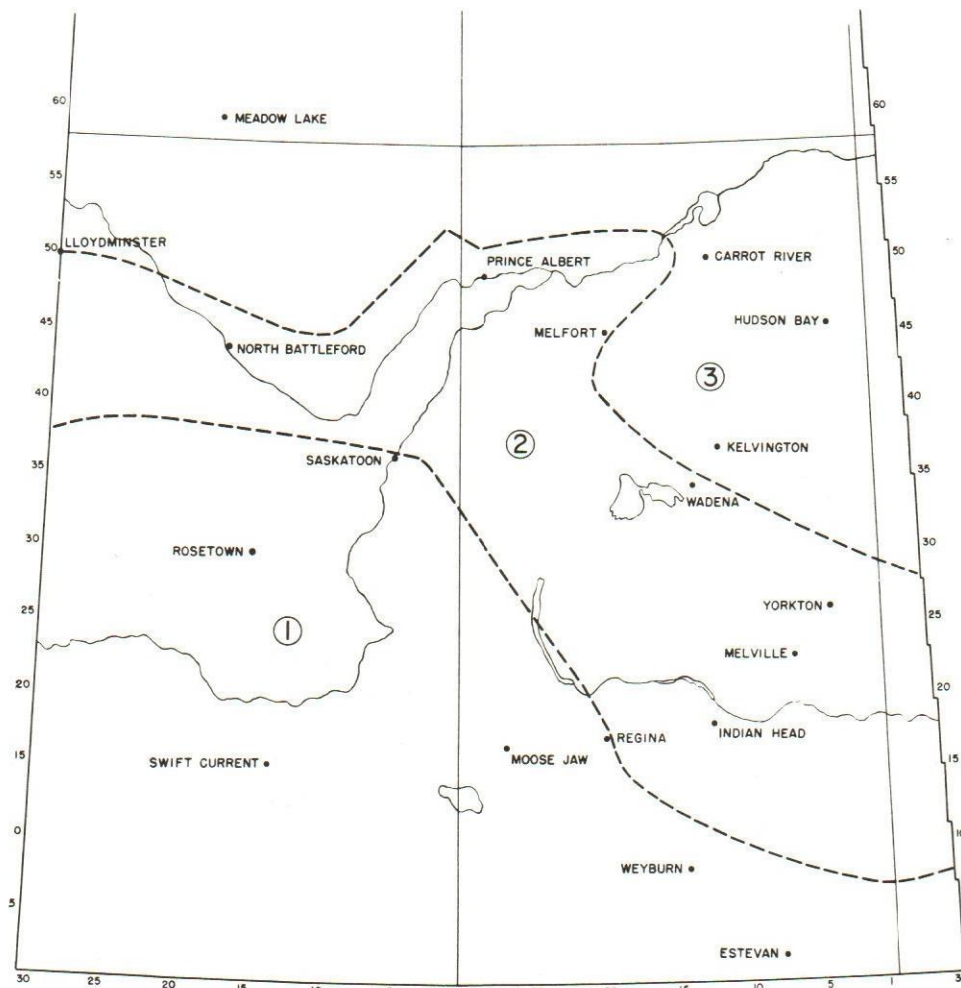


Varieties of Grain Crops for Saskatchewan 1973



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. J. R. MESSER, MINISTER OF AGRICULTURE

GRAIN CROP PRODUCTION AREAS

(See map on front page)

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.

OTHER INFORMATION RELATING TO GRAIN CROP PRODUCTION

Bulletins on fertilizers and weed control, generally revised annually, are available from sources given. Information on crops, plant diseases, insect pests and other aspects of production can be found in the Guide to Farm

Practice in Saskatchewan and other pamphlets. These publications may be obtained from Agricultural Representatives, Research Stations and the University of Saskatchewan.

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	Bunt	Root Rot	Shattering
Bread											
Cypress	90.....	85.....	—.....	2....	Fair.....	Poor.....	Poor.....	Poor.....	Poor.....	Poor.....	Fair
Manitou	100.....	100.....	100.....	1....	Good....	Good....	Fair.....	Good....	Fair.....	Fair.....	Good
Napayo	99.....	100.....	103.....	1....	Good....	Good....	Fair.....	Good....	Fair.....	Fair.....	Good
Neepawa	104.....	102.....	102.....	1....	Good....	Good....	Fair.....	Good....	Fair.....	Fair.....	Good
Utility											
Glenlea	112.....	121.....	121.....	2....	Good....	Good....	Good....	Good....	— —	Fair.....	Good
Pitic 62	120.....	120.....	111.....	5....	Good....	Poor.....	Poor.....	Poor.....	Poor.....	Fair.....	Good

Type and Variety	Yield as % of Stewart 63										
	Area 1	Area 2	Area 3								
Durum											
Hercules	92.....	92.....	—.....	2....	Good....	Good....	Good....	Good....	Fair.....	Poor.....	Good
Pelissier	105.....	96.....	—.....	5....	Fair.....	Poor.....	Good....	Good....	Poor.....	Poor.....	Good
Stewart 63	100.....	100.....	—.....	5....	Fair.....	Good....	Good....	Fair.....	Poor.....	Poor.....	Good
Wascana	114.....	108.....	—.....	3....	Good....	Good....	Good....	Good....	Fair.....	Poor.....	Good
Wakooma	110.....	110.....	—.....	3....	Good....	Good....	Good....	Good....	— —	Poor.....	Good

COMMENTS:

None of the bread wheat varieties has satisfactory resistance to leaf rust.

Cypress and **Chinook** are resistant to sawflies.

Napayo is awned but is similar to **Manitou** in all other respects. The awns may be advantageous in forming a swath that is more easily picked up.

Pitic and **Glenlea** fit into the new utility grades of wheat.

Pitic is high yielding but is susceptible to rust and is late maturing. The low bushel weight that is frequently found is due to harvesting too early. **Glenlea** is high yielding on Black soils but shows less advantage over the

bread wheats on the Brown soils. Renewed interest has been shown in **Pitic** wheat for both the food and feed market which may result in a greatly expanded domestic market.

Wakooma is a new durum produced by the South Saskatchewan wheat program. It is similar to **Wascana** but has even better quality. Seed will not be generally available until 1974.

The export market for durum wheats is becoming more critical, demanding strong gluten types. **Wascana**, **Hercules** and **Wakooma** are better in this respect than **Stewart 63** and **Ramsey**.

Pelisser has high gluten strength but is deficient in pigment content, which makes it suited to a limited market. The demand for this variety may be low in some years.

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										
Galt	Six	116	109	103	3	Good	Good	Poor	Good	Good
Eligible for C.W. Grades										
Bonanza	Six	113	113	111	2	Good	Good	Good	Fair	Fair
Conquest	Six	100	100	100	1	Good	Good	Good	Fair	Fair
Paragon	Six	108	108	101	4	Good	Good	Good	Fair	Fair
Betzes	Two	112	101	101	3	Fair	Poor	Poor	Poor	Good
Centennial	Two	116	103	101	5	Good	Poor	Poor	Poor	Good
Fergus	Two	115	107	109	4	Fair	Poor	Fair	Fair	Good

COMMENTS:

Galt is a six-rowed, semi-smooth awned, short-strawed, variety of feed barley.

Paragon is a six-rowed, smooth-awned, malting variety. It is shorter than **Conquest** and three to five days later. The malting quality of this variety is considered inferior to **Conquest** and **Bonanza** by the maltsters.

Bonanza is a high yielding, six-rowed, malting variety that is intermediate between **Conquest** and **Paragon** in maturity and height.

Fergus is a two-rowed, rough-awned variety

of malting barley. In Western Canada it is rarely purchased for malting.

Centennial is a two-rowed, rough-awned variety that is now eligible for C.W. grades. It is being bought in limited quantities for malting.

Gateway 63 and **Olli** are very early maturing, six-rowed varieties; however, their yields are well below **Conquest**.

Compana and **Palliser** are locally adapted two-rowed varieties for the southwestern portion of Area 1.

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	94	96	96	1	Good	Good	Good	Small	Blue
Norland	97	98	89	2	Good	Fair	Good	Large	White
Redwood 65	100	100	100	2	Good	Good	Good	Medium	Blue

COMMENTS:

Flax rust and other diseases overwinter in Saskatchewan. Rust susceptible varieties should not be grown because they serve as a source of new rust races. All varieties listed 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 use the early maturing variety **Noralta**.

Frozen flax should be analyzed to determine that it is free from Prussic acid before using it for livestock feed.

RYE

Main Characteristics of Varieties

Type and Variety	Yield as % of Antelope			Resistance to			Kernel		Straw Length
	Area 1	Area 2	Area 3	Winter Killing	Shattering	Lodging	Color	Size	
Fall Rye									
Antelope	100	100	—	Good	Poor	Poor	Variable	Small	Tall
Cougar	137	122	—	Fair	Good	Good	Green	Medium	Medium
Frontier	111	115	—	Good	Fair	Poor	Green	Medium	Tall
Kodiak	119	122	—	Fair	Fair	Fair	Tan	Large	Tall
Puma*	134	130	—	Good	Good	Fair	Green	Medium	Tall
Spring Rye									
Prolific	—	—	—	—	Fair	Fair	Green	Medium	Tall

COMMENTS:

***Puma** is a fall rye variety released last year by the University of Manitoba. It is more winter-hardy than **Cougar**, about as tall as **Antelope**, and is generally in the top bracket for yield. The kernels are of an average type and it is expected that this variety will be of value

for those areas where winter-hardiness and tall straw are desirable.

There are no rye tests in Area 3 but rye is being grown successfully in that part of the province.

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	110	110	110	4	Good	Poor	Poor	Good	Low
Garry	100	100	100	2	Good	Poor	Fair	Good	High
Harmon	103	103	105	3	Good	Poor	Fair	Good	Medium
Kelsey	105	107	111	2	Good	Poor	Fair	Good	Low
Random	115	113	113	2	Good	Poor	Fair	Poor	Medium
Sioux	106	106	108	1	Good	Poor	Poor	Good	Medium

COMMENTS:

All varieties of oats are susceptible to race C.10, the predominant race of stem rust in western Canada. Early seeding helps to protect the crop from this disease. A race of smut that can attack resistant varieties has occasionally been found.

Fraser is a late maturing, strong-strawed variety with a low percentage of hull. It yields well in most areas and especially well on the black soils.

Harmon is a plump-seeded, strong-strawed variety. It matures from two to three days earlier than **Fraser** and has fair resistance to leaf rust.

Kelsey is a medium maturing, slender-straw-

ed variety and is well adapted to all areas. The kernels have low hull content and are high in energy.

Sioux is an early maturing variety with good yielding ability on most soils. **Sioux** and **Kelsey** have slender straw which may be important in livestock feeding.

Random was licensed in 1971. It yields well in most areas but performs best on the black soils. **Random** has short, strong straw and matures slightly later than **Garry**. It is susceptible to stem rust and smut.

*Yield figures marked with an asterisk were calculated from less than 3 years data.

RAPESEED

Rape is best adapted to the parkland area of the province. Varieties of the *Brassica napus* species are higher yielding than *Brassica campestris* under the favorable moisture conditions of the north-central 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. *B. napus*, however, is resistant to the white rust-downy mildew (stag-head) disease.

Canadian oilseed crushers will be processing only low erucic rapeseed in 1973 with the possible exception of contract production of

experimental high erucic strains such as R-500. Most export customers have indicated that they are prepared to purchase low erucic rapeseed as soon as supplies are available.

Midas (SZ69-687), an improved low erucic *B. napus* variety, will be available for limited production under contract with seed processors in 1973. *Midas* is 5 percent higher in yield and 3.0 to 3.5 percent higher in oil content than *Zephyr* and *Oro*. It is 1 day earlier maturing than *Target* and equal to *Target* in height.

The new *B. campestris* variety *Torch* (SC-69-818) will also be available for limited contract production in 1973. *Torch* has improved oil and protein content while yield, height and maturity are similar to *Span*.

Variety	AREA 2			AREA 3		
	Yield as % of Echo	Maturity in days	% Oil	Yield as % of Echo	Maturity in days	% Oil
B. napus (Argentine type)						
Oro (Lear)*	107	104	40.5	103	108	40.8
Zephyr (Lear)*	109	103	40.9	106	107	40.9
Target**	111	101	43.4	114	105	43.7
B. campestris (turnip rape)						
Span (Lear)*	93	89	40.8	90	90	40.5
Echo**	100	89	41.6	100	89	41.7

*Lear—Low Erucic Acid Rapeseed

**Target and Echo are included as standard varieties for information purposes only.

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.

MINOR CROPS

SUNFLOWERS

Sunflowers can be grown in Central and southern Saskatchewan by using an early variety such as **Krasnodarets**, which requires about 120 days to escape frost injury. Early planting is recommended since sunflower seedlings can tolerate some frost. Sunflowers should be planted on clean summerfallow in rows 6" to 18" apart. Chemical weed controls for both grass and broad-leaved weeds are available. However, reasonable weed control can be obtained by timely cross harrowing during the early stages of growth. Sunflowers are very sensitive to 2,4-D drift. Special attachments are required for combine harvesting.

SAFFLOWER

Safflower is a higher risk crop than sunflowers, requiring 120 to 140 days to mature. It can tolerate some frost in the early seedling stage but is easily damaged by fall frosts. Clean land is required because safflower 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. Safflower can be planted and harvested with conventional grain equipment. Its most suitable area of production is the southern and southwestern part of the province.

TAME BUCKWHEAT

Tame buckwheat is usually produced under contract. This crop will grow under a wide range of soil conditions but performance is highly dependent on weather. Buckwheat is very susceptible to frost; therefore, early June seeding is recommended. Also, it is very sensitive to high temperatures and dry weather, especially at blossom time. It does not recover from lodging as do most other crops. Yields in Saskatchewan have been extremely variable. There are no selective herbicides for weed control in buckwheat.

The variety **Tempest** is about 10% higher yielding than **Tokyo**.

PEAS

Field peas do well in moist areas of the province. Growers should investigate marketing

prospects before planting this crop. The variety **Century** is preferred for the food trade. Both **Century** and **Trapper** are suitable for livestock feed.

Field peas grown from properly inoculated seed are a good source of protein and are particularly useful in swine rations. Protein content varies considerably between fields of the same variety, therefore, it is advisable to obtain a protein analysis on peas that are used in livestock rations.

Field pea seed should be inoculated before planting. See **SEED INOCULATION** section.

LENTILS

Lentils are an annual legume crop grown for human food. They have about the same growing season requirements as wheat. The main production problems are weed control and short growth which makes harvesting difficult. To assure a market, it is advisable to grow lentils under contract.

Lentil seed should be inoculated before planting. See **SEED INOCULATION**.

FABABEANS (Horse Beans)

Fababeans are a promising source of protein for livestock feeding. They are adapted to cool, moist areas, and should be planted early. Seeds mature in about 102 to 115 days. Seeding at 150 to 180 pounds per acre in rows 6 inches apart is recommended. Fababeans are susceptible to 2,4-D type herbicides.

Fababean seed should be inoculated before planting. See **SEED INOCULATION** section.

CANARY SEED

This is an annual grass with the same maturity requirement 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. Herbicides can be used for the control of broadleaved weeds.

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

CORN

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

SEED FACTS

A good practice is to use certified seed regularly, and especially when changing to a different variety. This assures that the seed has high genetic purity, high germination, and is relatively free from weeds and other crop seeds. Pedigreed seed may be paid for by an over-quota delivery of commercial grain. Ask your elevator agent or seed dealer for details.

SEED CLEANING

Home grown seed should be carefully cleaned to remove weed seeds, trash and small or broken kernels. The cleaning job should not be rushed, and farmers should not object if a high percentage is cleaned out.

SEED TREATMENT

Chemical seed treatments can be used to control certain diseases and insects. The smuts that attack wheat, barley, oats and rye, can be controlled in this manner. Pedigreed seed, seed of resistant varieties (see variety descriptions), and seed of susceptible varieties that is free of smut should not require treatment. If smut was observed in a crop which is being used for seed it should be treated. When growing cereal varieties which are susceptible to smuts and the presence of smut is uncertain it may be a wise precaution to treat home-grown seed about every three years.

Broad-leaved crops such as rapeseed, flax and peas are attacked by fungi causing damping off and other seedling rots. Various fungicides have been registered for control of seedling diseases in these crops.

Wireworms, which attack all grain crops, and flea beetles which attack rape and mustard can be controlled by seed treatment with insecticides. A seed treatment may contain a fungicide alone, an insecticide alone or a dual-purpose mixture. Read the label carefully and follow all directions.

Treated seed must not be allowed to contaminate grain delivered to an elevator or used for feed. This means cleaning out bins, truck boxes and augers used for handling treated seed.

Unless left-over treated seed is being stored for future use it should be buried. Care should be taken to prevent exposure of treated grain to wildlife.

ERGOT

Ergot attacks all varieties of rye, wheat (both common and durum) and barley, as well as most common species of grass. Oats are rarely attacked, and all broad-leaved species are immune. Cool, moist weather at flowering time increase risk of ergot infection. To minimize ergot infection use clean seed, cut nearby grasses before flowering, and avoid seeding rye, wheat or barley on land which produced an ergoty crop in 1972. Grain containing 0.1% ergot is considered poisonous and should not be used as feed.

SEED INOCULATION

The legume crops mentioned above (peas, lentils and fababeans) add nitrogen to the soil only if their roots are well nodulated with nitrogen-fixing bacteria. When growing a particular legume on a field for the first time, inoculate the seed immediately before planting. Packaged inoculant for specific crops is available from seed dealers. Peas and lentils are nodulated by the same bacterial strains. Fababeans require a different strain. Inoculants packaged for use on alfalfa and clovers are not effective on peas, beans and lentils. Be sure the inoculant is not outdated, and follow instructions on the package.

DAMP AND FROZEN SEED

Seed which is stored damp or tough may be low in germination. Grain which is being saved for seed should be dried if necessary, 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.