chemicals.

The agricultural aviation industry is not only important today, but will continue to be important and will even become more essential to life in the future. As the average age of an ag pilot increases, so does the need for new pilots. The average age of an ag pilot in the United States today is over 50 years old (aopa.org)! Businesses today have a high incentive to hire new pilots and are encouraging people to complete flight training. The next generation of pilots will be very important to the agriculture industry.

Not only will these pilots need to be trained to handle high tech equipment that may be coming in the future, but they will also suffer the high workload of providing service to society.

All in all, there are many ways that the agricultural aviation industry is important to the well-being of the world. Ag pilots take risks every day for the safety and benefit of others. From spraying for grasshoppers in a cotton field to fighting fire in the mountains, they have proven their positive impact on the health of the environment and our food, and they have helped show why our lives would be harder without them. In conclusion, the needs of all people would not be met without these hard, brave workers.

Work Cited

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