

## Arid Land Seeder

Carlton H. Herbel, *Chairman*

No further development of the arid land seeder is planned this fiscal year. During the past year an area infested with creosotebush on the Jornada Experimental Range was rootplowed and seeded by the prototype equipment developed in the 1960's. We used Lehmann and Boer lovegrasses, black and sideoats grama, yellow bluestem, and fourwing saltbush. We are planning to treat a total of 200 acres with this equipment so that we can study the effects of this operation on the ecosystem.



*Arid land seeder.*

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## Plant Materials

Gil Lovell, *Chairman*

### 1977 Activities

The Plant Materials Workgroup was active in 1977 compiling, revising, and updating previous reports on new or improved plant materials. The goal of publishing an extensive listing of plants released for rangelands or general rehabilitation proved to be too ambitious for the time and manpower available to this Workgroup in 1977.

The group finds itself at a point of reorganizing and bringing in new members to replace several people who find themselves unable to remain as active as they feel they should. The group will continue to maintain a membership composed of representatives from Federal agencies (Science and Education Administration, Bureau of Indian Affairs, Bureau of Land Management, Soil Conservation Service, Forest Service), university and experiment station researchers, and industry (particularly the commercial seed producers).

The goals for 1978 will be set at a somewhat modest level to insure completion of projects. Goal I will be to complete and publish a revised and updated listing of released and available plant materials suitable for rangeland rehabilitation. Goal II will be the review at the 1979 Workshop of the most promising plants now being evaluated by universities, the Science and Education Administration, Soil Conservation Service, and the Forest Service. This review is being planned as a slide presentation of plants on problem sites, with brief descriptive statements by the respective researchers.

### Ecosystem Data for Predicting Forage Alternatives

Presented by Tom Davidson,  
Science and Education Administration

In the Plant Taxonomy Laboratory at the Agricultural Research Center at Beltsville, Md., Dr. James A. Duke and Thomas C. Davidson maintain an expanding computerized data base of plants important for forage, food, fibers, and oil in the world economy. Each of the 25,000 records in the data base is made up of the species identifier, the location, latitude, longitude, elevation, as well as climatic and soil information that corresponds to the location where the plant is under production. Supplied with the appropriate ecological parameters of a given remote location, the data base can be queried for a listing of plants that are under production in similar ecological situations around the world, and would presumably have a positive economic potential in the area under consideration. If the ecological parameters for the area in question are not known, it is possible to deduce them if a sufficiently complete list of weeds from the area is provided. Subsequently, the list of cropping alternatives may be generated.

Although the data base is large enough to generate broad-brush sketches of the ecological amplitudes of cultivated, native, and weedy species, it needs to be doubled, at least, to permit statistically reliable fine-brush deductions. For that reason, the Laboratory is collaborating with other stations, in the U.S. as well as abroad, to assimilate more data to augment the data bank. Collaborating stations will receive copies of the consolidated data in return for filling out appropriate questionnaires.