VREW from the Start

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THE VEGETATIVE REHABILITATION AND EQUIPMENT WORKSHOP is an informal group concerned with developing and testing revegetation equipment and providing information about suitable equipment to land managers. VREW has actually been around for quite a while and was formerly called the Range Seeding Equipment Committee. The group includes federal and state agencies, universities, industry, professional organizations, and private citizens.

VREW meets each winter, usually just before the Society for Range Management meeting, to discuss activities and accomplishments, present new information, and recommend future action. The workshop is closely affiliated with USDA Forest Service Equipment Development Centers at San Dimas, Calif. (SDEDC), and Missoula, Mont. (MEDC), where much of the project work takes place.

VREW's roots go back to World War II, when more wool and beef were needed to sustain the war effort. With increased demand for sheep and cattle, increased productivity from National Forest rangelands was sought. However, many of these lands, already suffering from a long history of abuse, could not support additional livestock without substantial improvement. Large-scale seeding programs were implemented to accomplish the necessary improvement.

The programs proved successful, but it was soon discovered that available equipment, which was designed for crop production on farmland, was inadequate for rangeland. The rigors of rocky ground, steep slopes, and dense brush took their toll in broken implements. The poor performance of the equipment no doubt resulted in considerable frustration and some profuse swearing.

In 1945, Forest Service (USFS) administrators and researchers from western regions met to discuss the need for a major effort to test, adapt, or develop equipment suitable for range seeding. They invited the staff of the Forest Service Equipment Development Center, then at Portland, Ore., to participate. A committee was formed to which Equipment Development Center personnel provided equipment and expertise to solve rangeland equipment problems. This committee became known as the Range Seeding Equipment Committee. In 1975 it was renamed the Vegetative Rehabilitation and Equipment Workshop (VREW), reflecting its expanded scope.

The committee met formally in December, 1946, in Portland, Ore. Members drew up a charter in which they agreed to: consider, evaluate, and assign priorities to equipment problems suggested by the Forest Service Regions; prepare a program of work each year for the Portland Center; and provide specifications for the most desirable equipment for range seeding. In 1949, the committee expanded its objectives to function as a clearinghouse for information exchange and act in an advisory capacity in range seeding and undesirable plant control policies and procedures.

ABOUT THIS TIME, SEVERAL OTHER AGENCIES that were experiencing similar equipment problems became interested in the committee. The Bureau of Land Management (BLM) participated in the 1949 meeting and began to contribute funds in 1951. The Soil Conservation Service (SCS) and the Bureau of Indian Affairs (BIA) began attending meetings in 1949 and 1952, respectively, and funded projects beginning in 1955. In 1955, the committee voted to retain its informal structure to foster broad participation and a free exchange of information. Today, a list of participating Federal agencies would resemble a bowl of alphabet soup, including most of the agencies involved with natural resource management.

Participation with State agencies, universities, manufacturers, energy companies, seed suppliers, ranchers, and consultants is actively sought. These people often support VREW by providing equipment and materials for testing and by contributing with field operations and evaluation, in addition to VREW workgroup memberships.

VREW projects generally involve either evaluation of commercially available equipment adapted for wildland use or development of new equipment to satisfy special needs. Projects are approved and funded according to priorities determined by the contributing agencies. Project proposals come from a variety of sources, including surveys of field personnel, spinoffs from previous development work, or suggestions from researchers, ranchers, and other interested individuals. The proposals are submitted each year to the VREW exploratory committee, which determines their feasibility. Promising proposals are then forwarded to the two USFS Equipment Development Centers for cost estimates. Finally, they are referred to the VREW steering committee for approval and funding.

Projects are assigned to various workgroups within VREW. The workgroups supervise or perform most of the project work. They meet periodically to review the progress of their projects, plan for future projects, and exchange information. In addition, each VREW workgroup summarizes its activity in a report at the annual meeting. These reports are published each year and are sent to the membership. They are available on request.

Over the years, VREW has been responsible for developing many types of rangeland equipment. Some of this equipment is now manufactured commercially and widely used. The best example of this is the rangeland drill. The project was initiated in 1951 to develop a grain drill capable of sustained operation on rangelands. The prototype was developed from a modified commercial grain drill constructed for the Fremont National Forest in Oregon. It featured heavy-duty, single-disk openers and independently suspended disk arms that could ride up and

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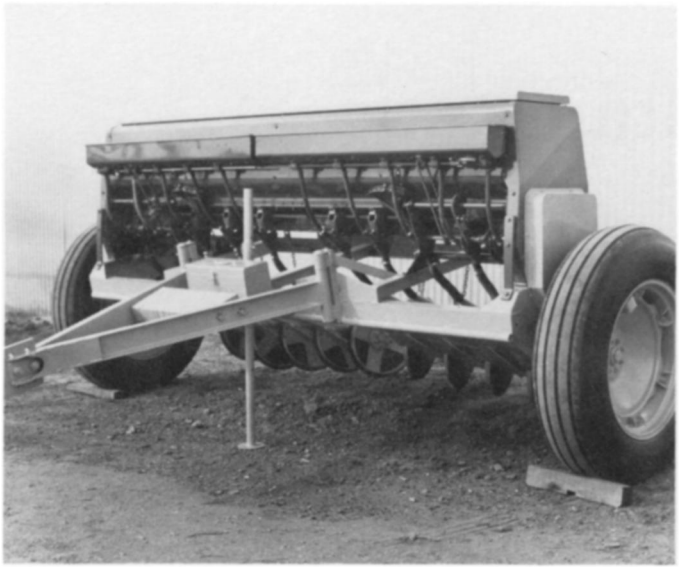

The rangeland drill.

The modified Hodder gouger.

over any obstruction. The prototype was completed in 1952 and has remained basically unchanged, although modifications and refinements such as deep-furrowing disk arms, optional grain and fertilizer boxes, depth-control bands, and brush guards have increased its efficiency and versatility.

Rangeland drills are currently used throughout the western United States and in several foreign countries for range improvement and disturbed land reclamation. The project was terminated in 1974 following publication of the service and parts manual by SDEDC and the operations handbook for the rangeland drill by the BLM. However, commercial manufacture and development still continues.

CURRENT VREW PROJECTS COVER A BROAD SPECTRUM, from the development of a portable vacuum seed collector for harvesting brush and grass seed, to the evaluation of aerial ignition techniques for use in wildlands. Emphasis is now being placed on developing equipment for reclaiming strip-mined land and revegetating disturbed areas in arid climates. The difficulty of establishing permanent, diverse vegetative cover on these area is a continuing concern to land managers.

The modified Hodder gouger is one of several projects dealing with this problem. This project was initiated by the BLM Energy Mineral Rehabilitation Inventory and Analysis Program (EMRIA). It involved testing and improving a gouger developed at Montana State University (MSU).

Gouging, or pitting, creates a series of depressions in the soil that collect moisture and provide shelter for plant establishment. The problem was to create enough depressions of sufficient size and with adequate spacing for effective revegetation of large areas. A cooperative effort by the MSU staff and MEDC engineers produced the modified Hodder gouger, featuring automatic blade action, adjustable blade configurations, and hydraulic depth control. These features allow the depressions to be formed in a variety of sizes and patterns.

The modified Hodder gouger is also equipped with a seed box capable of metering many kinds of seed at varying rates. The gouger was tested in 1977 at the Western Energy Company mine at Colstrip, Mont. It proved capable of producing many large depressions while seeding a variety of species at the prescribed rate. The modified Hodder gouger is now being operated by the BLM and continues to provide efficient treatment of disturbed lands.

Besides developing and testing equipment, VREW provides information about techniques and equipment for revegetation. This information is contained mostly in various Equip Tips, Project Records, and other reports produced by the Equipment Development Centers. Examples of VREW publications include the VREW annual reports, operations handbooks, service and parts manuals, and equipment handbooks. Perhaps the best known among these is the *Range Seeding Equipment Handbook,* which has recently been updated as the Revegetation Equipment Handbook. This handbook describes a broad range of revegetation equipment, from plant control and seeding to seed collection and transport. It also outlines techniques for using the equipment, discusses equipment capabilities and limitations, and lists manufacturers or sources of information.

There is a trend in VREW to provide more information useful to land managers and to gather and distribute such information more actively. Several handbooks are forthcoming concerning other aspects of land rehabilitation. These publications should prove valuable to land managers when planning and implementing land treatments.

Until complete rehabilitation of disturbed lands has been demonstrated, or progress in equipment technology comes to a halt, the need for new ideas, better equipment, and up-to-date information will persist. So, if you're out on a project and your equipment breaks down and you think, "There must be a better way," look into VREW. Chances are, there is a better way. VREW is dedicated to solving equipment problems and has the expertise available to deal with most land rehabilitation situations. For more information concerning VREW, contact the workshop chairman, *Ted Russell, Forest Service Range Management Staff, P.O. Box 2417, Washington, D.C. 20013,* or come to the Society for Range Management winter meeting a few days early and attend the workshop. You will learn of the latest equipment developments for land rehabilitation.