



Cooperative Extension Service

NORTH DAKOTA STATE UNIVERSITY - FARGO, NORTH DAKOTA 58102
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North Dakota

GRAIN VARIETIES

1974

THE RELATIVE PERFORMANCE of crop varieties in any year is influenced by the season's growing conditions. Growing seasons vary in temperature and rainfall as well as in the prevalence of rust and other diseases. Crop varieties vary in yield, resistance to high temperatures and drouth, resistance to diseases and insects, and in several other characteristics.

Early maturity is an advantage some years but a disadvantage in others. In general, the later maturing varieties do best in the northern part of the state where ripening temperatures usually are more moderate.

Rust on all crops and pasmo on flax are expected most often in eastern North Dakota where rainfall and humidity generally are higher. It is also a greater threat in western North Dakota as winter wheat acreage moves north. Leaf diseases, head blights, and root rots are more prevalent in south-

eastern and eastern North Dakota, while smut and ergot can be statewide.

Statements about rust and other diseases in this circular are based on variety reaction to races known to be present and to which the variety has been tested. Each crop year brings the possibility of new races of rust and other disease outbreaks to which varieties may not be resistant.

No one can predict with accuracy the kind of growing season to expect next year. Therefore, choose varieties with characteristics best able to meet the crop hazards most likely to occur in your area.

In this circular variety recommendations are made for each crop based on yield performance, disease resistance, agronomic characteristics and adaptability shown by Experiment Station results. The tables describe all recommended varieties, plus others on which information may be desired.

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Extension Service Agronomist
with assistance from Experiment Station Staff

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HARD RED SPRING WHEAT

North Dakota wheat growers should give major consideration to milling and baking quality when selecting varieties for commercial production in order to maintain their reputation as a source of high quality wheat for both domestic and export markets. The importance of quality becomes more important in a surplus market as has been experienced in the past. Past performance of a variety in the local area should be carefully considered in variety selection.

This classification of varieties does not imply that all varieties included in any group are equal in all respects. Refer to the description chart for variety characteristics.

Recommended Varieties for Commercial Production having satisfactory agronomic characteristics and having traditionally acceptable high quality for domestic and export markets:

Waldron, Chris, Polk, Justin, Fortuna (for sawfly areas only)

Varieties with marginal quality and/or agronomic deficiencies for consideration on a limited acreage. These varieties have demonstrated variable quality and/or deficiencies of quality, for example, low protein, dough mixing characteristics, low loaf volume, etc. Some of these varieties have agronomic deficiencies while others may have agronomic advantages under favorable conditions:

Olaf, WS 1809, Bounty 208, Bonanza, Nordak

Varieties not recommended due to limited tests, agronomic deficiencies and/or consistently poor quality:

Lark, Era

VARIETY DESCRIPTIONS

Variety	Origin ^{1/}	Yield % of Avg. (3 yrs.) ^{6/}			Beards	Height	Strength of straw	Maturity	Reaction to		Quality Factors			Remarks
		E	C	W					Stem rust ^{2/}	Leaf rust ^{2/}	Test Wt.	Wheat protein	Quality rating ^{3/ 5/}	
Waldron	N.Dak.	98	94	94	no	med.	strong	m.early	R ^{4/}	R	avg.	high	satis.	Ergot and leaf disease suscept.
Chris	Minn.	92	94	94	no	med.	weak	med.	R ^{4/}	MR	avg.	avg.	satis.	Weak straw
Polk	Minn.	---	90	83	yes	med.	m.strong	med.	R ^{4/}	R	high	avg.	satis.	Shatters
Justin	N.Dak.	84	90	91	no	med.	strong	med.late	R ^{4/}	MS	avg.	high	satis.	Ergot suscept.
Fortuna	N.Dak.	---	---	97	no	med.	weak	m.early	R	MS	avg.	low	marg.	Sawfly resist. Suscept to black chaff
Nordak	P.R.N.D.	100	92	97	yes	tall	m.strong	m.early	R ^{4/}	MS	high	avg.	marg.	Loose smut
Bonanza	P.R.	108	107	103	yes	s.dwf.	strong	m.early	R ^{4/}	R	low	low	marg.	
Fletcher	Minn.	---	---	---	yes	s.dwf.	strong	late	R	MS	avg.	low	marg.	
WS 1809	P.R.N.D.	112	102	97	no	s.dwf.	strong	early	R ^{4/}	R	avg.	low	marg.	
Bounty 208	P.R.	101	96	107	yes	s.dwf.	strong	early	R ^{4/}	MR	high	low	marg.	
Manitou	Canada	88	93	94	no	med.	m.strong	med.	R	S	avg.	avg.	marg.	Leaf rust
Crim	Minn.	---	---	---	yes	med.	weak	med.	R	S	low	avg.	marg.	Suscept. to black chaff
Canthatch	Canada	---	---	---	no	med.	med.	m.early	S	S	low	avg.	satis.	V.suscept to leaf rust
RR 68	P.R.N.D.	---	---	---	yes	s.dwf.	strong	early	R	R	high	low	unsatis.	Not recommended
Neepawa	Canada	---	---	---	no	med.	strong	m.early	R	S	avg.	avg.	unsatis.	Not recommended
WS 1812	P.R.N.D.	---	---	---	yes	s.dwf.	strong	early	R	R	high	low	unsatis.	Not recommended
Thatcher	Minn.	---	---	---	no	short	med.	m.early	S	S	avg.	low	satis.	Not recommended
Barton	P.R.N.D.	---	---	---	yes	med.	m.strong	m.early	R ^{4/}	MS	avg.	avg.	unsatis.	Not recommended
Empire	P.R.N.D.	---	---	---	yes	s.dwf.	strong	med.	MS	S	low	low	unsatis.	Not recommended
Lark	P.R.N.D.	93	102	112	yes	s.dwf.	strong	early	R	MR	high	low	unsatis.	Not recommended
Era	Minn.	117	118	120	yes	s.dwf.	strong	late	R	R	avg.	low	unsatis.	Not recommended
Olaf	N.Dak.	105	105	103	yes	s.dwf.	strong	m.early	R	R	avg.	avg.	marg.	
Nowesta	P.R.N.D.	---	---	---	yes	med.	strong	m.early	R	R	---	---	---	Limited tests

^{1/} P.R. refers to private release.

^{2/} R=resistant; S=susceptible; MS=moderately susceptible; MR=moderately resistant.

^{3/} Avg.=average; satis.=satisfactory; unsatis.=unsatisfactory; marg.=marginal; infer.=inferior.

^{4/} Occasionally mixed with some susceptible plants.

^{5/} Tests conducted by Cereal Chemistry.

^{6/} E=Fargo, Langdon, Carrington; C=Minot, Carrington; W=Dickinson, Williston, Minot.

DURUM

Recommended Varieties for Commercial Production:

Statewide: **Ward, Rolette, Leeds, Wells, Lakota and Hercules**

Varieties Not Recommended:

Wascana

VARIETY DESCRIPTIONS

Variety	Origin	Year released	Beards	Height	Strength of straw	Maturity	Reaction to		Normal crop ^{2/}			Remarks
							Stem rust ^{1/}	Leaf rust ^{1/}	Test wt.	Kernel size	Overall quality	
Leeds	N.Dak.	1966	yes	med.	strong	m.early	R	R	high	large	satis.	Weak seedling
Wells	N.Dak.	1960	yes	med.	m.strong	m.early	R	R	avg.	sm.	satis.	Small kernels
Lakota	N.Dak.	1960	yes	med.	m.strong	m.early	R	R	avg.	sm.	satis.	Low test weights
Hercules	Canada	1969	yes	med.	strong	early	R	MS	high	large	satis.	Suscept. to leaf diseases
Wascana	Canada	1971	yes	med.	weak	m.early	MR	MS	low	large	satis.	Suscept. to leaf diseases
Rolette	N.Dak.	1971	yes	med.	v.strong	early	R	MS	high	large	satis.	Early maturity
Ward	N.Dak.	1972	yes	med.	v.strong	m.early	R	MR	high	large	satis.	High yield

^{1/} R=resistant; MS=moderately susceptible; MR=moderately resistant. ^{2/} Avg.=average; sm.=small; satis.=satisfactory.

BARLEY

MALTING OR FEED: Dickson, Larker, Beacon, Conquest and Bonanza

Market malting varieties as pure one-variety carlots. Varieties grading blue malting barley or 2-rowed varieties of malting quality have a limited market outlet as a premium crop.

FEED: Statewide: Primus II, Cree, Nordic, Burk and Prilar

Western areas only: Keystone, Fergus, Piroline, Shabet and Vanguard

The 2-rowed varieties should be grown only in western North Dakota because of susceptibility to stem rust and leaf diseases.

NOTE: All barley varieties except Dickson, Beacon and Nordic are susceptible to leaf diseases which cause yield losses in some years, especially in the eastern part of the state. Nordic has superior resistance to Septoria. Cree, Conquest, Beacon, Keystone and Bonanza are resistant to loose smut.

VARIETY DESCRIPTIONS

Variety	Origin	When released	Head type ^{2/}	Awn type ^{3/}	Aleurone color	Height	Straw strength	Rel. maturity	Rel. yield	Reaction to ^{4/}			Quality ^{5/}
										Stem rust	Loose smut	Leaf diseases	
Dickson	N.Dak.	1964	6	R	white	med.	med.	med.	v.good	R	S	MR	M or F
Larker	N.Dak.	1961	6	S	white	med.	med.	m.early	good	R	S	MS	M or F
Trophy	N.Dak.	1961	6	R	white	med.	med.	med.	good	R	S	MS	M or F
Conquest	Canada	1965	6	S	blue	m.tall	strong	m.early	good	R	R	MS	M or F
Primus II	S.Dak.	1966	6	S	white	med.	med.	early	fair	R	S	MS	F
Paragon	Canada	1968	6	S	blue	med.	med.	m.late	good	R	R	MS	F
Keystone	Canada	1960	6	S	white	med.	strong	late	good	R	R	S	F
Yukon	P.R. ^{1/}	1963	6	S	white	m.tall	weak	med.	good	R	--	MS	F
Nordic	N.Dak.	1971	6	R	white	med.	med.	med.	v.good	R	S	MR	F
Bonanza	Canada	1970	6	S	blue	m.tall	med.	med.	good	R	R	MS	M or F
Cree	Minn.	1971	6	R	white	med.	med.	m.early	v.good	R	R	MS	F
Prilar	S.Dak.	1971	6	S	white	med.	med.	m.early	good	R	S	MS	F
Fergus	Canada	1968	2	R	white	med.	med.	m.late	good	S	S	S	F
Herta	Sweden	-----	2	R	white	med.	m.weak	late	fair	S	S	S	F
Piroline	Germany	-----	2	R	white	med.	med.	m.late	good	S	S	S	F ^{6/}
Shabet	Mont.	1971	2	R	white	med.	m.weak	m.late	good	S	S	S	F ^{6/}
Vanguard	Wash.	1971	2	R	white	med.	med.	m.late	good	S	S	S	F ^{6/}
Burk	Wisc.	1971	6	S	white	m.tall	med.	med.	good	R	S	MR	F
Beacon	N.Dak.	1973	6	R	white	med.	strong	early	good	R	R	MR	M or F

^{1/} P.R. refers to private release.

^{2/} 6-rowed or 2-rowed

^{3/} Rough or smooth awned.

^{4/} R=resistant, S=susceptible, M=moderately

^{5/} M=malting, F=feed, NC=not classified for malting due to limited testing.

^{6/} May be acceptable for malting if grown under irrigation or a favorable environment.

WINTER WHEAT VARIETIES

The varieties listed as having good or very good winter hardiness are more reliable and generally have good yield capacity. In relatively mild years, the varieties with fair or poor winter hardiness will perform well.

HARD RED WINTER WHEAT

Variety	Origin	Year	Reaction to		Maturity	Straw Strength	Height	Winter-Hardiness
			Leaf Rust	Stem Rust				
Froid	Mont.	1968	S	R	Late	Fair	Tall	Very good
Minter	Minn.	1948	S	MS	Late	Fair	Tall	Very good
Sundance	Can.	1971	S	S	V.late	Fair	Tall	Very good
Hume	S.Dak.	1965	S	R	Medium	Strong	Medium	Good
Winalta	Can.	1961	S	MS	Medium	Medium	Medium	Good
Winoka	S.Dak.	1969	S	R	Medium	Medium	Medium	Good
Bronze	S.Dak.	1972	MS	R	Medium	Medium	Medium	Good
Trapper	Nebr.	1968	S	R	Medium	Medium	Medium	Fair
Centurk	Nebr.	1971	MS	R	Early	Strong	Short	Fair
Lancer	Nebr.	1963	S	R	Early	Strong	Short	Fair

OATS

For southeastern and eastcentral counties where hazards of rust and high early summer temperatures are greatest:

EARLY: Dawn, Wyndmere, Nodaway 70

MEDIUM: Kota, Otter

LATE: Sioux, Kelsey, Lodi, Russell, Cayuse, Garry, Harmon, Froker, Random

For southcentral and western counties where rust hazards are less:

MEDIUM: Kota, Otter, Burnett

LATE: Sioux, Kelsey, Lodi, Russell, Cayuse, Garry, Harmon, Random, Froker

For northeastern and northcentral counties, later ripening varieties yield best:

LATE: Sioux, Kelsey, Lodi, Russell, Cayuse, Garry, Harmon, Random, Froker

MEDIUM: Kota, Otter, Burnett

Hay or silage - tall late maturing varieties such as Kelsey, Garry or Lodi

Early hay for wild oats control and late seeding - Dawn, Burnett or Otter.

VARIETY DESCRIPTIONS

Varieties listed in order of maturity	Origin	Year released	Color grain	Maturity ^{3/}	Height	Straw strength	Reaction to ^{1/}		Yield	Bu. Wt.
							Crown rust			
Nodaway 70	Mo.	1969	white	E	short	good	MS	fair ^{2/}	good	
Dawn	N.D.	1966	yellow	E	tall	good	MR	fair ^{2/}	v.good	
Wyndmere	N.D.	1966	white	E	m.tall	good	MS	fair ^{2/}	good	
Grundy	Iowa	1972	yellow	E	short	good	MS	fair	good	
Brave	Ill.	1965	yellow	E	short	weak	S	good	good	
Burnett	Iowa	1956	yel-white	M	short	strong	MS	good	good	
Chief	S.D.	1971	yellow	M	med.	good	MR	fair	good	
Otter	Minn.	1970	white	M	short	good	MS	good	fair	
Holden	Wisc.	1966	yellow	M	med.	strong	MS	good	good	
Portal	Wisc.	1966	yellow	M	m.tall	strong	MR	good	good	
Kota	S.D.	1969	yellow	M	m.tall	good	MS	v.good	v.good	
Kelsey	Can.	1967	white	L	m.tall	m.strong	MR	v.good	good	
Russell	Can.	1960	white	L	m.tall	m.strong	MS	v.good	fair	
Sioux	Can.	1967	white	L	med.	m.strong	MS	v.good	good	
Dal	Wisc.	1972	yellow	L	med.	good	MR	fair	good	
Froker	Wisc.	1970	yellow	L	m.tall	m.strong	MR	good	good	
Cayuse	N.Y.	1966	yellow	L	short	strong	MS	v.good	fair	
Garry	Can.	1952	white	L	tall	m.strong	MS	v.good	good	
Lodi	Wisc.	1963	yellow	L	tall	m.strong	MR	good	good	
Rodney	Can.	1953	white	L	tall	mod.	MS	good	good	
Harmon	Can.	1965	white	L	tall	mod.	MS	good	good	
Random	Can.	1971	white	L	short	strong	MS	good	good	

1/ Races of rust are present in U. S. to which no varieties are resistant. 2/ Good in S.E. and E. Central North Dakota. 3/ E=early, M=medium, L=late.

FLAX

A new race of flax rust is present. Only rust resistant varieties should be sown. Early seeding will increase yield per acre.

RECOMMENDED VARIETIES:

MID-EARLY MATURING: Linott

LATE MATURING: Foster

VARIETY DESCRIPTIONS

Variety	Origin	When released	Relative maturity	Color		Seed size	Plant height	Reaction to ^{2/} disease		Yield ability	Oil yield	Oil quality
				flower	seed			Wilt	Rust			
Linott	Can.	1966	early	bl.	br.	small	med.	MS	R	v.good	good	good
Noralta	Can.	1965	early	bl.	br.	small	med.	MR	MS	good	fair	fair
Bolley	N.D. ^{1/}	1957	early	bl.	br.	med.	med.	R	S	good	v.good	v.good
Windom	Minn.	1962	early	bl.	br.	med.sm.	med.	R	S	v.good	fair	v.good
Summit	S.D.	1964	early	bl.	br.	med.	med.	R	S	v.good	fair	good
Redwood	Minn.	1951	med.late	bl.	br.	med.	med.	R	S	v.good	good	good
Norstar	Minn.	1969	late	bl.	br.	med.	med.	R	R	good	good	fair
Foster ^{3/}	N.D.	1969	late	bl.	yel.	small	short	MR	R	good	v.good	good
B5128	N.D.	1943	late	bl.	br.	large	med.	MR	S	good	good	fair
Nored	Minn.	1968	late	bl.	br.	med.	med.	R	S	v.good	good	v.good

1/ Cooperative with USDA.

2/ All varieties susceptible to pasmo and to aster yellows.

3/ Foster is permitted a tolerance of 2 per thousand brown seeds and white flowers for certification.

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