

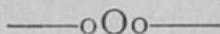
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# *Improved Varieties*

## *Farm Crops Recommended for Minnesota*

1927

By the Minnesota Experiment Stations



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## Improved Varieties

The list of recommended varieties for Minnesota has the joint approval of agronomists, plant breeders, and plant pathologists of the Central station at St. Paul and of the superintendents and agronomists of the various Branch stations at Duluth, Grand Rapids, Crookston, Morris, and Waseca. A variety must have been tested in experimental plots for at least three years in order to be eligible for recommendation. The basis of recommendation is the satisfactory performance in competitive trials when compared with standard varieties. These tests are conducted at the Central and Branch stations and in addition comparative trials of reaction to disease are conducted in specially prepared disease nurseries at the Central station.

Varieties introduced from outside the state are given the same careful trial as those developed in Minnesota. The recommended list is followed by a statement of the important characters of each recommended variety and its origin and regional adaptation. A brief statement of important varieties which are not recommended is also given.

### WHEAT

Spring varieties: Common bread wheat, Marquis, Accession No. 1239\*; Ceres, North Dakota No. 1658, Minn. Accession No. 2223 (small amount of seed available at Crookston); Marquillo, Minn. No. 2202, (no seed available in 1927); Durum wheat, Mindum, No. 470.

Winter varieties: Minturki, Minn. No. 1507.

### OATS

Early maturing: Gopher, Minn. No 674.

Medium maturing: Victory, Accession No. 514; Minota, Minn. No. 512; Improved Ligowa, Minn. No. 281; Anthony, Minn. No. 686 (no seed available in 1927).

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\* Accession number signifies that the particular variety referred to was originated at some other experiment station but has been tested in Minnesota and found desirable for use in the state.

## BARLEY

Six-rowed:

Smooth awned: Velvet, Minn. No. 447; Glabron, Minn. No. 445 (no seed available in 1927).

Rough awned: Improved Manchuria, Minn. No. 184; Minsturdi, Minn. No. 439; Peatland, Minn. No. 452.

Two-rowed:

Svansota, Minn. No. 440.

## RYE

Swedish, Minn. No. 2, for general planting; Emerald, Minn. No. 92 (no seed available in 1927); Rosen, for southern Minnesota and other localities where winter killing is not likely to be a factor.

## FLAX

Wilt-resistant varieties: Winona, Minn. No. 182; Chipewa, Minn. No. 181; Redwing, Minn. No. 188 (no seed available in 1927); North Dakota Resistant No. 114.

## SOYBEANS

Early maturing: Minsoy, Minn. No. 139; Wisconsin Black, Accession No. 164.

Medium maturing; Chestnut, Minn. No. 110; Habaro, Minn. No. 109; Elton, Minn. No. 167; Manchu, Accession No. 195; Soysota, Minn. No. 142.

## FIELD PEAS

Golden Vine, Minn. No. 95.

## CORN

Southern section: For both dry corn and silage production; Silver King, Murdock, Rustler, Minn. No. 13.

Central section: For both dry corn and silage production; Minn. No. 13, Rustler.

Northwestern and north central sections: For dry corn production: Northern-grown strains as follows:

Flint varieties: Dakota White, white flint; Gehu, yellow flint; Squaw, various colored flint; Pearl, white flint.

Dent varieties: Northwestern, Crookston strain, yellow capped red dent varying considerably in shade of color; Minn. No. 23, white capped yellow dent; Minn. No. 13, yellow dent; early maturing adapted strains such as Haney's; Moccasin, yellow dent (an early strain of Minn. No. 13 developed at the Grand Rapids station).

For silage production: Minn. No. 13 and Northwestern Dent.

Northeastern section:

For dry corn production: Earliest flints—Howe's Alberta Flint, Dakota White, white flint; Gehu, yellow flint; Squaw, various colored flint.

For silage production: Northwestern Dent and Minn. No. 13. At the Duluth station sunflowers have given better results for silage than corn.

## ALFALFA

Grimm.

## Characteristics of the Recommended Varieties

### SPRING WHEAT

**Marquis**, a beardless, stiff-strawed, common spring wheat; an old-established variety that is widely adapted; yields well when black stem rust is not a limiting factor and has desirable milling and baking characteristics; its chief defects are susceptibility to black stem rust and to scab diseases. Produced in Canada from a cross between Hard Red Calcutta and Red Fife.

**Mindum**, Minn. No. 470, a bearded, amber-kerneled, durum wheat; has high yielding ability and is fairly rust resistant altho not so resistant as some other durums. Resulted from a durum type selected in a common bread wheat.

**Marquillo**, Minn. No. 2202, a newly produced beardless variety similar to Marquis; matures somewhat earlier, and is somewhat more susceptible to root rots than Marquis but is very resistant to stem and leaf rust; has strong straw; has yielded somewhat higher than Marquis over a series of years. Milling and baking tests have shown it to be equal to Marquis in size and texture of loaf produced, altho frequently slightly yellowish, a character that may be overcome by bleaching. It was produced from the cross of Marquis with Lumillo durum. No seed is available for distribution.

**Ceres**, a new rust-resistant variety; has much stronger straw, is higher in yield, and just as rust resistant as Kota; has somewhat weaker straw than Marquis; is as early maturing and about the same in milling and baking qualities as Marquis and on the average has yielded better. In Minnesota it has shown relatively high susceptibility to scab, bunt, and loose smut. It was produced at the North Dakota station from a cross of Marquis and Kota.

### WINTER WHEAT

**Minturki**, Minn. No. 1507, a bearded, white-chaffed variety of the Turkey type; is early ma-

turing, yields well, is fairly resistant to black stem rust, and is very winter-hardy. Not so reliable on sandy lands as winter rye. It was produced from a cross of Turkey and Odessa.

## OATS

**Gopher**, Minn. No. 674, early maturing, open-panicled with white grain; is stiff-strawed, and especially recommended for southern Minnesota, altho in certain years its yielding ability has been outstanding in central and northern Minnesota. It is high yielding on peat lands. It resulted from a selection in a commercial mixture made for the purpose of obtaining a stiff-strawed, high-yielding variety.

**Victory**, Accession No. 514, medium maturing, open-panicled, with large white plump kernels; straw of good length. Kernels have weak awns or none. Yields well in Minnesota; is susceptible to stem rust; originated at Svalöf, Sweden.

**Minota**, Minn. No. 512, open-panicled, white kerneled, and well adapted to Minnesota; is susceptible to stem rust. It resulted from one of several plant selections made from a commercial variety of oats. The slender kernel is somewhat undesirable.

**Improved Ligowa**, Minn. No. 281, open-panicled, plump, white, with heavy to light awns; straw of medium length and stiffness; appears less desirable than either Minota or Victory. It originated through a head selection from the Swedish Select group.

**Anthony**, Minn. No. 686, mid-season, white, with spreading panicle; straw is about equal in length to Victory and Minota; excels in weight per bushel and yield and has proved highly resistant to stem rust. It is a new variety produced from a cross of White Russian and Victory, and is being increased for distribution.

## BARLEY

**Improved Manchuria**, Minn. No. 184, has proved the best variety of the Manchuria group in Minnesota. It was developed from an individual plant selection.

**Minsturdi**, Minn. No. 439, has a dense-head and stiff, short straw, is especially adapted and recommended for rich soils where most varieties lodge badly. Is a good crop with which to sow alfalfa and clover on rich soil. It resulted from a cross between South African, which excels in stiffness of straw, and Manchuria. Is susceptible to the barley "stripe" disease.

**Velvet**, Minn. No. 447, a smooth-awned barley of the Manchuria type; compares favorably with Manchuria No. 184 in yielding ability and general habit of growth. It resulted from a cross of Luth, a high-yielding variety which is resistant to the "spot blotch" disease, and a smooth-awned selection.

**Glabron**, Minn. No. 445, is similar to Velvet in general characteristics altho it appears to have stronger straw and, in certain tests, has yielded better than Velvet. It resulted from crossing Smooth Awn with Manchuria and combines the desirable characters of both parents. It is being increased, with no seed available for distribution at present.

**Peatland**, Minn. No. 452, a variety which appears to be especially well adapted to peat soils, as a result of several years' test; a selection from a variety called "Switzerland." A small amount of seed is available for distribution.

**Svansota**, Minn. No. 440, a two-rowed, stiff-strawed, good-yielding variety, especially recommended for northeastern Minnesota. It resulted from crossing Svanhals with U. S. Dept. No. 456.

## WINTER RYE

**Swedish**, Minn. No. 2, a very hardy, good yielder, produced by selection for winter-hardy plants in Swedish rye.

**Emerald**, Minn. No. 92, a newly recommended variety, highly uniform for green kernel color; compares favorably with Minn. No. 2 in yielding ability and winter-hardiness. It was produced by selection in Minn. No. 2 rye for plants having green kernel color. No seed will be available until the small stock on hand can be increased.

**Rosen**, Accession No. 82, is satisfactory for southern Minnesota where the winters are not too severe. It was introduced from Michigan, where it was developed.

## **FLAX**

Wilt-resistant varieties are essential for successful flax production. If planted in late May or in June the crop may be damaged more or less by wilt disease, therefore sowing in April or the first part of May is necessary for the best yields. Seed of wilt-resistant varieties cannot be distinguished readily from that of wilt-susceptible varieties. In order to be certain that seed is of a wilt-resistant variety, it is necessary to procure certified seed from a reliable source.

**Winona**, Minn. No. 182, is widely distributed, especially in the southern part of the state, and certified seed is available in quantity. It was derived from an individual plant selected in 1916 from a bulk planting of C.I. No. 16.

**Chippewa**, Minn. No. 181, can not be distinguished by seed or plant characters, but is somewhat less wilt-resistant than Winona. This variety is widely distributed in the northwestern part of the state and certified seed is available in quantity. It was developed from an individual plant selected in 1915 from Blue Dutch.

**Redwing**, Minn. No. 188, has averaged higher in yield than Winona or Chippewa and matures three or four days earlier. It can be distinguished from other varieties grown in the state by its characteristic light blue flowers. It is being increased as rapidly as possible, but no seed is available to growers. It was developed from an individual plant selected in 1916 from a variety grown under Accession No. 91.

**North Dakota Resistant No. 114**, is a wilt-resistant variety developed at the North Dakota Agricultural Experiment Station. It is a good yielder.

## SOYBEANS

**Minsoy**, Minn. No. 139, matures in 90 to 100 days; height 22-25 inches; fine stems, leafy, and retains leaves at maturity; high yielder; pods non-shattering; seeds small, light yellow, with brown hilums; recommended for early hogging-off crop in central and southern Minnesota and as a seed and hay crop in northern Minnesota. Developed from a selection made at University Farm.

**Wisconsin Black**, Accession No. 164, matures in 90 to 100 days; height 28-30 inches; seeds medium size and black. Recommended for seed and hay production in northern Minnesota.

**Chestnut**, Minn. No. 110, matures in 110-120 days, is leafy, fine-stemmed; average height 35 inches; seeds light brown, kidney shaped. Desirable seed and hay variety in central and southern Minnesota. Developed from a selection made at University Farm.

**Habaro**, Minn. No. 109, matures in 115-125 days; very upright and leafy; average height 30-35 inches. Seeds light yellow, larger and rounder than those of Chestnut. Desirable seed and forage variety for southern Minnesota. Developed from a selection made at University Farm.

**Manchu**, Accession No. 195, matures same as Habaro, erect, leafy. Seeds round, yellow with black hilums. Desirable for southern Minnesota.

**Elton**, Minn. No. 167, matures in 110-120 days, erect, leafy, seeds light yellow, medium to small, round. Recommended for central and southern Minnesota. Developed from a selection made at University Farm.

**Soysota**, Minn. No. 142, similar to Chestnut in plant characters. Seeds light brown with light colored hilum. Has yielded well at Morris. Developed from a selection made at University Farm.

## FIELD PEAS

**Golden Vine**, Minn. No. 95, ripens with medium maturing oats. Recommended for seed production or hogging-off either alone or with oats; and for hay in mixtures with oats. Seeds small, round, and yellow.

## AIFALFA

**Grimm**, a winter-hardy variety developed in Carver County; recommended for all parts of the state.

## CORN

Using seed corn of an acclimated strain of any variety is highly important when mature corn is desired. For silage production a somewhat later strain of the variety grown for mature corn production may be used to advantage. Seed of different strains of any variety can not be distinguished by appearance, therefore it is necessary either to grow the seed or to purchase it from reliable sources. It has been found that growing the early strains needed in northern Minnesota in the central part of the state for one year, to make more certain of an adequate seed supply, makes no material difference in the time of maturity of the crop.

**Silver King.** Average maturity 120 to 130 days. Ears 16-rowed, kernels creamy white with wrinkled dent, moderate depth. Recommended for the most productive soils in southern Minnesota.

**Murdock.** Habit of growth and maturity similar to Silver King. Ears 16-rowed, yellow, with red cobs. Has the same adaptation as Silver King.

**Minnesota No. 13.** developed from seed obtained from a firm in St. Paul in 1893. Several strains have been developed through selection. Medium maturing strains, requiring 110 to 120 days to mature, such as those developed at University Farm and the Morris station, are adapted to central Minnesota; also for the less productive lands of southern Minnesota. The ears are 14- to 16-rowed, yellow, comparatively smooth, with kernel of medium depth, and red cob. Two early maturing strains of this variety, the Haney strain, developed by J. G. Haney, of Grand Forks; and the Moccasin strain, by the station at Grand Rapids, are adapted to northwestern and north central Minnesota.

**Rustler**, similar to the medium maturing strains of Minn. No. 13 in plant characters and maturity. Ears white, comparatively smooth, 14- to 16-rowed. Kernels of medium depth, cobs white.

**Northwestern Dent**, the Crookston strain, developed at the Crookston station, matures a week earlier than later strains of the variety. Recommended for northwestern and north central parts of the state. Ears comparatively smooth, 12- to 14-rowed, kernels not deep, red capped with yellow.

**Minnesota No. 23**, an early maturing, white-capped, yellow dent developed from seed obtained from Mr. Berg of Mentor, Minn. Ears have 8 or 10 rows, kernels are smooth and short, cobs red.

**Dakota White**, a very early variety, maturing in 75 to 90 days, with ears borne so low that it is difficult to harvest with a corn binder. Ears with 8 or 10 rows, smooth, white.

**Pearl Flint**, similar to Dakota White but ears are 10- to 12-rowed and hence do not break so easily in husking. Ears are borne somewhat higher up than those of Dakota White, which makes harvesting with the binder possible.

**Gehu**, similar to Dakota White in plant and ear characters. The ears are usually 10-rowed and the kernels yellow.

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## Important Varieties of Crops Not Recommended for Minnesota, with Reasons Why

### SPRING WHEAT

**Garnet**, very early (valuable in northern Canada). Susceptible to rust, flour so yellow that it is difficult to bleach. Lodges easily. Requires further testing for yield.

**Haynes Bluestem**, yields less than Marquis, lodges much more readily, and matures later. It is susceptible to rust.

**Java**, a spring variety with soft to semi-hard red kernels. Tested four years at Grand Rapids. Less rust-resistant than Progress.

**Kitchener**, yields less than Marquis, susceptible to rust.

**Kota**, yields less than Marquis, lodges very easily. Is resistant to rust, but susceptible to smuts. Millers find it difficult to mill.

**Preston**, yields less than Marquis and tends to lodge; more variable in baking quality than Marquis.

**Progress**, has shown some promise at Grand Rapids and Duluth as a chicken feed wheat. Is rust-resistant. Has been tested for only two years. Developed at the Wisconsin stations from an individual plant selection from Java.

**Quality**, a white-kerneled variety that yields less than Marquis, susceptible to rust. More variable in milling and baking quality than Marquis.

**Red Bobs**, yields less than Marquis, is susceptible to rust.

**Red Sask**, yields no better than Marquis, is susceptible to rust.

**Reward**, yields less than Marquis, susceptible to rust. Requires further testing.

**Ruby**, yields less than Marquis, susceptible to rust. More variable in baking quality than Marquis.

**Acme** (durum), rust resistant but yields less than Mindum, amber-colored kernels. Less desirable for the manufacture of macaroni products than Mindum.

**Kubanka** (durum), yields less than Mindum, lodges more readily, amber-colored kernels, desirable for macaroni products.

**Monad** (durum), similar to Acme.

**Pentad** (durum), very resistant to rust, yields less than Mindum, kernels red, very undesirable for the manufacture of macaroni products.

## WINTER WHEAT

**Basco** (Wis. Ped. 408), yields less than Minturki and is less winter-hardy.

**Crimean**, yields no better than Minturki and is somewhat less winter-hardy.

**Iobred**, high-quality grain but less winter-hardy than Minturki and yields less.

**Iowa, Sel. 1946**, less winter-hardy than Minturki and yields less.

**Kanred**, not as winter-hardy as Minturki.

**Minard**, yields no better than Minturki, less winter-hardy, and more susceptible to rust attacks.

**Minhardi**, a beardless variety, more winter-hardy and stiffer strawed than Minturki, but more susceptible to rust and less widely adapted than Minturki. The grain is somewhat less desirable in quality than that of Minturki.

**Red Rock** and **Berkley Rock**, not winter hardy in Minnesota.

## OATS

**Iogren**, mid-season, yellow, yields less than Victory, susceptible to rust.

**Iowa 103**, early, white, yielding less, as a rule, than Iowar and Gopher.

**Iowa 105**, early, yellow, with stiff straw, yielding less than Gopher.

**Iowar**, early, white, weaker strawed and lower in yield than Gopher. High yielding on peat lands.

**Kanota**, early, red, developed at the Kansas Experiment Station. Resistant to rust but yields much less than Gopher.

**Liberty-Hull-less**, mid-season, threshes out naked. The highest yielding hull-less variety available. Yields less than Victory and is very susceptible to smuts.

**Markton**, early, white, resistant to rust and smut but apparently yields less than Gopher. Requires further testing.

**Wolverine** and **College Wonder**, Michigan selections, mid-season white varieties which yield less than Victory.

**Nebraska 21**, early, white, yields less than Gopher.

**Silvermine**, midseason, white, yields less than Victory, and is susceptible to rust.

**White Tartar**, late, white, side oats, yields less than Victory, is resistant to rust.

Wisconsin selections 17, 18, and 19, early white varieties which yield less than Gopher.

## BARLEY

**Chevalier**, 2-rowed, rough-awned, yields less than Svanota and lodges more easily.

**Trebi**, a good yielder but very susceptible to the *Helminthosporium* disease of cereals and therefore not so desirable as varieties resistant to this disease. It is 6-rowed and rough-awned.

**Wisconsin Pedigree No. 6**, 6-rowed, rough-awned, yields less and lodges more than Manchuria, Minn. 184, at University Farm, the only station where it has been adequately tested.

## RYE

**Dakold**, as winter-hardy as Swedish, but apparently yields about the same as Swedish, Minn. No. 2; requires further testing.

**Midsommerog**, winter-kills badly, yields less than either Swedish or Rosen.

**Petkus**, winter-kills badly, yields less than Swedish or Rosen.

**Prolific Spring**, a spring variety, yields no better than Rosen at University Farm, the only station where it has been tested. Spring varieties occasionally yield as high as winter varieties but usually less.

## FLAX

**Linota**, taller and later maturing than the recommended varieties. From limited tests it appears to be adapted to the heavy soils of west central and northwestern Minnesota. Further testing is necessary. Developed at the North Dakota Agricultural Experiment Station.

**North Dakota No. 52**, not wilt-resistant and hence low-yielding where wilt is present.

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