

The Agricultural Experiment Station

FORT COLLINS, COLORADO.

TRIALS OF MACARONI WHEAT BY DRY FARMING. 1902.

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Early in March, 1902, the Experiment Station was enabled by the help given by the cerealist of the Bureau of Plant Industry of the Department of Agriculture to distribute seed of macaroni wheat to a number of carefully chosen correspondents who were in position to give the wheat a fair trial in comparison with other wheat.

The wheat was all grown without irrigation and in every case received ordinary field treatment. Each person was furnished enough seed to plant two acres. Some planted more by planting thinner.

Three varieties were sent out. These being Black Don, Yellow Gharnovka and Kubanka. So far as we knew the soils, the varieties were distributed so that they would be tested upon soil somewhat similar to the soil upon which they grew in Russia.

Of the eleven plats planted, one was entirely destroyed by hail when it was giving great promise of a large crop. Two neighborhoods to which it was distributed experienced extremely droughty conditions and produced very little grain of any kind.

Each party who raised wheat from the seed furnished by us sent a sample. These samples compared quite favorably with the original seed which was grown in Russia.

When we visited the men who raised the wheat last summer, they all expressed satisfaction with the wheat and were willing to plant it extensively if they were sure they could sell their wheat when raised. Nearly all of them found that they had planted it too thinly, as it did not stool, or tiller, like ordinary wheat; but threw up only from one to three stalks from each seed planted.

The following statements are taken from the reports sent us by the parties whose names accompany them. The reports were

made in the form of answers to questions. Here they are put into the form of statements:

J. L. Parker, who lives on Sec. 15, T. 1 N., R. 51 W., Akron, Colo., says:

I planted three and one fourth acres to macaroni wheat of the variety called Black Don on black loam soil late in March. Planted forty pounds per acre, and got rather a thin stand. The season was very dry, only light showers falling until the wheat was heading out. The wheat ripened by July 15th, which was a little later than other wheat in the vicinity. The yield was 15 bushels per acre, while other wheat made 5 to 7 bushels under the same conditions.

The only fault I can find with it is that it bears such long beards.

J. A. Kimber, who lives on Sec. 33, T. 1 N., R. 43 W., Wray, Colo., says:

I sowed two acres of macaroni wheat of the variety called Black Don on sandy loam land March 15th, at the rate of sixty pounds per acre. The season was favorable, except from the 10th to the 20th of June, when the weather was very dry. The wheat was several days later than varieties usually grown here. It was cut July 21st, and made 10 bushels per acre. The seed raised was more shrunken than other varieties grown near. Am inclined to believe that this wheat is too late a variety for this part of the country. The long beards probably furnish considerable protection from hail.

A. C. Cauble, who lives on Sec. 32, T. 7 N., R. 43 W., Holyoke, Colo., reports as follows:

I planted two and one half acres to macaroni wheat, using the variety known as Yellow Gharnovka. Planted it March 28th on black sandy loam soil, at the rate of fifty pounds per acre. Got a poor stand. Hail cut the wheat off once early in the season. It was ripe July 20th and yielded 10 bushels per acre of wheat about equal in quality to ordinary wheat which made 13½ bushels. It is earlier than the other wheat grown here. I believe it is a good wheat for this country if we had a market for it. The straw is not good for forage.

A. F. Lindon, Sec. 32, T. 7 N., R. 47 W., Holyoke, Colo., reports as follows:

I planted three acres to Yellow Gharnovka macaroni wheat March 12th. The stand was poor. Grasshoppers damaged it badly, and Russian thistles also did much damage. The wheat is a little earlier than other wheat grown here. It ripened July 15th. Threshed 2 bushels from three acres. My other wheat I did not thresh, but it would make from ½ to 2 bushels per acre. The macaroni wheat was good quality.

J. F. Bandy, Sec. 9, T. 8 S., R. 49 W., Seibert, Colo., says:

I planted two acres to macaroni wheat on black sandy soil March 1st. Seeded at the rate of one bushel per acre. The stand was very poor. The season was very dry and the crop was damaged some by hail. This wheat yielded 2 bushels per acre, while other wheat was a complete failure. The variety sown was Yellow Gharnovka. It is earlier than other varieties in use here.

E. E. T. Hazen, Sec. 6, T. 6 N., R. 43 W., Holyoke, Colo., says:

April 8th I sowed two acres of sandy loam land to Yellow Gharnovka macaroni wheat, at the rate of one bushel per acre. Got a poor stand. May 25th hail cut it to ground. Sand storms also damaged it, and grasshoppers also damaged it. It ripened July 20th, yielding 10.5 bushels per acre of extra quality grain. It did not stool much. It ripened about the same time as other wheat here.

J. A. Reidesel, Sec. 5, T. 5 S., R. 45 W., Idalia, Colo., says:

March 18th I sowed three acres of Kubanka macaroni wheat on brown sandy loam land, using forty pounds of seed per acre. July 22d, it was har-

vested, yielding 15 bushels per acre of wheat of good quality. It was damaged fully 10 per cent. by grasshoppers. It ripened at same time my other wheat ripened. It does not stool like other wheat, and requires more seed per acre. Other wheat yielded 12 bushels per acre this year.

Henry Moellenburg, Sec. 23, T. 4 S., R. 44 W., Idalia, Colo., says:

Planted three and one half acres to Kubanka macaroni wheat on dark clay land, at the rate of thirty eight pounds per acre, March 16th. Cut July 16th, yielding 12 bushels per acre. Some damaged by grasshoppers. Better quality than other wheat and ripened same time. Stand thin. Other wheat in field made 18 bushels per acre. Not any faults. I would like to try it again.

H. F. Myers, Sec. 6, T. 1 S., R. 44 W., Vernon, Colo., says:

March 19th I planted five acres to Kubanka macaroni wheat on light prairie loam soil. Planted at the rate of forty-five pounds per acre. July 25th, it was ripe. It yielded $10\frac{3}{4}$ bushels per acre, which was about the same that other wheat yielded under the same conditions. The grain was of good quality. The stand was poor because this wheat stooled so little. I would sow about one and one half bushels per acre to get a full stand of this variety. It is later than wheat usually grown here. I noticed that when severe drought came, the extra stalks on this wheat dried up, while the main stalk continued to grow.

A. S. Kester, Sec. 33, T. 3 S., R. 43 W., Lansing, Colo., says:

I planted two acres of Kubanka macaroni wheat on black loam soil March 12th, at the rate of one bushel per acre. Got a good stand. The season was an average one. The wheat was harvested July 17th, making 17 bushels per acre of good quality. It was damaged 10 per cent by grasshoppers. It ripened about the same time my other wheat did. The other wheat made 15 bushels per acre. I believe it is a good kind of wheat. The straw is inclined to be soft and will be damaged by grasshoppers.

CONCLUSIONS.

Damage from hail, drought and insect pests was about the average from such causes.

Late ripening of the varieties tested is a serious fault. The yield of macaroni wheat was nearly the same as the common wheat, except under extremely unfavorable conditions, when some evidence shows it to be surer to make a crop than the common varieties.

Nearly all sowed the wheat too thinly. This probably reduced its yield.

One year's trial is not enough to prove the worth of any grain. When large fields of it are grown during a period of several years, we can then speak positively. But, it now seems worthy of continued trials; and during this time, an effort should be made to improve it in the matter of early maturity.