

## ground cover



Collecting invertebrates trapped on one of the experimental ground cover plots.

*Ramassage d'invertébrés dans un des carrés d'essais.*

The six plants fall into two categories. Black medick, low hop-clover and silverweed are plants thought better suited for more fertile soils while mouse-ear hawkweed, three-toothed cinquefoil and broom-crowberry are most often found growing on sandy, infertile soil.

How to establish and maintain relatively pure stands of these plants over large areas is not an easy problem. Most of the candidate plants are "weeds" and until now have attracted little attention except as minor agricultural pests. Although seed is commercially available for black medick and low hop-clover, no commercial seed source exists for the other plant species. For this reason, the initial plantings in the spring of 1968 were carried out using vegetative material from silverweed stands growing on the St. Hubert Airfield, Quebec, and from hawkweed obtained in Wolfville. A limited amount of three-toothed cinquefoil seed collected the previous fall at Seven Islands Airport, Quebec, was sown on the infertile soil. No attempt was made to plant broom-crowberry at

this time, as seed was not available.

Observations of these initial plantings led to the elimination of two of the candidate plants. Black medick was not competitive enough to serve as a satisfactory ground-cover plant. Broom-crowberry was rejected when flammability tests conducted on pure stands of this plant growing near the Greenwood Airfield, N.S., revealed that this plant species readily caught fire and would pose a fire hazard if used as an airfield ground-cover plant.

A more detailed investigation of the suitability of these plant species as airport ground-cover began in the spring of 1969. Two isolated areas, one located on fertile soil and the other on an infertile soil were chosen for the experimental plots. Low hop-clover seed, silverweed vegetative material from Montreal International Airport and grass of the same varietal mixture as sown on airports, were planted on the fertile soil area in a three by three experimental design with each of the nine plots measuring 50 feet square. The same design was used for planting three-toothed cinquefoil cuttings from

Seven Islands Airport, Quebec, vegetative material of mouse-ear hawkweed obtained in Wolfville, and a grass-seed mixture on the infertile soil area.

Comparative observations on the aggressiveness of the candidate plants in establishing themselves, on the production of bird food (invertebrates, seeds and parts of plants eaten), on the use by small mammals which may attract larger birds, and on the frequency of bird activity, are being recorded on each area.

Laboratory germination tests have been completed for seeds of mouse-ear hawkweed, silverweed and three-toothed cinquefoil. Both three-toothed cinquefoil and silverweed exhibit slight hard seed-coatedness and require fall sowing or a moist prechill treatment before sowing.

While research efforts to date have been directed towards assessing only these six particular plant species as alternate ground-covers for airports, other plants which appear promising as potential replacements for grass cover on airfields may be tested in the future. □