

# Hardinggrass for Reseeding

## dryland pasture seed mixture improved by addition of hardy perennial grass palatable to livestock

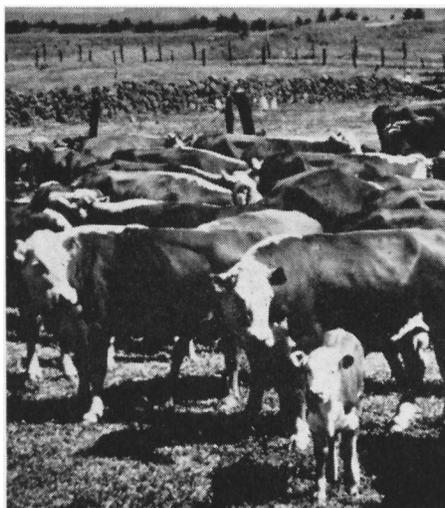
R. Merton Love, Victor P. Osterli, and Lester J. Berry

A daily gain of 1.68 pounds per head for 83 days was recorded in late summer when 105 steers were put to graze on a 185-acre, first season, specially seeded, dryland pasture.

The seed mixture used—and seeded in the fall of 1951—was the result of a series of test plots to determine what grasses and legumes were best adapted to a 185-acre pasture in western Glenn County. After the tests, Hardinggrass—usually shortened to Harding—and alfalfa were selected as the long-lived perennials to be used in the seed mixture and rose and crimson clovers as the reseeding annuals. Bur clover was already present on the land.

Nitrogen fertilizer was used to give the Harding an initial boost, and phosphate for the legumes—200 pounds per acre of 16–20 ammonium phosphate sulfate.

On July 12, 1952, the 105 steers were weighed and turned onto the planting. On October 3—83 days later—they were removed and again weighed. The animals had averaged a daily gain of 1.68 pounds—a total gain by the 105 head of 14,691 pounds—or 79.3 pounds gain



Quality cattle from good forage.

per acre. After the steers were removed 750 ewes were put into the field for a month or so until the feed was cleaned up.

The following spring—in May, 1953—plant counts by areas of 10 square feet showed an average of seven 2-year-old

Harding plants and two volunteer seedlings, two alfalfa plants, 15 crimson clover plants, and 61 rose clover plants.

Recent experiments at the Hopland Range Field Station in Mendocino County indicate that sudangrass is a good preparatory crop for dry range seedings. The grasses tested were Harding, Goar tall fescue and intermediate wheatgrass. Plantings were made the fall of 1952, part following wheat and part following sudan. Land that had been seeded to wheat required disking before planting, whereas the sudan area required drilling only in the sudan stubble.

Plant counts made in July, 1953, showed in every 10 square feet—on the average—19 Harding plants following sudan compared with one plant following wheat. Corresponding numbers for tall fescue were 42 and 23, and for intermediate wheatgrass, they were nine and five.

This is in agreement with observations of many such comparisons over the years. Volunteer cereal grains provide just as severe competition as resident weedy species to seeded perennials.

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Second year stand and development of Harding in El Dorado County, seeded in ash.



## HARDINGGRASS

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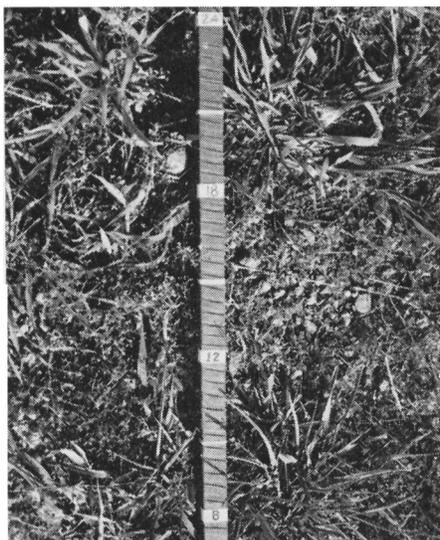
Sudan has the advantage that its seed does not germinate in the fall.

Hardinggrass—chosen with alfalfa as a long-lived perennial for the Glenn County planting—is a husky, high-yielding, palatable, and leafy perennial bunchgrass. It is hardy, extremely drought tolerant, and very long-lived. There are some stands in the state 25 years old and still producing.

Harding lends stability to range and dryland pasture feed. Once it has set a seed crop it goes dormant, so late summer grazing does not harm the plant. It turns green even before the fall rains begin and so provides feed several weeks before the annuals are ready. Its season of use extends from mid-October to mid-May. This is in contrast to the native annual range which provides short feed for three or four months only.

Harding serves as an ideal companion crop to be grown with winter annual legumes. It has remarkable staying power and provides increasing amounts of feed year by year. Also, it helps make a sod so livestock can graze the area during the rainy period.

Successful dryland seedings—usually of two pounds of Harding seed with four or five pounds of a mixture of rose, crimson, burr, and sub clover—can be found on brushland burns all the way from Shasta County in the north to San



Ground area shown—looking straight down—illustrates crown development of 2nd-season Hardinggrass plants and density of stand.

Diego County in the south. Most of the Sierra foothill and Coast Range areas at lower elevations, now being seeded to annual clovers, will support good stands of Harding.

### Establishment

Stands of Harding are not difficult to obtain on arable land when a good seedbed is seeded early in the fall. Early in the following spring the planting should be grazed rather heavily to remove weed

competition. Then animals must be removed and kept out of the freshly seeded area until fall.

On land that is not too weedy three pounds of Harding seed with six pounds of clover seed mixture per acre should be adequate to produce upwards of a ton of dry matter per acre.

If the land is foul with weeds, the Harding-clover mix should be seeded after a summer crop of sudan. The Harding-clover mix can be drilled into the sudan stubble.

An operator may prefer to postpone the seeding of Harding for a few years until the winter annual clovers have built up soil fertility and have crowded out most of the weedy species. Then the Harding can be seeded—at the rate of four pounds an acre—on a well-prepared seedbed. The stand of clovers should be thinned out somewhat to allow room for the Harding to get started. The end result is an excellent pasture mixture of Hardinggrass and clovers.

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*The grazing test reported above was a cooperative project participated in by J. Kenneth Sexton, Glenn County; Jesse W. Bequette, Farm Advisor, Glenn County, University of California, and the Department of Agronomy, University of California, Davis.*

## SPREAD

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much higher percentage of permanent establishment.

Further observations showed that those rose clover seeds deposited during the relatively hot days of July, August, and September had higher per cent of permanent establishment than did those seeds deposited later in the fall. This was due, in all probability, to the rapid drying and the resultant dissipation of excess nitrogen, plus the fact that these piles had a much greater chance of being slightly broken up. This was not enough to allow native competition, but enough to reduce the distance to mineral soil for sprouting rose clover plants.

Through the summer of 1953 the most encouraging results were with smilo. Permanent establishment of rose clover has been somewhat disappointing in all but a few cases. Hardinggrass, ryegrass, and yellow blossom sweet clover have failed to respond to this method of range reseeding.

Whether the use of livestock to reseed range areas with such species as smilo or rose clover proves to be practical will

not be easily discernible except over a long period of time.

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## EXPORTS

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stuff. Because of the wide availability of fats and oils, countries which are short of dollars will sometimes obtain their supplies outside the United States even at higher prices.

### Subsidies

Domestic price-support programs complicate the export situation. It has been argued that the conflict between price-support and export policy would be more acute with high and rigid supports than with flexible supports at somewhat lower average levels. Furthermore, high United States prices have encouraged foreign sources of supply. This is most noticeable in cotton.

Since 1935 public funds have been used to subsidize exports for about 90 crops. Most current programs under Section 32 of the Agricultural Adjustment Act involve payments to commercial exporters following export of privately owned commodities. One current provision is that payment can be made only in connection with export sales for free dollars—dollars not obtained from the United States government.

The Act of 1949 requires that Section 32 export subsidization funds be used principally for perishable nonbasic agricultural commodities. Of these funds, \$402 millions were available for use in 1952-53.

There has been considerable resistance in foreign countries to accepting subsidized exports from the United States, except in cases of a serious food-storage condition such as Pakistan experienced recently. A United Nations world famine relief fund has attracted favorable attention because it would permit United States surpluses to be used for emergency relief abroad under special conditions which could not be labeled dumping.

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