

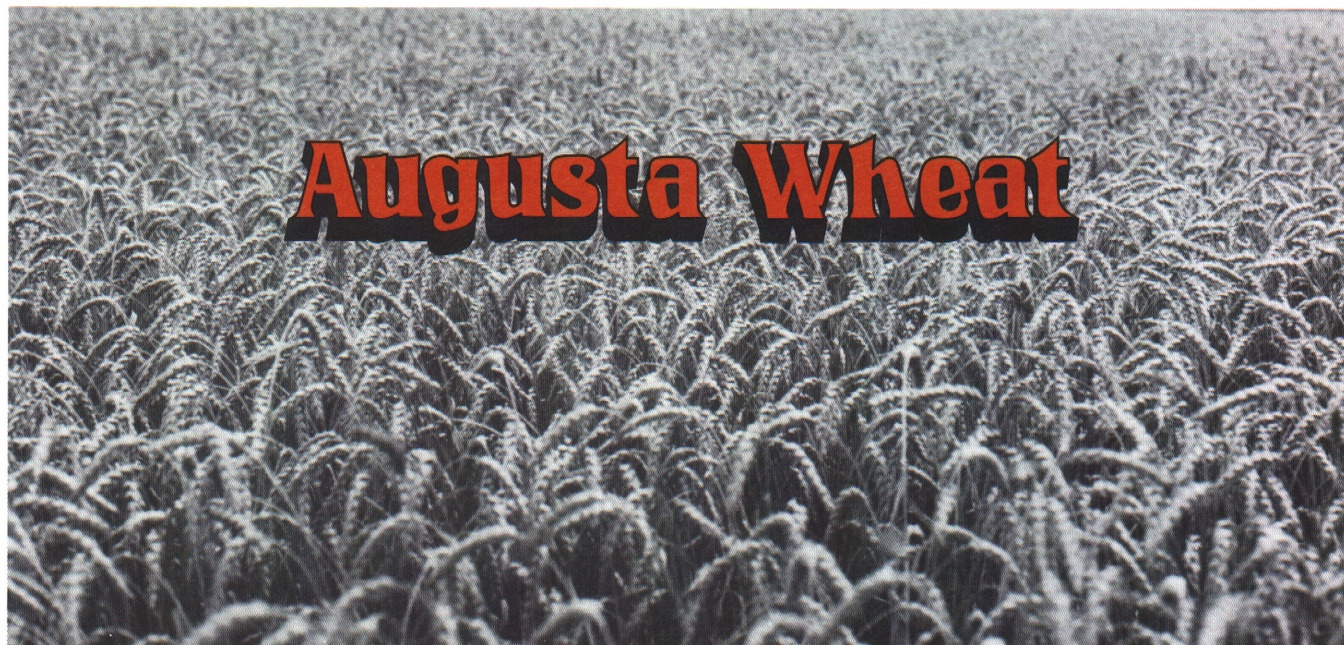
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Augusta Wheat
Michigan State University
Cooperative Extension Service
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December 1979
2 pages

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Augusta is a new variety of soft white wheat, first available to growers in 1980. It is named for the town of Augusta, the site of one of Michigan's earliest grist mills established in 1872. Today, the Knappen Milling Company continues to operate as a family-owned mill with the second and third generations active in the business.

History and Pedigree

Augusta is the result of selections from a 1967 cross of Genesee/Redcoat, A2747//Yorkstar. Selections were made throughout the breeding process for plant type, straw height, leaf rust resistance, winter hardiness, and milling and baking quality. Only the superior lines with high stable performance were used as parents for the next echelon of crosses. Approximately 450 headrows were selected from 500 in the F₁₀ generation on the basis of plant height, glume and kernel color, individually increased in 48 ft² plots and bulked to represent breeder seed.

Yield Performance

Augusta has been tested in Michigan yield trials since 1973 and in the Eastern Uniform Soft White Wheat Trials since 1976. In 42 nurseries during five years, it has out-performed Genesee by 14% and Arthur by 16%. Like Frankenmuth, it is very responsive to nitrogen top dressing in the spring.

Disease Resistance

Like Ionia, Genesee and Frankenmuth, Augusta has moderate resistance or tolerance to powdery mildew. Although mildew is detected on the first leaves, it seldom spreads to the flag leaf or head. Augusta also has a gene for slow rust development. Rust is only a problem in Michigan every six or seven years; however, when present the gene in Augusta delays the disease for about seven to ten days, giving sufficient protection for crop development.

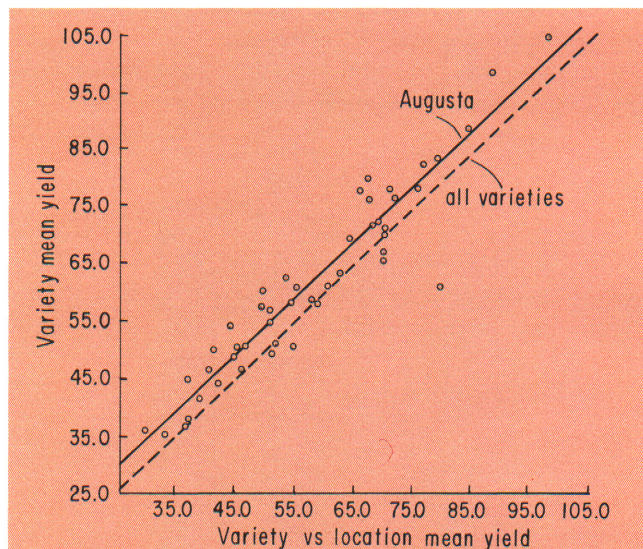


Figure 1. Yield of Augusta compared to the mean yield of all wheat varieties in Michigan State University tests, 1973-1978.

WHEAT VARIETY PERFORMANCE — 1973-1978.

Variety	Grain Color	Straw Height	Test Weight	Hessian Fly Resistance	Winter Hardiness	Lodging Resistance	Leaf Rust Resistance	Yield (Bu/A)
Augusta	white	39	57.7	none	good	very good	resistant	61.4
Frankenmuth	white	40	59.4	Races A & C	good	very good	resistant	61.5
Tecumseh	white	37	61.1	Races A & C	very good	very good	resistant	54.3
Ionia	white	42	59.7	Race A	good	good	resistant	55.7
Genesee	white	45	59.5	none	good	good	susceptible	53.5
Yorkstar	white	39	57.5	none	good	very good	susceptible	58.3
Arthur	red	36	60.5	all known races	very good	very good	resistant	52.4
Abe	red	34	60.4	all known races	very good	very good	resistant	52.7

Data from 42 locations in 6 years of Michigan State University testing throughout Southern Michigan.

Agronomic Description

Unlike most soft white wheat varieties, Augusta has a white head color at maturity. It has the same straw height as Yorkstar and is six inches shorter than Genesee. It has high tillering and strong straw that resists lodging, even under heavy nitrogen applications. Augusta has winter hardiness comparable to that of Ionia, Genesee and Frankenmuth and is superior to that of Yorkstar. Its test weight is also comparable to most other white wheat varieties and superior to that of Yorkstar.

Fertility Management

Like Frankenmuth and Tecumseh, Augusta has excellent response to nitrogen, and it is recommended that 60-80 lbs. of actual N per acre be applied in early spring. Optimum time of application is in the early spring before the ground thaws (only on level fields) or during the first 2 or 3 weeks of spring growth.

Milling and Baking Quality

Augusta has the same excellent milling and baking quality features of Yorkstar, the standard reference variety used by the USDA Soft Wheat Quality Laboratory where extensive milling and baking tests have been conducted. However, Augusta is about 0.2 pound heavier in test weight than Yorkstar.

Plant Variety Protection

An application has been filed for Plant Variety Protection on Augusta. Sale of uncertified seed by variety

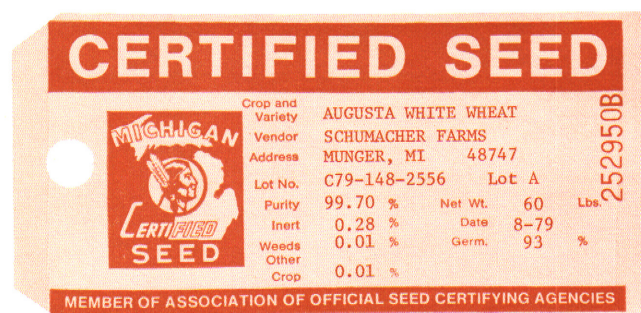


Figure 2. Certified seed tag for Augusta wheat.

name (Augusta) will be in violation to provisions of the Federal Seed Act. Growers who buy certified seed may not legally sell the following generations as year-from-certified Augusta. This provision is expected to better maintain varietal identity of Augusta and help control serious seedborne diseases such as bunt (stinking smut) and loose smut.

Seed Availability

Certified seed is produced under rigid standards of varietal purity and freedom from seedborne diseases by members of the Michigan Crop Improvement Association. All seed lots are required to meet high standards of germination and freedom from other crop seeds, weed seeds and inert matter. Wheat growers should be assured of varietal identity and high seed quality by checking for the familiar blue certified seed tag before purchasing their seed.

Certified seed may be purchased directly from seed growers or from local elevators or other seed outlets.