

Fly Safe Campaign



MAINTAIN ACCIDENT AWARENESS

Don't become a statistic!

NTSB has reported 5 ag accidents including 1 fatal accident so far this year.

FIRST FLY SAFE FIRST IN 2021

The 2021 aerial application season got off to a rough start with a fatality occurring in January. At this point the NTSB has only released a preliminary report, but it appears to be a CFIT (controlled flight into terrain) accident, with the pilot striking a utility pole or power lines on the edge of the field he was spraying. The pilot had 48 years of experience as an ag aviator. Let's make this fatality the first and last of 2021. While 2020 had the lowest total number of ag accidents ever at 50, there were 10 fatal accidents, the highest number since 2016.

Put safety first in your priorities this season. Establish personal minimums and then stick to those minimums no matter what the situation. Do not give in to the temptation to cut safety corners in order to get a job done quicker. If you attended the 2020-2021 PAASS program, you are well aware that cutting corners can lead to a normalization of deviance. Over time, your normal safe procedures are replaced with more dangerous procedures you have rationalized as being safe because you've never had an accident while performing them. Sooner or later, this will catch up to you and can result in an accident, and, using last season's ratio, a 20% of being deadly.

Intense pressure from customers, a large volume of work on the books, and other internal and external factors can all cause you to push yourself beyond your limits in order to get a job done. By keeping safety first in your priorities, it will be easier for you to observe your minimums and stay within your limits. The original title for this Fly Safe included the phrase "first fatality." This implied there will be more fatal accidents in 2021. While history indicates there likely will be, there doesn't have to be, but only you can make that happen. Next off-season, we'd all like to see you at PAASS, not in PAASS' "In Memoriam."

Check Temporary Flight Restrictions (TFRs)

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INCREASE YOUR MARGIN FOR ERROR

Increasing one's margin for error provides more room for making a mistake that doesn't result in an accident. Why is increasing your safety margin for error critical for ag flying? Ag flying is highly repetitious with pilots making the same maneuvers all day long, all season long. In a 400-hour season a pilot might make over 600 loaded takeoffs and over 18,000 spray turns, field entries, and field exits. Not all these maneuvers will be performed with the same level of competency. Some will be done very well, some poorly, and the rest somewhere in between. When the inevitable drop in performance occurs, an accident can happen. A pilot needs to maintain a suitable margin for error to prevent this from happening. If little to no margin for error exists for an ag pilot when performance drops and an error occurs, the results will likely be catastrophic.

Doing hammerhead turns is an example of leaving no margin for error. All it takes is one missed recovery and a pilot can end up in a fatal stall spin accident. If a pilot tried hammerhead turns on a third of his turns over the course of a season, they could well be making over 6,000 attempts to kill themselves. Ag flying is a risky business. It's not because flying a plane is so hard. It's because making flying at low altitude around ground-affixed obstacles leaves nearly no time for recovery when a mistake is made.

In NAAREF's [Stall Spin Avoidance video](#), Wayne Handley discusses the benefits of backing off from the edge and adding 10% more time (or distance) to each turn. This 10% extra time for each turn augments the safety of the pilot by increasing his margin for error while adding only minutes to the total flying time required during a full day. The 10% allows you room to be a little bit off in your turning procedures without stalling the aircraft. Review your operations and study up on ways you can increase your margin for error. Then develop personal minimums that always provide that increased margin for error.

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NTSB has reported 6 ag accidents including 2 fatal accidents so far this year.

CONTROLLED FLIGHT INTO TERRAIN ACCIDENTS CLAIM TWO MORE LIVES IN 2021

The 2021 ag aviation season has begun much like 2020 – ag pilots are colliding with obstacles and dying. While the NTSB reports for the two 2021 fatal accidents are not yet final, both appear to be Controlled Flight Into Terrain (CFIT) accidents. CFIT includes collision with the ground as well as obstacles attached to the ground, such as power poles, wires, towers, and trees. Over the previous 10 years, 29% of all ag accidents and 51% of fatal ag accidents have been CFIT. The most commonly hit objects are power lines, and it appears both of the 2021 fatal CFIT accidents were the result of hitting power lines.

Know when to say no to a job that has more obstructions than you feel you can safely handle. Scout all of your fields thoroughly and then make a plan as to how you intend to treat the field safely. If there is a particular obstacle that concerns you, such as a pole without evident wires, investigate before you begin the application. Yes, stopping will take additional time, especially if you have to send someone out on the ground to check it out. However, taking the time to inspect an area could add time to your life and will take far less time than the time your family would need to arrange your funeral, or to repair or replace a wrecked aircraft.

No matter how busy you are, your life depends on you keeping track of obstacles during an application. There are many different layers of distraction in ag aviation, especially in the busy part of your season. These can include worrying about other jobs you have to do that day, equipment malfunctions, personal problems, and countless others. Be especially wary of cockpit distractions. When you're in a pass, do not allow your attention to be diverted. The more distractions you have, the more likely it is your brain will focus on those problems instead of the what's in front of your aircraft, and the more likely it is you'll lose track of an obstacle and have an accident. Forgetting about an obstacle won't make it go away.

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NTSB has reported 8 ag accidents including 2 fatal accidents so far this year. There has been 1 fatal accident not yet reported by NTSB bringing the total to 3 fatal accidents.

LANDING WITH A LOAD SAFELY

Once an ag aircraft has been loaded with product and water, the goal is to apply that load to the target field. Sometimes however, weather or other factors such as equipment malfunctions can lead to the need to abort the application after the aircraft has already taken off. This requires the aircraft to be landed fully loaded which can be more difficult to accomplish. There is an excellent video available with tips on how to safely land with a load on the [NAAREF Safety and Education Videos website](#). The video features Fran de Kock of Battlefords Airspray in Canada in both classroom and dual cockpit settings.

Fran advises that when you must land with a load, everything has to be done correctly. Control inputs must be perfect with no overreaction. You need to be aware of the difference in the required airspeed because you can get behind the power curve quickly. No matter what type of aircraft, about 20% additional airspeed needs to be added during the approach when landing with a load. It is better to approach a little too fast rather than a little bit too slow. Most aircraft should have a recommended speed in the handbook for landing loaded.

The angle of your approach needs to be reduced and you need to give yourself extra room on the approach as well. If you don't make a good approach, you're not going to make a good landing. If something gets a little off during the approach, go around for another attempt. You also want to make sure your tailwheel lock is functioning properly. Fran recommends raising the flaps once the main gear is firmly on the ground to prevent the wing from flying again. If your normal landing strip is shorter or rougher than what you feel comfortable with for landing a loaded aircraft or has a crosswind component at the time you need to return with a load, consider using an alternative strip that is longer and smoother and doesn't have a crosswind that increases the difficulty of the landing.

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NTSB has reported 12 ag accidents including 4 fatal accidents so far this year. There has been 1 fatal accident not yet reported by NTSB bringing the total to 5 fatal accidents.

EMERGENCY FLY SAFE: FIVE FATAL ACCIDENTS ALREADY IN 2021 – KEEP AN EYE ON WIRES

There have already been 5 fatal ag accidents in 2021, 4 of which involved wire strikes. One of the nonfatal accidents was also a wire strike and another was a collision with a power line pole. From 2011-2020, there has been an average of 9 wire strike accidents a season, which is 14% of all ag accidents. On average 2 wire strikes are fatal every year, accounting for 16% of all fatal accidents. Wire strikes are Controlled Flight Into Terrain (CFIT) accidents. CFIT also includes collisions with towers, which claim an average of 1 life a season. Tower collision accidents are fatal 65% of the time.

PAASS recommends you review the [Wires and Obstructions](#) video available online from NAAREF which has many tips from other ag pilots on avoiding wire strikes. Inexperience, diverted attention, and complacency are leading factors related to wire strikes. Consider an emergency stand-down to watch now as an operation to learn from and discuss to keep these deadly contributors to accidents at bay. Complacency can occur on every job once you've completed enough work to get comfortable with the site. Remind yourself every pass there's a wire at the end of the field because "the ones you hit are the ones you forget." The sun and terrain can cause blind spots that make it even more difficult to spot wires so use helmet and cockpit visors to reduce glare and avoid making passes adjacent to wires when you are flying into the sun.

Circle every field before you begin the application to look for wires and other obstructions. Look for things that will likely signify the presence of wires, such as poles, roads, pump jacks, buildings, and anything else you think may have power. These objects are much easier to spot than a wire. The way the field has been worked by a farmer can also help you spot poles or guy wires, as there will be a visual indicator the farmer has worked around an obstacle. Set limits as to the work you're willing to do around wires and make extra clean up passes to ensure safety. No job is worth your life – don't be number six.

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NTSB has reported 13 ag accidents including 5 fatal accidents so far this year.

NORMALIZE SAFETY AND DO NOT DEVIATE FROM YOUR PERSONAL MINIMUMS NO MATTER WHAT

One of the subjects covered in the 2020-2021 PAASS program was the normalization of deviance. All ag aviation tasks have normal, safe protocols to follow, but stress can cause you to consider using a less safe shortcut. This is called a deviation from normal—you consciously chose a quicker but less safe procedure. If it works, you accomplish the task and survive the deviation from normal. The next time you encounter a similar situation, it is more likely you will once again deviate from normal safety protocols. Over time, as you are rewarded for taking the shortcut by accomplishing work with no negative consequences, the deviation from safety becomes your new normal. You have now normalized deviance and no longer consider the quicker unsafe practice to be dangerous anymore.

There are many temptations that can lead a pilot astray from normal, safe procedures. Ag pilots want to maximize productivity and spray as many acres as possible each day. Demanding customers will sometimes attempt to talk you into doing jobs you don't feel safe doing or work in marginal weather that could lead to an accident or drift incident. Some parts of the country are currently receiving excessive rainfall and aerial applicators are the only option for treating cropland in those areas. When you combine the wet ground with high commodity prices, it means growers are putting intense pressure on aerial applicators to get their work done.

Again, this pressure can tempt you to deviate from normal, but this compromises safety, risks an accident, and markedly increases an ag pilot's chances to be fatally injured. Establish your personal minimums now, and a safe procedure to conduct all tasks related to flying an ag aircraft and making aerial applications at your operation. Make a commitment to undeterredly stick with those procedures. At the first sign of wavering, remind yourself what can happen if you start down a normalization of deviance path. If you deviate, you die.

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NTSB has reported 14 ag accidents including 5 fatal accidents so far this year.

AGE AND EXPERIENCE DO NOT MAKE YOU INVINCIBLE – FLY SAFE EVERY LOAD

Age and experience are no guarantee for preventing an accident. From 2011 to 2020, the average age of a pilot involved in the accident was 46 years old, and the average total flight time was 8,159 hours. For fatal accidents during that period, the average age was 48 years old and average total flight time was 10,507 hours. Seven pilots who lost their lives in this period had 25,000 or more hours; four pilots had less than 1,000 hours. The 2019 NAAA survey shows 55 years old is the average age for operators while pilots average 47 years old. Operators have an average of 12,404 hours of total flight time and pilots have an average of 9,564 hours of total flight time.

The fatal accidents in 2021 included young pilots with little experience as well as pilots with many years and hours of experience in ag aviation. In the 2020 season, a brand-new pilot, an experienced pilot, and a seasoned ag aviation veteran all died in stall spin accidents. It is impossible to know what caused the turn to be made in an unsafe manner. It could have been a cockpit distraction, a health issue, or complacency and a belief to deviate from the normal turning process without fear of an accident.

If the latter is complacency, this is often caused by the very things that should prevent an accident – experience, training, and knowledge. It creates a sense of feeling safe and secure and occurs when someone is very familiar with their work, especially work that involves repetitive tasks. Fatigue and stress can increase risk of complacency and lead to deviating from safety protocols. An accident can happen to anyone at any time. It doesn't matter if the load in the hopper is your first ever, or the last of your 30th season. Keep your mind on the task at hand, always stick to your personal minimums, and always fly the aircraft as if your life depended on it. Because it does.

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