

Agriculture and forestry aviation - New horizons

NRC's 32-member Associate Committee on Agricultural and Forestry Aviation monitors international technological development and utilization of aircraft employed in agriculture and forestry operations and guides the development of a growing Canadian industry by assessing the design, safety and performance of aircraft and equipment used in this context.

In today's world, food production is of vital importance to the economic well-being of all nations. For this reason, the aerial distribution of chemical materials (e.g. herbicides and pesticides) for the control of plant and animal pests is assuming a greater importance in the growth of crops.

There are other, equally important uses of aircraft in agriculture, such as in seeding fields and spreading fertilizers necessary to crop growth. In addition, spray techniques have public health applications. Diseases such as Western Equine Encephalitis, commonly called sleeping sickness and usually transmitted from horses to humans by the mosquito, can be controlled in this manner.

In view of the widespread use of aircraft in this context, the National Research Council of Canada set up a 15-member Associate Committee on Agricultural and Forestry Aviation in 1965. Composed of representatives from Canadian industry, government and universities, it now monitors international technological development and utilization of aircraft employed in agriculture and forestry operations. Its primary function is to guide the development of a growing Canadian industry by assessing the design, safety and performance of aircraft and equipment, and predicting their performance in operation under Canadian conditions.

The Committee, which has now grown to 32 members, also advises on and promotes research and development programs. It has encouraged the adoption of a system of recognized qualifications as criteria for the training of personnel involved in agricultural and forestry aviation in

Canada. If these qualifications are adopted (for example, the Chemical Application Certificate), they will contribute to the development of internationally uniform procedures and certification, and standardize required training, knowledge and experience. To this end, detailed training programs for air and ground crew, information on aircraft utilization and statistical material are made available to interested parties. To date, the Chemical Application Certificate has been adopted by all provinces across Canada and is being used as a standard by a number of foreign countries. The Committee has prepared a Handbook on Chemical Safety in the Aerial Application of Chemical Material which contains safety standards for spraying in Canada. Copies have been requested by a number of foreign countries.

These safety standards are of paramount importance if unnecessary pollution of the ecosystem is to be avoided and accidents due to the corrosive and toxic properties of many of the chemicals minimized.

Aerial spraying continues to be the most economical way of treating vast tracts of timberland against attack by fungi, viruses and insects. Statistics indicate that every year in Canada some seven to eight million acres (2.8 to 3.2 million ha) of forest are sprayed to control insects and about one to one-and-a-half million acres (.4 to 1.6 million ha) of agricultural land is treated for insect and weed infestations. (This does not include occasional spraying to control major epidemics, such as occurred with the Bertha armyworm in the Prairies last year.)

Cessna Aircraft Company



Aerial seeding, using a Cessna Agwagon, is used to re-forest specific land areas, in this case the Cumberland Mountains of Eastern Kentucky, scarred by decades of strip mining operations.