

*Varieties of  
Grain Crops for  
Saskatchewan  
1972*

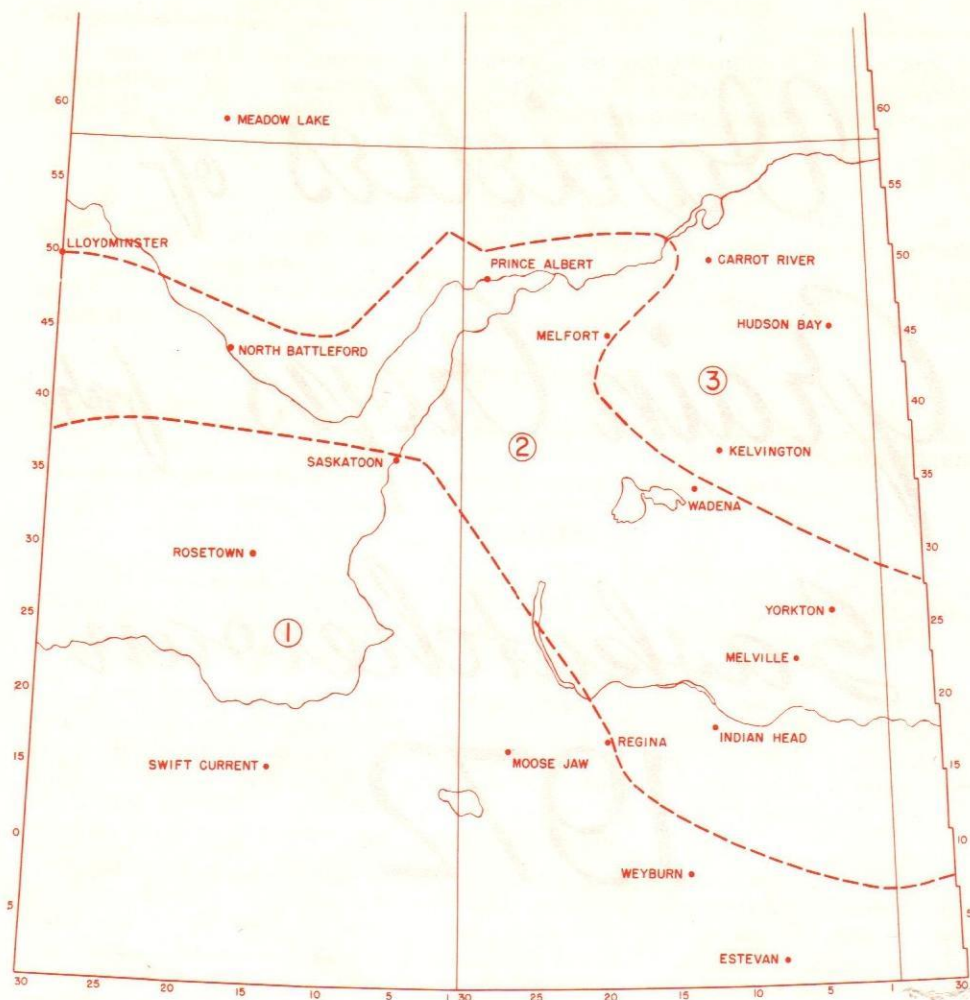
DESCRIPTIONS AS PREPARED BY

**The Saskatchewan Advisory Council on Grain Crops**

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## 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.

### 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
<b>Bread</b>										
Canthatch.....	95	96	97	1	Good	Fair	Poor	Fair	Fair	Good
Chinook.....	93	88	—	1	Fair	Poor	Poor	Poor	Poor	Fair
Cypress.....	90	86	85	2	Fair	Poor	Poor	Poor	Poor	Fair
Manitou.....	100	100	100	2	Good	Good	Fair	Fair	Fair	Good
Neepawa.....	104	101	102	1	Good	Good	Fair	Fair	Fair	Good
Selkirk.....	91	94	96	1	Good	Good	Fair	Good	Poor	Fair
Thatcher.....	100	98	98	1	Good	Poor	Poor	Fair	Fair	Good
<b>Feed</b>										
Pitic 62.....	118	118	119		Good	Poor	Poor	Poor	Fair	Good

#### Yield as % of Stewart 63

	Yield as % of Stewart 63									
	Area 1	Area 2	Area 3							
<b>Durum</b>										
Hercules.....	92	92	—	2	Good	Good	Good	Good	Poor	Good
Pelissier.....	104	95	—	5	Fair	Poor	Good	Good	Poor	Good
Ramsey.....	99	97	—	4	Fair	Good	Good	Poor	Poor	Good
Stewart 63.....	100	100	—	5	Fair	Good	Good	Fair	Poor	Good
Wascana.....	113	106	—	3	Good	Good	Good	Good	Poor	Good

### COMMENTS:

None of the bread wheat varieties has good resistance to leaf rust but **Neepawa** and **Manitou** are better than **Selkirk**.

**Selkirk** is the only variety having good resistance to bunt but **Neepawa** and **Manitou** have fair resistance. The quality of **Neepawa** is equal to that of the other bread wheats.

**Cypress** should be used where sawflies are a problem.

**Pitic 62** is a variety of Mexican origin eligible only for feed grades. It is higher yielding than **Manitou** but is about a week later, has low bushel weight and is susceptible to stem rust.

**Hercules** is earlier, shorter and stronger-strawed than the other durum varieties, but is lower in yield. The quality of **Hercules** is superior to that of the older durum varieties.

**Wascana**, licensed in 1971, is two to three days later maturing and about two inches taller than **Hercules**. Its quality is similar to that of **Hercules**. Seed is in short supply in 1972 but will be plentiful in 1973.

Soft, white spring wheat may be grown on irrigated land. Available varieties are susceptible to leaf rust. Contract production with a miller is essential for successful marketing.



## 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
<b>Feed</b>										
Galt.....	Six.....	115.....	109.....	104.....	4.....	Good.....	Good.....	Poor.....	Good.....	Good.....
<b>Eligible for C.W. Grades</b>										
Bonanza .....	Six.....	112.....	112.....	110.....	2.....	Good.....	Good.....	Good.....	Fair.....	Fair.....
Conquest.....	Six.....	100.....	100.....	100.....	1.....	Good.....	Good.....	Good.....	Fair.....	Fair.....
Paragon.....	Six.....	109.....	106.....	103.....	4.....	Good.....	Good.....	Good.....	Fair.....	Fair.....
Betzes.....	Two.....	111.....	104.....	105.....	3.....	Fair.....	Poor.....	Poor.....	Poor.....	Good.....
Centennial.....	Two.....	118.....	108.....	106.....	5.....	Good.....	Poor.....	Poor.....	Poor.....	Good.....
Fergus .....	Two.....	115.....	109.....	111.....	4.....	Fair.....	Poor.....	Fair.....	Fair.....	Good.....

### COMMENTS:

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

**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 such that other varieties will be preferred 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 now eligible for C.W. grades and is being bought in limited quantities.

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

**Compana** and **Palliser** are locally adapted for the southwestern portion of Area 1.

## RYE—Main Characteristics of Varieties

Type and Variety	Yield as % of Antelope			Winter Killing	Resistance to		Kernel		Straw Length
	Area 1	Area 2	Area 3		Shattering	Lodging	Color	Size	
<b>Fall Rye</b>									
Antelope .....	100.....	100.....	—.....	Good.....	Poor.....	Poor.....	Variable.....	Small.....	Tall.....
Cougar.....	126.....	117.....	—.....	Fair.....	Good.....	Good.....	Green.....	Medium.....	Medium.....
Frontier.....	108.....	123.....	—.....	Good.....	Fair.....	Poor.....	Green.....	Medium.....	Tall.....
Kodiak.....	108.....	113.....	—.....	Fair.....	Fair.....	Fair.....	Tan.....	Large.....	Tall.....
<b>Spring Rye</b>									
Prolific.....	—.....	—.....	—.....	—.....	Fair.....	Fair.....	Green.....	Medium.....	Tall.....

### COMMENTS:

**Kodiak** is a selection from **Sangaste** made by the University of Alberta. It is shorter than **Sangaste** but has the same large kernel size. It is more winter-hardy than **Sangaste** and about equal to **Cougar**.

**Kustro** is the name of a newly licenced, short-strawed Petkus-type introduced to the Maritimes. It is not winter-hardy in the prairie region.

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.....	105	111	108	4	Good	Poor	Poor	Good	Low
Garry.....	100	100	100	2	Good	Poor	Fair	Good	High
Harmon.....	102	103	104	3	Good	Poor	Fair	Good	Medium
Kelsey.....	104	106	111	2	Good	Poor	Fair	Good	Low
Random*.....	114	111	115	2	Good	Poor	Fair	Poor	Medium
Rodney.....	102	104	103	3	Good	Poor	Fair	Good	Low
Sioux.....	104	106	107	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.

**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** and **Rodney** are plump-seeded, strong-strawed varieties. They mature from two to three days earlier than **Fraser** and have fair resistance to leaf rust.

**Kelsey** is a medium maturing, slender-strawed 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 live-stock 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.

## 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.....	95	99	96	1	Good	Good	Good	Small	Blue
Norland.....	98	101	92	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.

\*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 (staghead) disease.

It is expected that by the fall of 1972 Canadian rapeseed crushers will be crushing only seed of the low erucic acid varieties **Oro**, **Zephyr** and **Span**. Most overseas customers have indicated that they are prepared to purchase low erucic acid rapeseed as soon as supplies are available.

Seed supplies of all three varieties should be adequate for 1972 planting requirements.

Variety	Area 2			Area 3		
	Yield as % of Echo	Maturity in Days	% Oil	Yield as % of Echo	Maturity in Days	% Oil
<b>B. napus (Argentine type)</b>						
Target.....	116.....	99.....	43.4.....	117.....	105.....	44.5.....
Turret.....	115.....	99.....	44.3.....	107.....	106.....	44.5.....
Oro.....	106.....	102.....	40.6.....	103.....	108.....	41.3.....
Zephyr.....	109.....	100.....	40.9.....	113.....	106.....	41.1.....
<b>B. campestris (turnip rape)</b>						
Echo.....	100.....	88.....	41.7.....	100.....	89.....	41.1.....
Polar.....	96.....	88.....	42.9.....	92.....	89.....	42.6.....
Span*.....	94.....	88.....	40.8.....	90.....	88.....	39.9.....

## 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.

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



## MINOR CROPS

### SUNFLOWERS

Sunflowers can be grown in central and southern Saskatchewan by using early varieties like **Krasnodarets** and **Armavirec**. These varieties require 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 and requires 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 blooming 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.

### PEAS

Field peas do well in the 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 normally contain about 24% protein and have been shown to be a useful ingredient for swine, poultry and cattle rations. Protein content has been found to vary considerably between fields of the same variety. Therefore it is advisable to obtain a protein analysis on peas that are used in livestock rations.

### CANARY SEED

This is an annual 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.

### 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.



## HORSE BEANS

Horse beans are grown for livestock feed and for human food. They are adapted to cool, moist areas and should be planted early. They are susceptible to 2,4-D type herbicides. Horse beans should be grown under contract.

### 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 are used either for disease or insect control. Manufacturers may combine two chemicals into a dual purpose product for both types of pest. Insects controlled include wireworms, which affect all grain crops, and flea beetles which affect rape and mustard.

Treatment with a fungicide is used primarily to control smuts in cereals, and damping-off and other seedling rots especially in flax. Various fungicides are available for surface borne smuts and recently a systemic fungicide has been registered for control of loose smuts. Although mercuric seed treatments are being phased out, both mercuric and non-mercuric compounds may be used on seeds of cereals as well as oilseeds in 1972.

Seed dressings should be used only for the purposes stated on the label and the directions given there should be followed carefully. 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 planting it should be buried. Care should be taken to prevent exposure of treated grain to wildlife.

### SEED INOCULATION

Legume crops add nitrogen to the soil only if their roots are well nodulated with nitrogen-fixing bacteria. When growing legumes on a field for the first time, inoculate the seed immediately before planting. Packaged inoculant for specific crops is available from seed dealers. Peas, lentils and horse beans are all nodulated by the same bacterial strains. Field beans 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 lower 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.