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Current Information Letter

For the Information of County Extension Agents and Extension Workers Only
AGRICULTURAL EXTENSION DIVISION—PAUL E. MILLER, DIRECTOR
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UNIVERSITY FARM
 ST. PAUL, MINNESOTA

UNIVERSITY OF MINNESOTA
 DOCUMENTS

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FILE UNDER: FARM CROPS - Cereals - Seed

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New Crop Varieties with Special Reference to Disease-Resistant Oats -- Prepared

by Divisions of Agronomy & Plant Genetics and Plant Pathology.

The heavy toll taken by crown rust of oats in the quality of the crop in 1941 has resulted in many farmers seeking seed stocks of new varieties. This situation closely parallels a similar situation encountered about 12 years ago. Some of the older county agents will recall the crown rust epidemic at that time, and the criticisms leveled at Gopher. Since that time Gopher has become one of the leading oat varieties in the state. We have no way of predicting whether or not the situation will rectify itself. But it seems unwise to throw Gopher oats overboard.

Several new varieties have been released in Iowa and one in Wisconsin. Caution should be observed in encouraging use of new varieties until they have been adequately tested. It is the policy of the Experiment Station to not recommend varieties until they have been tested at least three years at several stations. If farmers are wishing to try some of the new varieties on a small scale, it would appear desirable that they consider the Vicland, Tama, and Boone varieties in preference to the other new varieties listed. Available data on disease-resistance and yield trials of Vicland, Marion, and Boone are given below in comparison with other established varieties.

Reaction of Oat Varieties to Diseases

Varieties	Disease reaction ^{x/}			Key to Designations in Table at Left
	Stem Rust	Leaf Rust	Smuts	
Gopher	S	S	MS	^{x/} Reactions represent average degree of infection under natural field conditions. There was considerable fluctuation in amount of disease in different seasons and in different localities. R = Resistant S = Susceptible MR = Moderately resistant MS = Moderately susceptible VS = Very susceptible
Minrus	R	S	MS	
Iogold	R	S	MS	
Rusota	R	S	S	
Anthony	R	S	VS	
Nakota	R	S	R	
Vicland	R	MR	R	
Vanguard	R	S	S	
Boone	R	MR	R	
Marion	R	MS	R	
Hancock	R	MS	R	
Tama	R	MR	R	
Legacy	S-MS	S	S	

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OAT YIELDS IN BUSHEL PER ACRE - 1/40 ACRE PLOTS

Variety	University Farm			Waseca			Morris
	1939-40	1940-41	1939-41	1939-40	1940-41	1939-41	1939-40
Gopher	91.4	83.8	78.6	101.1	77.5	85.5	61.4
Minrus	92.6	82.5	81.9	94.7	84.1	86.6	63.2
Iogold	99.3	88.1	85.4	93.3	76.6	81.1	58.1
Boone	96.1	91.7	90.1	97.2	80.3	87.7	55.3
Hancock	96.0	--	--	89.0	--	--	47.2
Marion	103.0	92.8	90.4	88.2	61.9	71.5	52.8
Vicland	--	103.4	--	--	88.6	--	--

Variety	Crookston		Grand Rapids		Duluth	
	1939-40	1938-41	1939-40	1938-41	1939-40	1938-41
Gopher	60.4	57.7	78.3	59.0	71.9	52.1
Minrus	56.2	55.0	87.4	67.7	75.7	56.9
Rusota	56.9	54.8	78.4	59.8	68.4	53.9
Vanguard	59.8	53.9	77.4	61.3	73.7	53.4
Boone	53.7	--	80.7	--	64.5	--
Hancock	42.2	--	61.1	--	57.1	--
Marion	54.6	--	81.6	--	63.0	--

Variety	1941					
	Univ. Farm	Waseca	Morris	Crookston	Grand Rapids	Duluth
Gopher	52.9	54.3	52.5	58.7	60.6	45.5
Iogold	57.6	56.6	56.1	60.9	55.4	43.7
Minrus	60.6	70.3	56.3	48.8	54.4	52.1
Vanguard	48.2	56.2	45.5	38.6	60.2	49.1
Boone	77.9	68.8	--	--	--	--
Marion	65.1	38.0	--	--	--	--
Vicland	84.7	77.6	69.1	63.6	69.2	73.1
Legacy	48.5	48.4	--	--	--	--
Tama	80.4	72.9	76.6	33.5	69.9	77.4

The Divisions of Agronomy & Plant Genetics and Plant Pathology are testing new oat varieties bred at University Farm. Several of these selections have been rated very high in regional tests conducted by the U. S. Department of Agriculture outside the state. These look very promising for Minnesota, but have not reached the stage where they can be increased. These will not be released for some years. They seem considerably stiffer strawed than any of the varieties now available.

Rye

The new rye variety Emerald, announced this past year, is being increased at University Farm this winter. The volume of seed available will probably not exceed 125 bushels.

Wisconsin Ped. 6, also known as Imperial White, is being increased at Waseca and University Farm. There will probably be about 250 bushels of seed available next summer. Seed can also be obtained from Wisconsin growers.

Flax

Distribution of Biwing seed will be made this winter. It will go out under the "Approved Grower" plan. Applicants must be passed upon by a local county committee consisting of the county agent and two members of the Minnesota Crop Improvement Association of that county.

It is important that all of this seed be registered in 1942, and that a maximum amount of seed be produced for sale the following season. Carl Borgeson has worked out a method of determining the amount of seed for allotment to counties, based on acreage and yield for the counties and crop improvement activity. This appears to be a very fair way of making the allotments.