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Mustang—A New Oat Variety

A more winter-hardy and higher yielding oat variety for the Southwest has been developed by scientists of the United States Department of Agriculture and the Texas Agricultural Experiment Station.

Farmers who seeded this new variety, known as Mustang, in the fall of 1950 state that it survived the severe winter of 1950-51 as well as wheat and far better than all other varieties of oats. In fact, about one-half of the Texas oat crop was killed by the severe freezes of last winter, but many fields of Mustang oats survived and gave from good to excellent yields of grain. During the period 1944-50, in which winter killing occurred at the Denton Experiment Substation in 5 of the 7 years, 85.8 percent of Mustang oats survived the winters, compared with 57.2 percent for the New Nortex variety, 53.6 percent for Frazier, 51.2 percent for Fultex, and 70.4 percent for Stanton.

Tests at the Texas Experiment Substations covering most of the State show that over a period of 6 years the Mustang variety yielded an average of 60.9 bushels per acre, compared with 56.2 for the Stanton variety, 55.5 for New Nortex, and 53 bushels for Fultex. The Mustang oat outyielded these varieties throughout the State except at the Chillicothe Station in northwest Texas, where winter killing was not a factor during the testing period. However, during the 1950-51 season, severe winter killing occurred even in that area, and the Mustang variety gave much higher yields than the Red Rustproof varieties commonly grown in that section.

Resistance to crown (leaf) rust is also a characteristic of Mustang oats, and in years when this rust virtually killed stands of nonresistant varieties, Mustang produced more than 50 bushels per acre. Resistance to crown (leaf) rust is of particiular value when oats are grown in southern regions for winter pasture, because checking the development of early rust epidemics in southern counties often prevents outbreaks of the disease in central and northern sections.

The growth characteristics of Mustang oats make it especially valuable for forage production in the Southwest. Its early growth is close to the ground, similar to that of winter wheat. By midwinter it begins to grow vigorously and produces abundant forage in late winter and early spring. Limited tests in south Texas indicate that the variety grows more vigorously and produces more forage throughout the winter than other oat varieties.

Mustang also has shown considerable resistance to a relatively new disease—Helminthosporium blight—which has caused serious losses in the more humid sections of Texas. However, growers are urged to guard against losses from this disease by rotating oats with other crops and treating all seed with a mercurial dust, such as Ceresan M or New Improved Ceresan.

The rapidly increasing popularity of this new oat variety has stimulated a strong demand for seed, and farmers are urged to obtain sufficient quantity for their acreage as soon as possible. The variety has been grown over a

wide section of Texas during the past year, and while the supply is somewhat limited, most farmers should be able to secure sufficient seed for at least a small acreage. Seed dealers and county agricultural agents can direct farmers to growers who have a supply for sale. Whenever possible, it is desirable to purchase certified seed in order to insure that it is pure and free from other varieties. However, if this is not possible, the seed from a reputable grower may be used. Planting dates and rates are the same as for other oat varieties. Somewhat earlier planting may be desirable if the crop is to be used for fall pasture.

Recommended Wheat Varieties

Quanah, Wichita, Triumph, Comanche, and Westar are wheat varieties recommended by Texas A. and M. College for seeding in Texas. These varieties, which are hard, red winter wheats, have proved to be well adapted to growing conditions in the Southwest.

Quanah, a relatively new variety and only recently made available, outyielded the other varieties in tests at Denton, Greenville, Stephenville, and Temple. It is similar to Comanche in quality but is more resistant to leaf rust, stem rust, and stinking smut. None of the varieties, however, are resistant to the new race of stem rust known as 15b. This is the rust that caused severe damage in some parts of Texas and Oklahoma, and especially in Kansas and Nebraska, during the 1950 season. New wheat varieties which will be resistant to this race of rust are being developed by plant breeders. In the meantime, Quanah appears to be the most desirable commercial variety now available.

Farmers are urged to obtain their supply of seed early, inasmuch as the quantity of the more desirable varieties will be limited.

Green Bug Infestation Reduced by Efficient Management

Green bugs have taken a heavy toll of winter wheat in the Southwest during the past 2 seasons. These heavy infestations have been blamed generally on adverse weather conditions, and it is an established fact that these pests are much more dangerous under certain temperature and moisture conditions.

The Oklahoma Agricultural Experiment Station points out, however, that their surveys have shown a definite relation between green bug infestation and certain management practices. For instance, green bugs appeared earlier and were more destructive in fields where volunteer wheat or oats were permitted to grow; also, damage became noticeable first in areas where the soil showed indications of plant food deficiency.

Other signs of inefficient management that appear to be associated with heavy green bug damage include inadequately prepared seed beds, late planting, and failure to fertilize in regions where commercial fertilizer is recommended.

From these observations, the Oklahoma Agricultural Experiment Station recommends that wheat farmers make every effort to prepare the land and seed the crop in accordance with recommended practices. Volunteer wheat should be plowed, the seed bed should be given adequate preparation early in the season, and the wheat planted in accordance with recommendations of the local county agents. Commercial fertilizer should be applied whenever experience in the community indicates this practice to be profitable. Such precautions will not prevent green bug infestations if fall, winter, and spring weather conditions are ideal for a build-up of these pests, but they will minimize the danger and in many cases may mean the difference between success and failure of the wheat crop.

Barnyard Manure and Cotton Burs as Fertilizers

The value of barnyard manure as a fertilizer and "conditioner" of the land is well recognized in regions of relatively heavy rainfall but has not been given a very high rating in

the dryland sections of west Texas. However, tests at the Texas Agricultural Experiment Substation at Lubbock indicate that barnyard manure and also cotton burs have value as fertilizers even in the dryland farming of that region.

The tests were begun in 1935 and continued through 1944. The materials were applied to the land just ahead of seed bed preparation, usually during February. Applications of barnyard manure ranged from 2 to 8 tons per acre, but cotton burs were applied at only one rate —2 tons per acre. These applications were made for five consecutive years, beginning in 1935. Results were observed during those years to determine the immediate effect of these materials and then again during the period 1940-44 to determine the residual effect of the applications.

Briefly, these tests show that in years when rainfall was sufficient to cause the materials to rot, there was a definite increase in yields. Also, the cotton in fields which received an application of either barnyard manure or cotton burs matured earlier than in fields which received no treatment. In 1937, when rainfall during May and June and also during the previous September was heavier than average, there was a very marked increase in yield. In that year the plot receiving no treatment yielded 354 pounds of lint per acre, while the field receiving 8 tons of barnyard manure per acre yielded 524 pounds of lint per acre. The field receiving an application of cotton burs at the rate of 2 tons per acre yielded 427 pounds of lint per acre.

Similar results were obtained in 1941 and 1942 when rainfall was above average, indicating that the limiting factor in returns from this type of fertilizer is the amount of rainfall. It is significant, however, that applications of barnyard manure and cotton burs did not cause a reduction in yields except in extremely dry years; and in any year in which moisture was average or above, their application resulted in a substantial increase. Moreover, this increase in yield during years of normal rainfall occurred even though the applications of barnyard manure and cotton burs had been made several years earlier.

In summarizing these tests, the Texas Agricultural Experiment Station specialists point out that where barnyard manure was applied at the rate of 2, 4, and 8 tons per acre for five consecutive years and the land planted to cotton for 10 years, the average yearly increase in lint yields per acre was about 23 pounds per ton of barnyard manure applied. The 2-ton application of cotton burs under similar conditions gave an increase of 12 pounds of lint per ton of cotton burs applied.

These tests suggest that greater use might be made of these two materials for building and maintaining soil fertility, even in dryland sections of west Texas. No doubt, the results would be even more encouraging on farms where irrigation is practiced.

"Nervous" Cattle

During the fall pasture season of 1950, cattle in some sections of the Southwest were stricken with a severe nervous disturbance. Symptoms of the disorder varied from a slight "twitching" of muscles to extreme nervousness, characterized by inability to stand or walk and a "wild" or frightened look. Cattle raisers frequently referred to the symptoms as a "shaking" disturbance. In advanced cases, the animals would stumble and fall.

The trouble was first reported in eastcentral Oklahoma and later spread over a wide area. Death loss was low, but considerable loss in weight resulted from the disturbance to the animals' behavior. Investigations revealed that in all cases where this nervous characteristic was reported, the animals were grazing on *mature* Bermuda grass. A thorough check also revealed that the animals recovered in 2 or 3 days if removed from the mature Bermuda grass. Returning the animals to the pasture a few weeks later again brought about identical symptoms. Controlled feeding tests in which clippings of mature Bermuda grass were used

also brought about a similar nervous condition in the animals.

The Oklahoma Agricultural Experiment Station made extensive tests and discovered that the apparent cause of the disorder was a fungus which attacks and grows on the heads and upper stems of mature Bermuda grass. There was no evidence that the nervousness was infectious or contagious.

In view of these findings, Oklahoma A. and M. College recommends that mature Bermuda grass pastures be clipped before being grazed. This removes the source of the fungus which appears to be the cause of the nervous disorder and should eliminate danger to the herd.

The occurrence of this disorder should not discourage the use of Bermuda grass as a pasture, for it is one of the most important pasture grasses of the Southwest, and a few simple precautions to avoid running cattle on fields of mature Bermuda grass can prevent outbreaks of this nervous condition.

Chemical Weed Control in Cotton

Control of weeds in young cotton by the use of chemicals has removed the last stumbling block to complete mechanization of cotton production, according to M. M. Mayeux, Louisiana State University assistant agricultural extension engineer.

On the demonstration farms which tested the chemical control of weeds this year, Mr. Mayeux states that the chemical was applied at the time of planting. This application, which was made directly on the soil and is called the "pre-emergence" application, prevents the growth of weeds until the cotton plants are well established. A second application is usually made in the rows at about the same time the middles are cultivated. Late weeds are then kept under control by flame cultivation in the rows (quick-killing of grass and weeds by oil-burning flame-thrower) and shallow cultivation in the middles.

Mr. Mayeux predicts that the use of chemicals and flame cultivation in the control of weeds in cotton will soon be a common practice in Louisiana. Details for carrying out this practice can be obtained by writing directly to Mr. Mayeux.

Publications

Louisiana Agricultural Experiment Station, Baton Rouge:

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Texas Agricultural Experiment Station, College Station:

Lamb Feeding Trials in the El Paso Valley, 1947-49, Bulletin 733, by N. B. Willey and others.

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Small Grain Variety Tests in the Rolling Plains Area of Texas, Progress Report 1373, by I. M. Atkins.

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Virginia Agricultural Experiment Station, Blacksburg:

Father-Son Farm Agreements, Bulletin 9, by W. L. Gibson, Jr. and F. D. Hansing.

The *Agricultural News Letter* is prepared in the Research Department under the direction of CARL H. MOORE, Agricultural Economist.