The Vital Role of Ag Aviation in Producing a Local Economy

I am the fifth generation in my family to live on our family farm in northwestern Oklahoma. When my great-great grandparents, Jacob and Katherine Meier, began farming in Blaine County in 1910, the agriculture industry was very different from that in my lifetime. According to the United States Census Bureau, "In 1900, the farmer performed chores by hand, plowed with a walking plow, forked hay, milked by hand, and went to town once a week on horseback or by wagon to obtain the few necessities not produced on the farm. The power needed for farm operation was supplied by work animals and humans." During their lifetime, my great-great grandparents saw many advancements in machinery and equipment. Automobiles, trucks, tractors, balers, and milking machines powered by electricity and fuels changed the way they lived and worked on the farm. I can only imagine how truly amazed they would be to see how aircraft benefit our farm operation today.

The vital role agricultural aviation has played in local economies over time is well documented:

> "Along with delivering insecticides and fungicides, ag planes are also used to seed fields, fertilize crops (aerial topdressing), and even provide irrigation to areas affected by drought. In areas prone to wildfires, such as California, ag aircraft can be used for aerial firefighting or water bombing. The aerial application industry is also utilized in public health initiatives to control mosquitoes and other insects that pose a threat to our health. (History of Agriculture Aviation)

Agriculture aviators partner with local farmers to protect crops and livestock, maximize crop yields, and bring peace of mind to farmers.

On our farm, we rely on agriculture aviators in many different ways. These uniquely trained pilots can provide an aerial assessment of plant health in fields. This aids farmers in managing their crop production. When fields are too wet or plant growth is too thick for ground rigs to run, we rely on the aerial application for fertilizing, weed control, and spreading fungicides. Each of these different applications works to ensure we produce the best crop possible. At the beginning of the year, planes spray our pastures for weed control. We spray in February or March before the hard red winter wheat crop starts to boot. This provides the earliest coverage possible to prevent undesirables from sprouting in our fields and precision spraying prevents damage to the wheat. We spray again in April when the flag leaf comes out of the boot. My dad explained to me how the flag leaf plays an important role in plant growth. If the flag leaf is covered in rust it prevents the plant from absorbing sunlight necessary for growth. The infected area on the plant also absorbs nutrients and weakens the plants. Weak plants produce shriveled berries. That lowers the test weight and yield which means a loss of income for our family. Aerial spraying of fungicides at this time protects plant growth and maximizes our crop. Collaborating with ag aviators all year round helps us improve our test weights and increase our yields in wheat production, as well as milo, soybeans, and canola. Higher yields are a benefit to both the producer and consumers in our community. For the farmer, he is able to earn more money to provide for his family and grow his operation. At the same time, it helps keep the costs of products more available and affordable for consumers.

Agricultural aviation also plays an essential role in cotton production. “Growers and aerial applicators alike agree that cotton would be impossible to produce on a mass scale without aerial support throughout the growing season.” (Calleja, 2010) This is only our second year producing a cotton crop. Airplanes have been effective in our cotton production from the

beginning as we are preparing our ground for planting up to the time of final harvesting. As with other cropland and pastureland, ag aviators spray different applications of fertilizers, insecticides, and herbicides to improve yields, control pests, and eradicate weeds. But cotton also requires an additional application of a growth regulator to prevent excessive vegetative growth and stimulate the plant to mature more rapidly. All of these applications are vital in different stages of crop production to help improve the yield and quality of our cotton crop.

One of my most distressing childhood memories happened years ago when our house was invaded by thousands of aphid-like insects. My father had planted canola in the fields around our farmhouse. At first, my mom liked that our home was surrounded by flowering plants. But one afternoon, we came home from a day at the zoo to a real shock. When we walked into the house, it looked like someone had sprinkled a thick layer of pepper throughout the entire house. The thousands of specks were actually false chinch bugs, an insect migrating through our canola fields. The insects infested our canola plants and swarmed our house, trying to find new places to feed. My mom begged my dad to call Gary Jordan, a family friend and crop duster, who immediately came to our rescue. Spraying the fields with insecticides provided the most rapid pest control without risk to our canola crops. Eradicating the pests in the fields protected both our canola crop and our home.

There are many other pests that are harmful to crops and pastures. For example, grasshoppers and armyworms destroy crops by ravaging fields. This causes a direct economic loss to the farmer by reducing crop yields. These pests also damage pastures which reduces forage for cattle grazing or causes delays in cutting in hayfields. Delayed cutting reduces the number of hay bales produced in a season. Fewer bales cause a farmer to lose revenue from selling hay or having to spend more money on feed for his own cattle. The ground application

can damage plants which reduces potential yield and can be time-consuming for farmers. Ground application may also be impossible if the plants are too thick for rigs to drive over. Aerial application is extremely efficient and precise. According to the National Agricultural Aviation Association, “An airplane or helicopter can accomplish more in one hour than ground equipment can in one day. This means less fuel used, less air pollution, and no soil compaction (NAAA). The efficiency and precision protect crops and reduces economic loss to the producers.

Pests are not just harmful to plants, but also to livestock and our health. Flies are more than just a nuisance to cattle but also a risk to health. High numbers of flies are stressful to cattle and interrupt their grazing. Flies can spread diseases, reduce weight gain, and lower milk production in cows. Reduced weight gain in cattle operations means lower profits from cattle sales. Finally, infected mosquitoes carry diseases that cause illness. Ag planes are the most effective way to apply pesticides and provide optimal protection to humans and livestock. They can cover large-scale areas with speed and precision versus ground rig application. Helicopters have also been used in our community to support the farming industry by protecting land and livestock from much larger pests. A local pilot uses his helicopter to trek wild hogs, assess damages to local farmland, and coordinate hunts to protect livestock and land from the damage this pest causes.

This summer I saw aircraft supporting our local farmers in a way I had never seen before. A devastating fire burned in our county for over a week, threatening homes and farms. It burned almost 10,000 acres in our area. My father helped our neighbor search for hundreds of cattle in pasture land near a canyon that was in the path of the fire. A helicopter pilot was able to quickly locate the cattle with his aerial view and skillfully maneuvered it to help herd the cattle toward the farmers to evacuate to a safe location. Trucks and ATVs on the ground could not search in

this terrain as fast as was necessary in these dangerous, fiery conditions to save the cattle. This pilot also flew incident commanders from the fire department and forest service to assess the fire situation and coordinate firefighting efforts. Pilots used their aircraft to help protect citizens, livestock, land, and structures in our county and prevent devastating losses in our community.

As a young kid, I was always excited to see our friends' airplane flying overhead. My brother and I loved to watch Jordan Air's bright blue and yellow plane fly low over our fields and then loop to zoom around again. We would run outside every time we heard the planes buzzing. Back then, I only thought about how lucky the Jordan family was to have their very own planes, how much fun I had playing in the hangar with their kids and riding bicycles on the runway. Now I realize the vital role their family and all agriculture aviators have in strengthening my own family's farm production, supporting our local economy, and aiding the farm industry worldwide.

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