

The two under-wing burners are visible in this dramatic picture of a Cessna 310B of the Commonwealth Scientific and Industrial Research Organization used for the Australian experiments

In the United States and in Australia, artificial rainmaking with the help of aircraft has been practised with varying degrees of success for many years. Ground-based experiments in the United Kingdom were carried out by the Ministry of Supply's Chemical Defence Experimental Establishment at Porton, near Salisbury, beginning in 1955, but failed to produce conclusive results. These photographs show a recent successful operation carried out by the Commonwealth Scientific and Industrial Research Organization near Wagga Wagga, New South Wales.

Pioneer work in this field in Australia began in 1947, when the Organization produced what is claimed to be the first-ever man-made rainstorm by dropping dry ice from an aircraft into a cloud. Perhaps the most effective artificial freezing nuclei yet discovered are crystals of silver iodide, produced by burning a solution of silver iodide in a hot flame. The Australian experiment depicted here, in which such nuclei are injected into clouds from a Cessna 310B aircraft, involves the use of special burners mounted beneath the wings of the aircraft near the tips. Each of the ground burners used in the Porton experiments generated about one ounce or 50,000,000,000,000,000 silver iodide crystals per hour.

The objective is to inject the crystals into regions where the temperature is -6°C or colder, but it is usually satisfactory to release the smoke just below cloudbase, whereupon the nuclei are dispersed into the cloud by upcurrents. Results of five years of the Australian work, reported last year at the International Conference on Science in the Advancement of New States held at Rehovot, Israel, indicate that conclusively effective results were obtained. In the New England and Snowy Mountain regions of Australia, and selecting the clouds for seeding at random, the rainfall was increased artificially by 30 and 19 per cent respectively.

ing, 30 min later. Increases in rainfall of 30 per cent and 19 per cent have been achieved, using clouds selected at random, in two regions of Australia

