Replacing Cheatgrass by Reseeding with Perennial Grass on Southern Idaho Ranges

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CHEATGRASS brome, Bromus tectorum, an aggressive annual native to areas of southern Europe where mild winters and hot summers prevail, came to the western United States about 50 years ago. It was noted in Idaho before 1900. Since that time it has spread to several million acres of range land on which the plant cover has been disturbed by overgrazing, recurrent fires, or the abandonment of land used for cropping (Fig. 1).

Cheatgrass has some desirable features such as good forage production on poor sites, ability to withstand climatic fluctuations and a considerable degree of grazing use, extreme aggressiveness in occupying many kinds of sites, and some degree of protection for deteriorated watersheds. The forage yield, however, fluctuates greatly, the season during which green forage is available is short, and when the stalks are dry they constitute a high fire hazard. The purpose of this paper is not an attempt to weigh the merits of cheatgrass, but to show what can be done about converting tracts covered with cheatgrass into stands of perennial grass through range reseeding. For a discussion of the merits of cheatgrass, see Fleming, et al. (4), Hull and Pechanec (4), Platt and Jackson (8), and others.

Cheatgrass is a winter annual well adapted to southern Idaho ranges. Seed germination takes place very rapidly following late summer or early fall rains. The young plants remain dormant during the winter and renew growth early the following spring. When late summer and early fall rains are too light, cheatgrass does not germinate until early the following spring. The life cycle is short, plants head early, and usually mature by June 5 in southwestern Idaho and by June 15 in eastern Idaho.

The number of plants in normal cheatgrass stands range from 150 to 1,400 per square foot with an average of about 570. Their spreading roots develop rapidly, penetrate about 12 inches of soil, and draw heavily on the soil moisture (6). Because of this competition for moisture it has been found that both natural and artificial reseeding of perennial grasses will be more successful when preceded by elimination or thinning out of stands of cheatgrass plants.

EXPERIMENTAL STUDIES AND RESULTS

Although many experimental plantings have been made in undisturbed cheatgrass, usually with poor success, relatively few studies have been designed to test methods of thinning cheatgrass enough to permit successful reseeding. This paper reports the results of several