In May 1975, Emmerson visited a number of operators in a 160-kilometre (100 miles) long strip along the coast of the Gulf of Mexico, in both Texas and Louisiana, where rice was cultivated in huge areas. The producers in that region were thoroughly dependent on aerial seeding, fertilising and spraying of both insecticides and herbicides. Indeed, 85 % of all this work was being done by air. The 400 or so aircraft required for the 7 or 8 applications each crop needed were piston-powered aircraft like the aforementioned Ag-Cat, the Cessna Model 188 Agwagon, and the Piper PA-25 Pawnee.

One of the operators contacted by Emmerson was Lyon Air Service Incorporated in Louisiana. The Canadian representative spent several days with people of this sizeable firm, observing spraying procedures and talking to employees of all sorts. He even bought a stopwatch to time the many phases of a spraying operation.

As well, Emmerson spent some time at **Air Rice Incorporated** in Texas, another important operator of the southern states. Like a number of his competitors, the firm's boss**, William Priester "Bill" Cardiff**, expressed some concern regarding the long-term reliability of the Wasp. Engines were starting to fail which meant that operators would find it increasingly difficult to keep up with the growers' demands. Thus, Cardiff's reaction to UACL's project was quite enthusiastic. He was confident

that a PT6-powered aircraft would bring some added benefits thanks to its greater payload, faster turnarounds, reduced pilot fatigue and smaller maintenance costs.

Indeed, Cardiff suggested that UACL loan a PT6 to help with the conversion of an aircraft. The work would be done by a Texas firm, **Frakes Aviation Incorporated**. The aircraft chosen, an Ag-Cat, became the Frakes / Grumman Turbo-Cat. It first flew in the spring of 1976. Trials showed that its productivity was 60 % greater than that of piston-powered agricultural aircraft. A number of aerial applicators anxious to use the new engine approached Frakes Aviation to have their machines converted. In fact, the firm eventually offered to convert some versions of the Ag-Cat.

Frakes Aviation's boss, Joseph Frederick "Joe / Fred" Frakes, had already worked with UACL. In 1967, he had begun work on a PT6-powered conversion of the Grumman G-73 Mallard twin-engined amphibian. This machine, known as the Frakes Turbo-Mallard, had flown for the first time in 1969 and proved successful. Many conversions were produced in the 1970s. Several / many of them were still flying in the United States and elsewhere in 2020. But back to our story.

What happened afterward remains somewhat obscure. We do know that a second PT6-powered prototype flew in July 1978. This aircraft may have been an Ag-Cat built by Schweizer Aircraft Corporation, the sole producer of the piston-powered Ag-Cats since day one, in 1959. Like its predecessor, this machine had been converted by Frakes Aviation. Air Rice evaluated the aircraft for some time. These trials showed that a production model of the turbine-powered Ag-Cat could be fitted with a less powerful version of the PT6 engine without any undue loss of performance or economy. This resulted in the conversion of yet another aircraft, apparently for use as a pre-production machine, in September 1978.