

On tractors with wings, they farm fields from the sky

The Ag Pilot Story



by WILLIAM GARVEY / AOPA 480899

■ ■ The fat South Florida stars were completing their nocturnal watch, and a morning line of cumulus was building in the east. Miami's lights glowed in the distance as clock radios sounded their FM reveille in 10,000 sleepy bedrooms.

Out here in the rich flatlands that mark suburbia's end, the men of the soil were already at work. The brown-and-green carpet that separates the Everglades from shopping centers forms the neck of a vegetable-rich cornucopia that expands north into the Florida peninsula. The tomatoes, potatoes, beans, corn, avocados and citrus grown here feed the nation in winter.

To help ensure that the greens reach those northern dinner tables, farmers here, as everywhere, are turning more and more often to neighbors with wings. "Crop dusters" was once their name, but

time, techniques and temperament have changed that. They now call themselves "air applicators" or "ag aviators" and they're 5,500 strong, nationwide. Regardless of their title, these men are farmers who plow the sky. And everyone knows farmers start work before dawn.

That's why the men at Tri-State Dusting Co., Inc., were already shuffling through their barnlike hangar even though the sun had yet to appear. They were hefting 50-pound bags of fungicide, which they dumped into a crusted mixing tank to be churned for hours on end.

Out in back of the barn squatted two dirty Rockwell Thrush Commanders, a Stearman, and a Cessna 140 spotter plane. The Commanders looked battle-worn and aged—a deception. One Thrush was two years old; its mate was just a year-old babe. And the two ma-

chines were in the pink of health. The Stearman was at least 25 years old, but would work as hard that day as on all the days that had gone before. Its own rag-wing mate had fallen victim to a tailwheel-wrenching groundloop and was convalescing within the hangar.

As the sun nudged above the horizon, the blue-jeaned pilots scrambled into the cockpits, and blue smoke exploded from the trio of 600-hp Pratt & Whitney radials. The big machines rumbled to the gas pump and the pilots climbed down from their roaring mounts, topped off the wing tanks and then taxied to the mixer, where the Thrush hoppers would be filled with chemical. The 185-gallon Stearman hopper would be packed with dry fertilizer.

Amado Cantillo, Tri-State manager, had briefed each pilot on the first target field, load and penetration required.

Now the first Thrush Commander, heavy with fuel and 400 gallons of Dithane mix, lined up on the wet, half-mile-long grass strip. The P&W radial screamed to full power and the bomber rolled out, leaving a curtain of morning dew in its wake. The second Thrush followed, and then came the Stearman, a bi-winged anachronism whose pilot sported a leather helmet and goggles and had stuffed cotton in his ears to keep from going deaf.

For the next three hours the Tri-State pilots unloaded their salvos on damp acres of pole beans and tomatoes, returned to base to refill their hoppers, took off again, unloaded again, and returned again in wearying succession.

They arrived at their target fields at maybe 500 feet agl. After making one clearing pass to spot field hands, wind and wire, they began. Nose down steeply as they approached the first row; level at about five feet off the greens; haul back on the spray lever to a predetermined setting; then roar down the deck at about 120 miles per hour. A 60-foot swath of fungicide spray marked the trail.

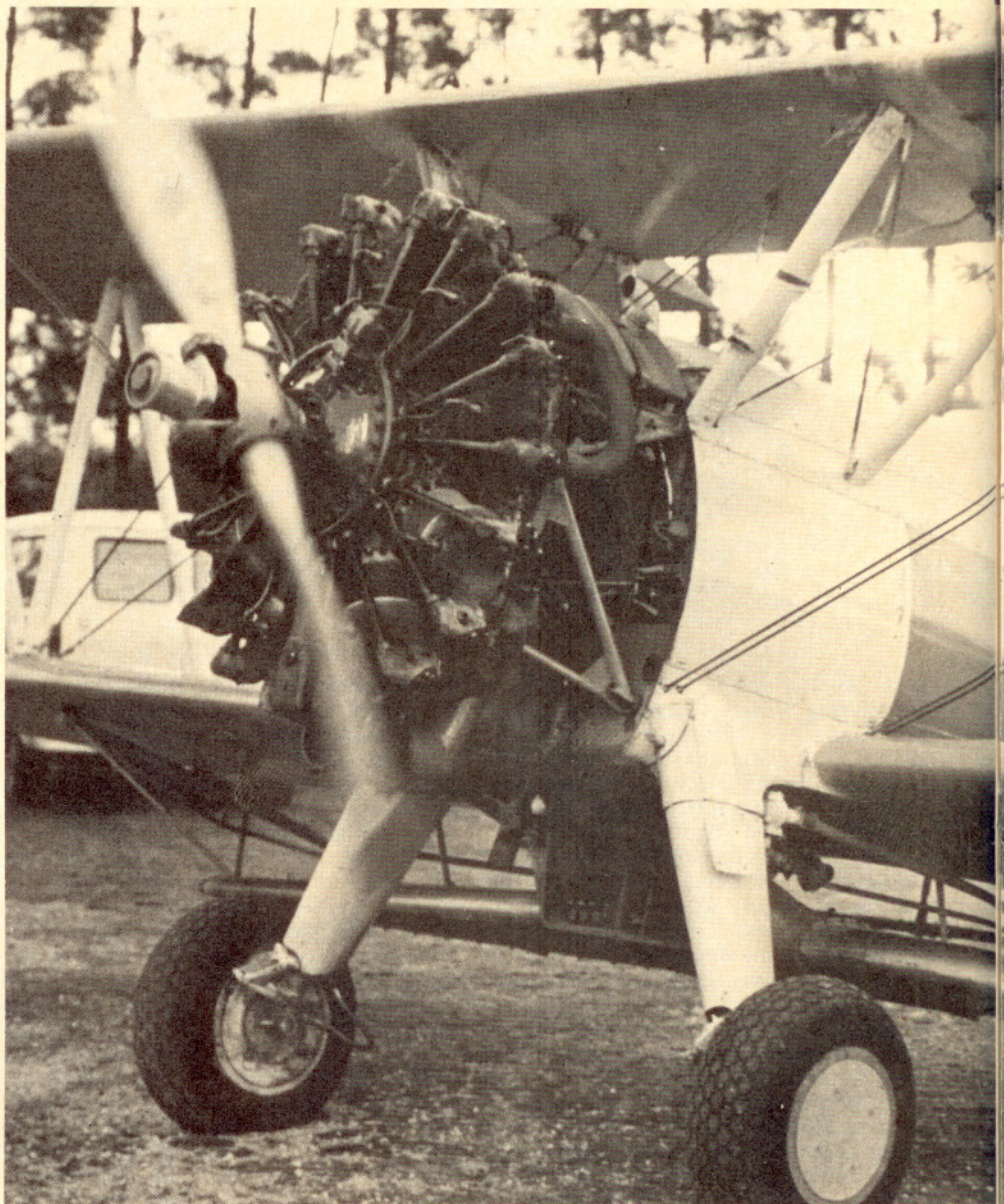
At the end of the field, haul back on the stick and climb steeply into the wind. Next, opposite rudder for a near-wingover "S" turn and then dive down again for another swath run. The heavy-G maneuver, done well, takes about 25 seconds in a Thrush. The quicker the turn, the better. These men get paid by the acre, and so time is money. Stalls await those pilots too greedy or too inexperienced.

By 11:30 a.m., the three planes were grounded. The pilots had to wait for the sun to evaporate the last of the dew. Once the leaves were dry, they went up again, this time with hoppers full of fertilizer. And again the dogged routine.

Such a pace is demanding, but the rewards for a veteran pilot aren't bad at all—say between \$8,000 and \$30,000 per year, depending on the airman's skill and the amount of months he actually works at it. Good ag pilots might fly 500 hours in a year.

Unlike the gypsy dusters of years

Six hundred horses
awaken with a roar; goggles
and leather helmet are proffered
the man who will ride this Stearman.





Heavy with chemical mix, a Thrush Commander races to the sky.



past, who flew their own Stearmans and puddle-jumped around the country looking for bugs to bomb, today's ag pilot is a more durable, more reliable man, an entomologist-farmer who happens to fly a plane.

"We've gone from being aviators first to being agriculturalists first," says F. Farrell Highbee (AOPA 322670), executive director of the National Agricultural Aviation Association (NAAA). "All we're really doing is operating a tractor in the sky."

This new image and new purpose is felt by the pilots themselves. Jimmy Smith, a veteran ag pilot who works for Tri-State, said, "It's not a barnstorming, hair-raising business anymore. You don't put on airshows anymore."

Ag pilots today are becoming increasingly expert in the use of pesticides and other chemicals. More and more states are placing restrictions on what chemicals may be used, how they may be applied, and who may apply them. The federal government is also expanding its regulations on the use of pesticides and the qualifications of those who use them. Some areas require that ag pilots be certificated for chemical application.

This increasingly restrictive environment, combined with the fact that today's short-lived chemicals, such as organophosphates, are highly toxic upon first application, demand that the ag pilot be a pro. It's becoming difficult for the gypsy to survive. Now there are schools devoted entirely to agricultural aviation training.

Another factor that has helped to phase out the gypsy duster is the expense of the equipment itself. During the early 1950s, when ag flying was still an adolescent, almost every plane used in the business was a war-surplus Stear-

man fitted with a spray boom and purchased from the government at rock-bottom prices. Attrition has claimed most of these bi-wings. Their replacements, which now outnumber them almost 5 to 1, cost anywhere from around \$22,000 for a Cessna AGpickup and \$24,000 for a Piper Pawnee upwards to \$45,000 for a Thrush Commander or a Grumman American Super Ag Cat.

One Stearman holdout is anything but a gypsy duster. George Mitchell's M&M Air Service in Beaumont, Tex., bought 40 surplus Stearmans in 1949. Damaged ships were replaced with other Stearmans over the years, and now the firm flies 26 of the rag-wing aircraft regularly. Fourteen more still bear their original service markings and are being held in reserve.

Unlike yesteryear's gypsies, today's ag pilots generally work for one operator, and they'll follow the seasons with him if they can. For example, Tri-State is owned by Williams Flying Service in Tutwiler, Miss., and the Tri-State pilots might fly with Williams in the Midwest and Mississippi Valley during the spring and summer and return to Tri-State, in Homestead, Fla., for winter work.

The pilots, if mobile, have little worry about having enough to do. Last year the nation's 8,000 ag craft (about 400 are helicopters) sprayed or fertilized some 135 million acres of farmland. The treatment charge per acre averages between \$1.50 and \$1.80, which means ag flying netted over \$200 million last year.

And the amount of ag flying is constantly increasing as gasoline and diesel fuel for slower ground equipment become more expensive, as the farm labor pool decreases, as more expertise is required for chemical application, and as

more land is freed for cultivation. The federal government recently released an additional 50 million acres of farmland from the soil bank for planting.

Highbee estimates that 65 percent of all agricultural pesticides are now applied by aircraft. He says it is almost impossible to estimate how much fertilizing is done by air.

The ag-flying business is big business and growing bigger daily, and so good ag pilots are in demand. Carrol Voss (AOPA 14947), a doctor of entomology and president of Ag Rotors, Inc., of Gettysburg, Pa., says he is constantly getting requests for chopper ag fliers. But he pointed out a fact that apparently holds true for both chopper and fixed-wing operators. "Most operators want the more seasoned, older men," he said.

Why? Primarily the "no old, bold pilots" axiom. Young ag pilots, NAAA's Highbee explained, are too impatient to learn all the rules. They want to make the big money fast, and in the process they make expensive, sometimes fatal mistakes. NAAA President Al Johnson (AOPA 113408), head of Air Enterprises, Magnolia, Del., said green pilots "expect a golden spoon, I guess . . . They don't care to take on craftsmanship and do something right . . . They don't want to take the time to learn it properly."

And ag flying can be treacherous for a pilot who makes mistakes. A toxic payload can spell trouble for a pilot too cocky to wear a respirator. Stalls await those in too much of a hurry. And fatigue will find those hungry pilots who push themselves for 10 hours a day, day after day. But the greatest menace of them all is the power and telephone line that seems to border every lettuce patch from Florida to California.

It seems every ag pilot can recount the day he cut a wire at 120 mph. The threat of a wire strike is constant. "I've always got it in the back of my mind," said one pilot.

An ag pilot has three options in dealing with wires. He can fly over them; he can fly under them; and, if he's blown the first two, he can fly through them.

Option number three is both the ugliest and the simplest. "If you're going to hit," explained Tri-State's Smith, "level the wings and give it full bore. Then duck."

A lot of pilots have walked away from wire strikes using just such a method, but many have not. Between 1952 and 1972, some 965 ag pilots died in accidents, and there were 7,707 ag accidents in all. However, the new professionalism of the pilots is becoming evident in the statistics. Last year there were 2.4 ag pilot fatalities per 100,000 hours of flying, compared with 6.9 fatalities per

100,000 hours in 1952. General aviation as a whole experienced 2.49 fatalities per 100,000 flying hours in 1973.

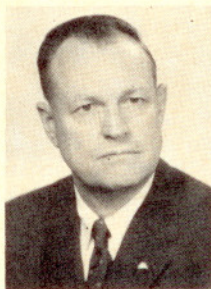
While such statistics are encouraging, numbers do not lessen the danger an ag pilot must live with. This inherent danger, combined with the long hours, the monotony, the fatigue and the grime would seem to qualify the appeal of the big bucks to be made in ag flying. There must be some reason other than money for flying an ag plane day after day. For some, there is.

Ag pilots have an appreciation of the land, a characteristic which may stem from the fact that most of these men seem to come from farm country. They talk of soil, of crops, of infestations: conversations more befitting a Grange hall than a hangar. Their uniform—blue jeans, boots and soiled work shirts—is more apropos for dirt farmers than for fliers. Also, there is no air of superiority about these professional pilots; they're as much farm hands as the men who ride the ground-bound tractors. And they like it that way.

During one brief flying interlude, Jimmy Smith tramped through the rows of just-sprayed tomatoes. He explained that ag pilots take a special pride when a farmer reports his harvest was a good one. Then he bent down, plucked a fat, green tomato from the vine, stood straight, and smiled. "Here, take it," he said. "It's a good one, I guarantee it."

It was delicious. □

Stanberry Named To Head Air Safety Foundation



William R. Stanberry

■ All activities of AOPA's safety and training division have been transferred to the AOPA Air Safety Foundation, and William R. Stanberry (AOPA 52676) has been named the foundation's executive director.

Announcement of the changes was made by AOPA President J. B. Hartman, Jr., who is also president of the AOPA Air Safety Foundation. "With increased emphasis on air safety in recent years," Hartman said, "both the safety and training division and the foundation have expanded their activities. The consolidation of these two similar units will permit channeling resources into more efficient safety programs."

As the foundation's new executive director, Stanberry replaces Ralph F. Nelson, an AOPA vice president who last year was named assistant to the president of AOPA.

A retired Navy commander, Stanberry was director of AOPA's flight training department from 1968 to 1970. For the past four years, he has continued his aviation safety work as a frequent instructor and course supervisor for AOPA's traveling training programs, having participated in more than 150 Flight Training Clinics and Flight Instructor Revalidation Courses. A charter member of the National Assn. of Flight Instructors, he was instrumental in the development of AOPA's Mountain Flying Course.

Stanberry, an airline-transport-rated pilot, has logged more than 6,000 hours in single- and multi-engine aircraft and gliders and holds all flight and ground instructor ratings. His 30 years in the Navy included service in Africa and the Pacific during World War II and with the First Marine Division during the Korean War. He was an aviation physiologist at the time of his retirement from the Navy in 1968. □