

## Chemicals Help Conquer Cheatgrass, Wheat Foe

Cheatgrass, the No. 1 weed problem of the Pacific wheat grower, no longer waves unchallenged while it reduces yield, reports Harold Kerr, Morrow County Agent.

Donald J. Rydrych, assistant professor of agronomy at Oregon State University's Experiment Station at Pendleton, has tested four chemical compounds which range up to 90 per cent effective in controlling cheatgrass in winter wheat. One of the compounds has been registered for this use and registration has been started for the others.

Cheatgrass — also known as downy brome — infests about three million acres of cropland in Oregon, Idaho and Washington plus millions of acres of rangeland. It first appeared in the Pacific Northwest slightly more than 100 years ago.

Deep plowing kept the weed in check for many years. When tillage was changed to conserve soil moisture and cut soil losses from wind and water erosion, cheatgrass became a problem. The weed got more help during the late 1940's when nitrogen fertilizers and broad-leaf herbicides were adopted.

Since then, OSU researchers have been seeking chemicals for its control. Hundreds of compounds have been screened at the Corvallis campus with the most promising evaluated at the Pendleton Experiment Station.

The long effort began to bear fruit in early 1968. OSU had five compounds that had proved effective on cheatgrass through at least two years of field testing. Since then, four have fully demonstrated their effectiveness. They are Treflan, Planavin, CP52223 and R11913. At least three newer compounds may be added to this group.

Treflan was registered for use on cheatgrass in winter wheat in May. Planavin is expected to receive registration for the same use in the future. Both compounds must be shallowly soil-incorporated before seeding.

Treflan, somewhat more volatile than Planavin, is not as selective in winter wheat. Since both compounds are ineffective on mustards and other broad-leaved weeds, supplemental controls must be applied for these species. Treflan and Planavin have proved from 60 to 80 per cent effective on cheatgrass when applied at a rate of 0.75 pounds per acre and thoroughly soil-incorporated.

CP52223 is effective chiefly as a pre-emergence soil-surface treatment. It has good wheat selectivity and has proved 60 to

70 per cent effective on cheatgrass at a rate of 2 pounds per acre. Primarily a grass herbicide and applied before cheatgrass germination, CP52223 is mildly effective on some broad-leaved weeds. Supplemental materials usually are needed. Because it has little foliar activity, CP52223 can be applied on wheat that has emerged but it must be on the soil surface before cheatgrass has germinated to be effective.

R11913, a post-emergence, carbamate compound, has given consistent cheatgrass control for the last four seasons with good to fair wheat selectivity. It is applied in late fall or early spring before cheatgrass has developed beyond the one-to-three secondary shoot stage. The compound also will control a wide variety of broad-leaved weeds if applied when weeds are small. Since it is a post-emergence herbicide, R11913 can be used on seedbeds of all types. It has proved 70 to 90 per cent effective on cheatgrass when applied at rates of 2 to 3 pounds an acre.

The Pendleton Station now is testing several new candidates for cheatgrass control, most of them of the pre-emergence type. No compounds have been found that wheat will tolerate completely. Treflan, Planavin, CP52223 and R11913 are considered moderately tolerant to wheat with most of their selectivity obtained through precise soil placement or systematically timed application.

The life cycle of cheatgrass is a crucial matter in the search for chemical controls. At least 90 per cent of cheatgrass seeds in moist soils at a shallow depth will germinate one year after seed drop. Two years after seed drop, viability of seeds drops to about 2 per cent. By the third year, seed viability

virtually disappears. Seeds that survive the second year normally are found in 4 to 12-inch depth.

Recent studies at the Experiment Station showed that a typical population of 10 to 15 cheatgrass plants per square foot continuously reduced wheat yields if left unchecked. Ultimate yield reduction: An average 35 per cent.

Controlling cheatgrass with one of the four chemical compounds tested at the Experiment Station is not cheap. Their cost alone ranges from \$3.50 to \$7 an acre and the use of broad-leaf herbicides is essential with three of the chemicals.

Said Rydrych: "None of the chemicals is 100 per cent effective on cheatgrass but all are efficient enough to provide a return if used properly. Their use, combined with a chemical fallow system, eventually could eliminate the reservoir of cheatgrass seed in the soil."



JERRY SHIRTS on Sad Sam. The Brahman Bull front end and about four feet at the rear. A looks to be two feet off the ground on the rough ride!

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## LONEROCK NEWS

LONEROCK—Walter Roy Rogers, grandson of Mrs. Ellen Rogers met with an accident while setting choker in the forest near Reedsport. He was caught between a tree and a "Cat" and broke his pelvis bone. Last report was he is in the Reedsport Hospital and his condition is not serious.

Mr. and Mrs. Lloyd Rogers left Sunday for a week's vacation that will take them to points on the coast, a visit with relatives at Sweet Home; then from there they will go to Bend and Sisters for a short visit with Mr. and Mrs. Hopkins and Mr. and Mrs. Robert Rogers.

Two couples from Kinzua were over to Lonerock Sunday exploring the town. Sam C. Nichols, the photographer who works for the Jantzen Company, bought a house and lot from Mr. and Mrs. William Stewart this week for vacation use but expects to retire in a few years; then he and his family will make Lonerock their permanent home.

William Stewart has been trying to locate the old well near the Harrison livery barn that was filled up and covered many years ago and this week he found it. He was digging post holes for a fence around his orchard when his digger dropped five feet down a hole that proved to be the lost well. He started cleaning it out and the first object was an old horse collar, then parts of harnesses and old irons. No telling what he will find when he gets to the bottom, but he hopes there will be enough water to irrigate his orchard.

Mr. and Mrs. Bob Mallgren and Christina, visited the Rogers family Saturday.

Mr. and Mrs. Homer Davis and family attended the rodeo at Hermiston Saturday night. Evan rode a bucking horse half way across the arena before he bit the dust, and the other riders had the same luck. The old bell did not ring soon enough.

The Gazette-Times is your Moore Forms dealer in Morrow county.

Mr. and Mrs. Jay Ball, Gresham, spent the weekend visiting with their parents, Mr. and Mrs. Leon Ball and Mr. and Mrs. Harold Hams. Mr. and Mrs. Hams recently moved into Heppner.

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