

Cover Crop Seed Variety Considerations

8/24/2021

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Topics

- **Seed tags and sources**
- **VNS, Brands and Varieties**
- **When to use each..**
- **Species Varieties**
 - **Cereal rye**
 - **Annual**
 - **Crimson**

CERTIFIED SEED



Seed in this container are from a lot of seed which was produced, conditioned and inspected in accordance with the regulations of the North Carolina Crop Improvement Association and is the Class of Seed shown on this label. The producer or vendor whose name and/or certification number appears on this label is solely responsible for the information hereon and for the proper use of the label.

Kind: Tall Fescue **Variety:** Kentucky 31 **Origin:** Oregon

Lot Number: 01B98 **Vendor and address:** XYZ Seed Company

Net Weight (lb):	60	Pure Seed (%):	98%
Germination (%):	90	Inert Matter (%):	0.5%
Hard Seed (%):	0	Weed Seed (%):	0.8%
Test Date:	12/1/00	Other Crop Seed (%):	0.5%
Noxious Weed/lb: 18 Curley Dock			

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Pure Seed:	65.96%	Lot-Pedigree:	40408-4433
Other Crop:	0.00%	Germination:	80%
Inert Matter:	0.04%	Hard Seed:	10%
Weed Seed:	0.00%	Total Viable:	90%
Coating Material:	34.00%	Date Tested:	01/21
Noxious Weeds:	None Found	Net Weight:	50.00 LBS
Origin:	WY/ID	Inoc Exp:	01/23

Treated with Apron and Nitrogen Gold

VNS

- **VNS: Variety Not Stated**
 - **The variety is simply not stated for some reason.**
 - **Often seen as inferior seed.**
 - **Can be top industry varieties in some instances.**

Variety vs. Brand

- **Variety: identifies a specific genetic makeup of the seed**
- **Brand: Source or Company**
 - **While not a specific variety, a company has interest in bringing a consistent performing product.**

When is VNS not okay?

- **When knowledge of specific variety traits is critical.**
- **When there are extreme variations of varieties sourced for seed on the market.**
- **When seed source is questionable (years of low supply).**
- **NOT OKAY in Annual Ryegrass.**

When is VNS Okay?

- **When your seed dealer sourcing is consistent and professional. There is historical knowledge about the source of the seed.**
- **Applies to tested, cleaned and appropriate seed.**
- **When management will not allow much expression of variety specific traits.**
- **When VNS products are a standard for use.**

Attributes of Varieties to consider.

- **Grain vs. Forage vs. Cover Crop**
 - **Different cost and selection criteria.**
- **Winterhardiness vs. early spring growth**
 - **Purchasing based on one trait may sacrifice other traits.**
- **Spring vs. Winter Varieties**
 - **Triticale, Barley, Rye, Wheat, Oats**

Other qualities to consider:

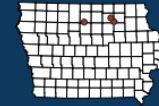
- **Rooting depth**
- **Biomass production**
- **C:N Ration (ability to break down)**
- **Nitrogen producing potential**
- **Termination ability (relates to many other attributes)**

Cereal Rye Varieties

- **Aroostook – Early, popular in organic systems**
- **Elbon – Southern Rye Example**
- **Rymin – Shorter Biomass, popular northern variety.**
- **Hybrids – newer, grain focused and protected.**

<https://crops.extension.iastate.edu/cropnews/2016/10/cereal-rye-suitability-roller-crimping-and-no-till-applications>

Cultivar	Average C:N Ratio
Aroostook	58:1 a
Wrens Abruzzi	58:1 a
Elbon	57:1 a
Prima	49:1 b
Wheeler	47:1 b



Cereal Rye Variety Trial 2020

In a Nutshell:

- Nine cereal rye varieties were screened at two Iowa State University research farms and one commercial farm.

Key Findings:

- Across sites and varieties, average cereal rye yield was 39 bu/ac.
- Hybrid varieties, Bono, Brasetto and Serafino, were the top-yielding varieties at each site.
- Hazlet and ND Dylan, more-recently-released open-pollinated varieties, were intermediate yield performers across sites.

BACKGROUND

Cereal rye has recently gained attention as a winter cover crop in corn-soybean production systems. Seeded in the fall, cereal rye will grow before going into winter dormancy and resume growth early the following spring. When managed as a cash crop, cereal rye is harvested for grain in mid- to late July and field management options for the remainder of the season are numerous. These include establishment of a perennial forage or summer cover crop,

as well as an opportunity for mid-season manure application. As farmers begin to plant cereal rye for various purposes – cover crop seed, grain, straw, forage, hay or haylage production – they might seek to plant cereal rye varieties with distinct production characteristics.

This was the second year that Practical Farmers of Iowa coordinated cereal rye variety trials on university and commercial farms. In 2019, the average cereal rye yield across three sites in northern Iowa was 43 bu/ac.^[1] Recent

cereal rye variety trials conducted by the University of Minnesota, however, reported an average yield of 77 bu/ac in 2018^[2] and 68 bu/ac in 2019.^[3]

METHODS

Variety trials were conducted at three locations in 2020: ISU Northern Research Farm in Kanawha; ISU Northeast Research Farm in Nashua; Wendy Johnson's farm in Charles City. Production characteristics and some breeding history about each of the trialed varieties can be found in **Table 1**. Information on winter hardiness,

Cooperators

ISU Northern Research Farm
(Matt Schnabel) – Kanawha
ISU Northeast Research Farm
(Ken Pecinovsky) – Nashua
Wendy Johnson – Charles City

Funding

Walton Family Foundation
Albert Lea Seed House

TABLE 1. Characteristics of cereal rye varieties trialed in 2020.

VARIETY	ORIGIN ^a	YEAR OF RELEASE	PVP ^b	TYPE ^c	WINTER HARDINESS ^d	TIME TO HEADING ^e	PLANT HEIGHT ^f	ERGOT RESISTANCE ^g
Aroostook	USDA-NRCS	1981	None	OPV	1	1	6	4
Bono	KWS	2013	N/A	Hybrid ^h	2	9	7	2
Brasetto	KWS	2007	N/A	Hybrid ^h	3	8	1	2
Elbon	OK	1956	None	OPV	6	1	8	9
Hazlet	SeCan	2006	None	OPV	2	5	6	2
ND Dylan	ND	2016	Pending	OPV	2	4	8	2
Serafino	KWS	2017	N/A	Hybrid ^h	2	9	1	2
Spoooner (2019)	WI	1992	None	OPV	5	1	8	4
Wheeler (2018)	MI	1972	None	OPV	1	9	9	9

^a Origin: OK – Oklahoma State University; ND – North Dakota State University; WI – University of Wisconsin; MI – Michigan State University.

^b PVP = Plant Variety Protection. The PVP Act provides a certificate to the developer of a variety granting exclusive rights for reproducing and marketing the seed.

^c OPV = Open Pollinated Variety.

^d 1 = most hardy; 9 = least hardy. Ratings are average of 2016–2018 or 2017–2019 trials at University of Minnesota.

^e 1 = earliest; 9 = latest. Ratings are average of 2016–2018 or 2017–2019 trials at University of Minnesota.

^f 1 = shortest; 9 = tallest. Ratings are average of 2016–2018 or 2017–2019 trials at University of Minnesota.

^g 1 = most resistant; 9 = least resistant. Ratings are average of 2016–2018 or 2017–2019 trials at University of Minnesota.

^h Hybrids from KWS are protected from propagation by license agreements entered into with KWS upon seed purchase.

[Cereal rye variety trial 2020.pdf \(iastate.edu\)](#)

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Annual Ryegrass Varieties (not exhaustive)

- Bounty
- Centurion
- KB Royal, Supreme
- Winter Hawk
- Tillage Rootmax
- King
- Italian Ryegrasses (not best suited for cover crop)

Notes on Other Species

- **Crimson Clovers: May trade early flowering for winterhardiness. “Dixie”**
- **Rapeseed: Is the same as canola so avoid roundup ready varieties. “Dwarf Essex Rape”**
- **Huge diversity in other brassica’s such as turnips and radishes.**
- **Summer Annuals – many varieties.**

Thank You!