

Support Scholarship Media Contest 2026

COMPLETE

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2026 Topic: Identify a person who has made a meaningful contribution to the agricultural aviation industry. In what ways has their work and character influenced your goals or perspective?

The NAAA Support Committee will contribute \$2,000 and Covington Aircraft Engines has generously agreed to contribute \$1,000. The deadline for the Support Scholarship Media Contest is Sept. 8, 2026.

In addition to the form below, you are required to submit a photograph.

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IP ADDRESS



216.24.86.118

* Applicant Name

Tyler Kleinsasser

* Address

514 Americas Way, Apt #24547

Box Elder

SD

57719

United States

* Email

TylerKleinsasser@gmail.com

* How did you learn about this scholarship?

NAAA Website

Phone Number

6053545533

* Biography of Applicant

Raised in a small eastern South Dakota town amid sprawling farmlands, Tyler grew to value agriculture's vital role in sustaining rural communities. As an aspiring pilot pursuing a Private Pilot License with 40 hours of flight time in Cessna 172 and Piper PA-28-181 aircraft, Tyler is passionate about aviation's impact on farming. His membership in the Experimental Aircraft Association (EAA) and Aircraft Owners and Pilots Association (AOPA) has deepened his knowledge of technologies like ADS-B, inspiring his goal to contribute to agricultural aviation's future, possibly as a pilot or innovator. As an engineering student maintaining a 4.0 GPA, Tyler balances academics with active community involvement, volunteering in local initiatives that strengthen rural life. In his free time, he enjoys hiking, reading about aviation technology, and contributing to community efforts. These activities reflect his commitment to innovation and the vitality of eastern South Dakota's agricultural heritage.

* NAAA Member Sponsor

Bob Bailey

Sponsor Company Name

Bailey Flying Service

*** Sponsor Address**

PO Box 367

Dalhart

TX

79022

United States

Sponsor Email

RBailey6511@gmail.com

*** Attach Essay or Multi-Media Presentation**

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*** Attach Photograph**

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Built for the Work: Leland Snow's Influence on My Goals in Aviation

In eastern South Dakota, agricultural aviation operates within the same landscape that supports our rural communities. Corn and soybean fields stretch across the region, often divided by roads, power lines, and other obstacles. Aerial applicators must navigate this environment while placing products accurately and responding quickly when weather, pests, or crop conditions create a narrow application window. The aircraft used for this work cannot simply be ordinary airplanes with spray equipment attached. They must be designed around the mission and the pilot performing it. Leland Snow made one of the agricultural aviation industry's most meaningful contributions by helping create that kind of aircraft.

Snow's work matters because he understood agricultural aviation from both an engineering and operational perspective. He designed his first agricultural airplane, the S-1, in 1951 and completed its test flights at age 23. He then used the aircraft for actual dusting and spraying work in Texas and Nicaragua (Covington Aircraft Engines, 2022). That experience gave him something calculations alone could not provide. He understood what an agricultural pilot needed because he had flown the same low-level application passes and faced the same operational demands.

At the time, agricultural operators frequently relied on airplanes originally designed for military training or other purposes. Snow challenged that approach by developing aircraft specifically for aerial application. He also rejected the common assumption that agricultural airplanes needed to be biplanes and pursued an aerodynamically efficient monoplane configuration instead (Joiner, 2022). Over approximately 60 years, he produced 30 original agricultural aircraft designs, beginning with the Snow S-1 and S-2 series and continuing through the aircraft developed by Air Tractor (National Agricultural Aviation Association [NAAA], 2022).

The arrangement of a modern Air Tractor shows why purpose-built design matters. The chemical hopper is positioned between the engine firewall and the cockpit, while the cockpit sits behind and above it. This gives the pilot a clearer view and separates the cockpit from the engine. Air Tractor also uses a high-strength steel-tube airframe and cockpit cage to protect the pilot during high-energy impacts (Air Tractor, 2026). These are not cosmetic differences. They address the consequences of operating at low altitude, where visibility, structural protection, and rapid decision-making can determine whether a pilot returns safely.

Snow also helped advance turbine-powered agricultural aircraft. Air Tractor introduced its first turbine model, the AT-302, in 1977. Later aircraft paired Pratt & Whitney Canada PT6A engines with larger hopper capacities, leading to models such as the AT-502 and AT-802 (Covington Aircraft Engines, 2022). Turbine power gave operators stronger climb performance, faster ferry speeds, and the ability to carry productive loads. Those capabilities are valuable in agricultural areas where a pilot may need to climb promptly after a pass, clear obstacles, and travel efficiently between separated fields.

The AT-802 demonstrates how Snow continued designing around actual operating needs. He began developing the large-capacity aircraft in 1989, initially for aerial firefighting. Air Tractor later adapted the single-seat AT-802A for agricultural application. Its 800-gallon hopper offered greater productivity by allowing operators to treat more acreage between loading stops. By 2011, 400 AT-802A aircraft had been produced, and the 1,000th aircraft in the AT-802 series was completed in 2022 (NAAA, 2023). The same basic design has supported agricultural application, firefighting, reforestation, and other specialized missions around the world.

Snow's work has influenced my perspective because I am also interested in the connection between engineering decisions and aviation operations. I have accumulated over 40 hours of flight time in Cessna 172 and Piper PA-28-181 aircraft while pursuing my Private Pilot License. Those airplanes are different from agricultural aircraft, but flight training has made me more aware of cockpit workload and the practical consequences of engineering design. At normal training altitudes, a pilot generally has time to review information, correct an approach, or reconsider a decision. An aerial applicator operating just above a crop canopy has far less time and space available. Poor visibility, confusing controls, or unnecessary cockpit distractions can quickly become safety problems.

That perspective has affected how I evaluate newer aviation technologies. Systems such as GPS guidance, ADS-B, application controls, and unmanned aircraft can improve precision and situational awareness. However, more information does not automatically mean greater safety. Technology must provide useful information without overwhelming the pilot during the most demanding parts of a flight. Snow's aircraft demonstrate that engineering should begin with the operator's environment rather than forcing the operator to adapt to the technology.

His example also connects with my interest in improving aviation businesses. I developed a performance analytics concept intended to give smaller aviation operators access to useful operational and financial information. That idea received the inaugural JSSI Aviation Innovation Grant in partnership with the IADA Foundation. Although the concept was originally developed for smaller business aviation organizations, the underlying goal is also relevant to agricultural aviation. Smaller operators should be able to use technology that improves their decisions without requiring the resources of a large company.

Snow's meaningful career has encouraged me to think about how that same approach could serve aerial applicators. Agricultural aviation businesses must manage aircraft availability, maintenance, weather, application timing, fuel, personnel, and customer needs. Better information could help an operator identify inefficient turnaround times, anticipate maintenance needs, compare aircraft utilization, or understand which operational changes produce results. The system would need to remain simple enough to support the work rather than create another administrative burden. That is the type of practical innovation Snow's example encourages me to pursue.

His character also provides a model for how I want to approach that work. Snow was known for listening to agricultural pilots and continuing to refine his aircraft. He supported industry programs involving pilot safety and drift minimization, showing that his concern extended beyond selling airplanes. In 2008, he transferred Air Tractor to its employees through an employee stock ownership plan. He had experienced the effect that an aircraft plant closure could have on Olney, Texas, and wanted the company and its jobs to remain connected to the community (Hardin, 2019).

That decision is especially meaningful from my perspective as someone raised in a small agricultural community. A business can influence far more than its customers. It can support employees, families, suppliers, and the long-term stability of a rural area. Snow built aircraft that helped agricultural operators protect crops, but he also built a company intended to endure in the community where it began. His actions show that technical achievement and responsibility to others do not have to be separate goals.

Leland Snow's meaningful contribution to agricultural aviation was not simply the creation of one successful airplane. He helped establish the purpose-built agricultural aircraft as a safer, more capable, and more productive tool. His work has influenced my goal of combining engineering, aviation, and operational analysis to solve practical problems. His character has shaped my belief that innovation should be guided by the people who use it and the communities affected by it. As I continue my engineering education, flight training, and aviation-related work, I want to follow that example by listening to operators, addressing genuine needs, and developing solutions that make agricultural aviation safer and more effective.

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