

*Varieties of
Grain Crops for
Saskatchewan
1970*

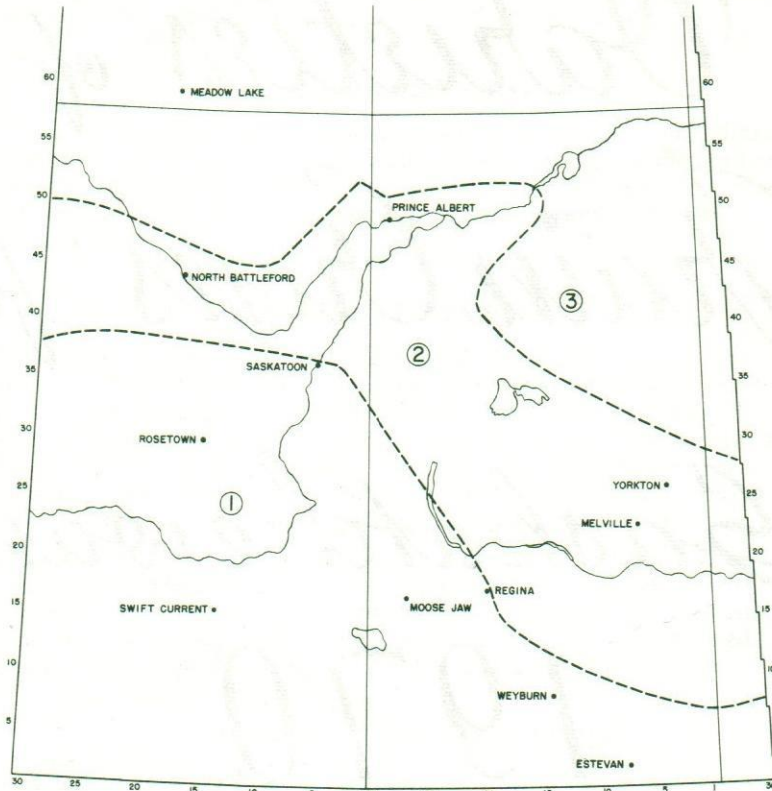
DESCRIPTIONS AS PREPARED BY

The Saskatchewan Advisory Council on Grain Crops

PUBLISHED UNDER THE SASKATCHEWAN CO-OPERATIVE
AGRICULTURAL EXTENSION PROGRAMME BY AUTHORITY
OF THE HON. D. McFARLANE MINISTER OF AGRICULTURE



MODERN PRESS, SASKATOON



GRAIN CROP PRODUCTION AREAS

Saskatchewan

1. An area where drought is a definite hazard especially in the southwest. Sawfly outbreaks also occur in this area. Winds of high velocity are common. Rust can occur in the southeastern portion.
2. An area where drought is less likely to be a limiting factor. The frost free period is fairly long. Rust can occur in the eastern portion of this area.
3. An area where rainfall is usually adequate for crop production. Frost and wet harvest weather can be a hazard in this area.

The dividing lines do not represent distinct changes over a short distance. The change from one area to another is gradual.

The following tables contain the main characteristics of commonly grown varieties of cereal and oilseed crops and of varieties that are new to many farmers. The comments are based on tests grown under a wide range of conditions. The relative yield data are based on the averages of a number of stations for three years and thus tend to mask farm to farm variation.

Yield data marked with an asterisk was calculated from less than 3 years data.

WHEAT—Main Characteristics of Varieties

Type and Variety	Yield as % of Manitou			Order of Maturity	Resistance to					
	Area 1	Area 2	Area 3		Lodging	Stem Rust	Leaf Rust	Loose Smut	Root Rot	Shattering
BREAD										
Canthatch.....	100	100	99	3	Good	Fair	Poor	Fair	Fair	Good
Chinook.....	93	88	—	3	Fair	Poor	Poor	Poor	Poor	Fair
Cypress.....	92	88	—	4	Fair	Poor	Poor	Poor	Poor	Fair
Manitou.....	100	100	100	4	Good	Good	Good	Fair	Fair	Good
Neepawa.....	104	102	98	3	Good	Good	Good	Fair	Fair	Good
Park.....	97	97	97	1	Good	Poor	Poor	Fair	Fair	Good
Pembina.....	92	95	95	2	Good	Good	Fair	Good	Fair	Fair
Rescue.....	92	91	—	3	Fair	Poor	Poor	Poor	Poor	Fair
Selkirk.....	91	96	94	3	Good	Good	Fair	Good	Poor	Fair
Thatcher.....	100	98	98	3	Good	Poor	Poor	Fair	Fair	Good
FEED										
Pitic 62.....	*126	118	117	7	Good	Good	Fair	Poor	Fair	Good

Yield as % of Stewart 63		
Area 1	Area 2	Area 3

DURUM										
Hercules.....	*85	87	—	4	Good	Good	Good	Good	Poor	Good
Pelissier.....	102	106	—	7	Fair	Poor	Good	Fair	Poor	Good
Ramsey.....	97	98	—	6	Fair	Good	Good	Poor	Poor	Good
Stewart 63.....	100	100	100	7	Fair	Good	Good	Fair	Poor	Good

COMMENTS:

Neepawa is a new variety of the Thatcher type. It is slightly stronger strawed and earlier than **Manitou**. **Neepawa** and **Manitou** are the only bread wheats that combine adequate resistance to both leaf and stem rust. **Selkirk** and **Neepawa** are the only varieties having good resistance to bunt.

Cypress, **Chinook** or **Rescue** should be used where sawflies are a problem. **Cypress** is more resistant to sawflies than **Chinook** and has better bread-making qualities than **Rescue**. All three varieties are susceptible to spring frost.

Pitic 62 is a Mexican variety that has very poor milling and baking quality and is eligible only for feed grades. It is about a week later than **Manitou**.

Hercules is a new, rust-resistant variety of durum wheat. It is earlier, shorter and stronger-strawed than the other durum varieties but is somewhat lower in yield.

Wheat seeded more than 3 inches deep may produce poor stands. There is some evidence that this may be more of a problem with **Manitou** and particularly **Pitic 62** than with other varieties.

Soft, white spring wheat may be grown on irrigated land. It should be produced only under contract to a milling company.

BARLEY—Main Characteristics of Varieties

Type and Variety	Six or Two Rowed	Yield as % of Conquest			Order of Maturity	Resistance to				
		Area 1	Area 2	Area 3		Lodging	Stem Rust	Loose Smut	Covered Smut	Shattering
Feed										
Centennial.....	Two.....	109	110	115	4	Good	Poor	Poor	Poor	Good
Compana.....	Two.....	*97	79	—	2	Poor	Poor	Poor	Poor	Good
Palliser.....	Two.....	106	109	103	6	Fair	Poor	Poor	Poor	Good
Galt.....	Six.....	110	113	119	5	Good	Good	Poor	Good	Good
Jubilee.....	Six.....	110	116	125	6	Fair	Good	Poor	Fair	Fair
Eligible for C.W. Grades										
Bonanza.....	Six.....	*116	112	124	4	Good	Good	Good	Good	Fair
Conquest.....	Six.....	100	100	100	3	Good	Good	Good	Good	Fair
Gateway-63.....	Six.....	73	85	82	1	Fair	Poor	Poor	Poor	Fair
Paragon.....	Six.....	105	107	109	6	Good	Good	Good	Good	Fair
Betzes.....	Two.....	108	108	117	4	Fair	Poor	Poor	Poor	Good
Fergus.....	Two.....	*118	114	134	4	Fair	—	Fair	Fair	Good

COMMENTS:

Centennial is a two-rowed, rough awned variety of feed barley. It has shorter straw and better resistance to lodging than **Betzes**.

Galt is a six-rowed, semi-smooth awned variety of feed barley. It is shorter than **Conquest** and about the same height as **Jubilee** but this short straw may or may not be a disadvantage depending upon growing conditions.

Jubilee is the only variety with resistance to leaf rust.

Paragon is a six-rowed smooth awned malting variety. It is shorter than **Conquest** and four to five days later.

Bonanza (tested under the number BT308) is a new six-rowed malting variety. It is intermediate between **Conquest** and **Paragon** in maturity and height. Seed of this variety will not be available in the 1970 crop year.

Fergus is a two-rowed rough awned variety of malting barley licensed in 1969. This variety appears to be equal to **Betzes**, however, it has not been extensively tested in Western Canada.

RYE—Main Characteristics of Varieties

Type and Variety	Yield as % of Antelope			Resistance to			Kernel		Straw
	Area 1	Area 2	Area 3	Winter Killing	Shattering	Lodging	Color	Size	Length
Fall Rye									
Antelope.....	100	100	100	Good	Poor	Poor	Variable	Small	Tall
Cougar.....	115	116	—	Fair	Good	Good	Green	Medium	Medium
Frontier.....	114	120	—	Good	Fair	Poor	Green	Medium	Tall
Spring Rye									
Prolific.....	—	—	—	—	Fair	Fair	Green	Medium	Tall

COMMENTS:

Where winter hardiness was not a critical factor, **Cougar** proved to be popular because of its short straw and resistance to shattering.

The lack of winter hardiness exhibited by **Sangaste**, **Petkas** and **Dominant** make the use of these varieties more of a gamble.

"Prolific spring rye is the only variety available for commercial use. It is later maturing than **Manitou** wheat and generally yields less than the recommended fall rye varieties".

OATS—Main Characteristics of Varieties

Variety	Yield as % of Garry			Order of Maturity	Resistance to			Percent Hull	
	Area 1	Area 2	Area 3		Lodging	Stem Rust	Leaf Rust		Smut
Fraser.....	99	107	107	5	Good	Good	Fair	Good	Low
Garry.....	100	100	100	2	Good	Good	Fair	Good	High
Harmon.....	95	101	106	4	Good	Good	Fair	Good	Medium
Kelsey.....	95	102	105	3	Good	Good	Good	Good	Low
Rodney.....	98	100	105	4	Good	Fair	Fair	Good	Low
Sioux.....	98	103	102	1	Good	Good	Fair	Good	Medium

COMMENTS:

Kelsey and **Sioux** are strong-strawed varieties with good resistance to rust. They ripen as early as **Garry** and are well adapted to most soil zones.

Fraser ripens two to four days later than **Garry**. It is resistant to rust, has strong straw and performs best on the Black and Grey soil zones.

Harmon is similar to **Rodney** in performance but has better resistance to stem rust.

FLAX—Main Characteristics of Varieties

Variety	Yield as % of Redwood 65			Order of Maturity	Resistance to		Oil Quality	Seed Size	Flower Color
	Area 1	Area 2	Area 3		Rust	Wilt			
Noralta.....	98	95	91	2	Good	Good	Good	Small	Blue
Norland.....	101	99	94	3	Good	Fair	Good	Large	White
Raja.....	*—	88	89	1	Good	Fair	Medium	Large	Blue
Redwood 65...	100	100	100	3	Good	Good	Good	Medium	Blue

COMMENTS:

Flax rust and other diseases overwinter in Saskatchewan. Because rust susceptible varieties may serve as a source for new rust races, the growing of rust susceptible varieties is not recommended. All recommended varieties are rust resistant but seeding flax on flax stubble should be avoided to minimize the hazard of other diseases.

Redwood 65 and **Norland** are late maturing varieties and should be sown early for maximum yield. For delayed seeding and in northern areas, use the early maturing varieties, **Noralta** and **Raja**.

Frozen flax should not be used for livestock feed until analyzed for Prussic acid content.

RAPESEED

Rape is best adapted to the parkland area of the province. Varieties of the *B. napus* species are higher yielding than *B. campestris* under the favorable moisture conditions of the northeastern part of the province. In areas where frost or drought may occur, varieties of the *B. campestris* species generally give more reliable results. *B. campestris* is also more resistant to frost in the seedling stage and less susceptible to shattering.

The variety Oro produces a seed oil free of erucic acid and is available only under contract production.

Variety	Area 2			Area 3		
	Yield as % of Echo	Maturity in Days	% Oil	Yield as % of Echo	Maturity in Days	% Oil
B. napus						
Target	108	104	43.0	126	107	47.0
Oro	107	106	40.4	120	110	43.3
Nugget	100	106	42.0	113	110	46.0
B. campestris						
Echo	100	89	41.5	100	89	43.4
Arlo	91	88	41.5	88	87	43.5
Polar	100	89	42.6	91	89	44.5

TAME MUSTARDS

The three types of mustard grown commercially are Yellow, Oriental and Brown. They have shown good adaptation to the Brown and Dark-Brown Soil Zones. Mustards are less susceptible to shattering than rapeseed. In drought tolerance and maturity, they are intermediate between Echo rapeseed and wheat. Yellow mustard yields are generally lower than Echo rapeseed whereas yields of Oriental and Brown mustard usually exceed Echo rapeseed.

Practically all mustard is grown under contract.

MISCELLANEOUS CROPS

TRITICALE

The future of the crop TRITICALE is still somewhat uncertain. Definite improvements are required before it can become fully competitive with the established feed grains. The variety ROSNER was licensed in 1969. In Saskatchewan this variety does not yield as well as wheat, oats or barley. It can be considerably later maturing and is frequently infected by ergot.

SUNFLOWERS

Sunflowers are usually produced under contract. Sunflowers are best adapted to southern and central Saskatchewan. Success, however, is dependent upon early seeding, timely cultivation and a long growing season. Sunflowers require 120 to 130 days to mature and are highly sensitive to 2,4-D drift.

TAME BUCKWHEAT

This crop is usually produced under contract. Trial plantings of tame buckwheat should be confined to the moist areas of the province. Yields are

approximately two thirds that of wheat but results have been extremely variable. Early June seeding to avoid spring frosts is suggested. There are no selective herbicides for weed control in buckwheat. Seed and detailed cultural information are available from contract buyers of the crop.

SAFFLOWER

Safflower requires 120-140 days to mature. It can tolerate some frost in the early seedling stage but is easily damaged by fall frosts. It is a poor weed competitor in its early stages of growth. Dry atmospheric conditions are required during flowering for maximum seed set, otherwise many empty hulls are produced which lower both yield and oil content. Seed yields are extremely variable.

PEAS

Field peas do well in the moist areas of the province. The variety **Century** is recommended for trial. Growers should investigate marketing facilities before planting this crop.

CANARY SEED

This is an annual with the same general requirements as wheat. The seed is about the size of flax and should not be sown deeply. Hot dry weather at heading time can reduce yields to very low levels.

Seed and detailed information are available from contract buyers of the crop.

SOYBEANS

Soybeans are not recommended in Saskatchewan as yields have not proved economic.

CORN

Corn is recommended for silage purposes only since grain corn does not usually mature.

SEED FACTS

Quality seed is basic to good crop production. Seed quality can be related to three characteristics: genetic quality, physical quality and germination.

Genetic quality—Each of the grain varieties listed in this folder has certain inherited characteristics which adapt them for growing in a particular area. Genetic quality can not be measured by examining the seed. The only assurance of genetic quality in a seed sample is to be able to see its pedigree. Pedigreed seed of grain varieties in Canada falls into the categories Foundation, Registered and Certified. Its genetic purity is assured by the Canadian Seed Growers' Association and the Canadian government. Pedigree seed can be paid for by an over-quota delivery of grain to the Canadian Wheat Board.

Physical quality—This includes a number of characteristics which can be measured and sometimes recognized by sight. Mechanical purity or freedom from weed seeds, other crops and inert material is obviously important. Small seed should be screened out as it produces lower yielding plants than the large seed in the same lot. Quality seed should be free of seed-borne diseases. Tests for surface-borne smut are available through some grain companies.

Germination—A germination test shows the percentage live seeds with normal seedling growth. Dead seeds, or those producing abnormal seedlings are of no value. All seed should be laboratory tested. Grain companies do this as a free service. The Plant Products Laboratory, Canada Department of Agriculture, London Building, Saskatoon, tests all pedigreed seed and will also test non-pedigreed seed for a fee.

SEED CLEANING

Pedigreed seed has been cleaned to high standards in all characteristics discussed above. Home-grown seed should be rigorously cleaned to remove weed seeds, trash and small kernels. Country elevators are generally not efficient seed cleaners and sometimes contaminate seed with weeds and seeds of other crops.

SEED TREATMENT

There are a number of chemical seed dressings on the market. Many commonly used seed treatments contain mercury, which is effective against a wide array of seed-borne diseases. Some non-mercury fungicides also are effective against seed borne diseases, but other non-mercurials are more specific and control fewer diseases than mercury. Insecticides for the control of wireworms are the most effective control available for this pest. In all cases follow the manufacturer's directions stated on the label.

Treated seed must not be delivered to an elevator, and care should be taken to see that truckboxes, bins and augers are not sources of contamination. Likewise, treated seed must not be fed to animals as the milk, meat or eggs can be condemned when marketed and the farmer assessed penalties. Care should be taken that treated seed is not eaten by wildlife.

DAMP AND FROZEN SEED

Seed which is stored damp or tough will be lower in germination. Grain which is being saved for seed should be dried soon after harvest. Drying temperature should be kept below 100°F. for batch driers, or 110°F. for recirculating and continuous driers. Frozen grain should never be sown without a laboratory germination test. There is frequently a high percentage of abnormal seedlings which may be unnoticed by an inexperienced observer.

OTHER INFORMATION RELATING TO GRAIN CROP PRODUCTION

Bulletins on fertilizers and weed control, generally revised annually, are available from sources given below. Information on crops, plant diseases, insect pests and other aspects of production can be found in the Guide to Farm Practice in Saskatchewan, 1969, and other pamphlets. These publications may be obtained from Agricultural Representatives, Research Stations and the University of Saskatchewan.