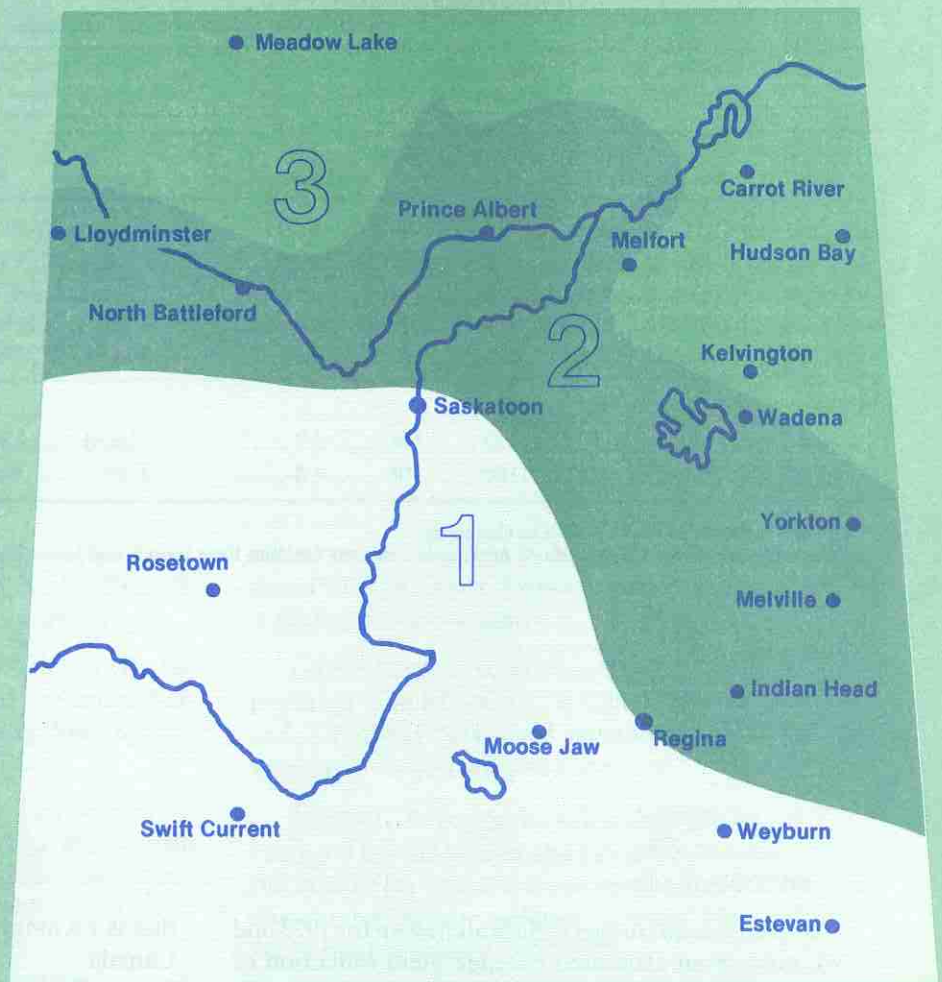




Varieties of Grain Crops for Saskatchewan 1975



Descriptions as prepared by:
**THE SASKATCHEWAN ADVISORY COUNCIL
ON GRAIN CROPS**
Published under
The Saskatchewan Co-operative Agricultural Extension Program
By authority of
The Honourable John 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 at least three years and thus tend to mask farm to farm variation.

BARLEY

Main Characteristics of Varieties

Type and Variety	Six or Two Rowed	Yield as % of Conquest			Maturity*	Resistance to					
		Area 1	Area 2	Area 3		Lodging	Stem Rust	Loose Smut	False loose and Covered Smut	Shattering	
Eligible for C.W. Grades											
Conquest	...Six	.....100	.....100	.....100	.....(90)	.....	Good	.....Good	.....Fair**	.....Fair	.....Fair
Bonanza	...Six	.....109	.....111	.....110	.....+2	.....	Good	.....Good	.....Fair**	.....Fair	.....Fair
Betzes	.....Two	.....111	.....102	.....100	.....+2	.....	Fair	.....Poor	.....Poor	.....Poor	.....Good
Hector	.....Two	.....118	.....106	.....102	.....+4	.....	Fair	.....Fair	.....Fair	.....Fair	.....Good
Feed											
Galt	.....Six	.....115	.....113	.....106	.....+2	.....	Good	.....Good	.....Poor	.....Good	.....Good
Fergus	.....Two	.....115	.....106	.....106	.....+4	.....	Fair	.....Poor	.....Fair	.....Fair	.....Good

*Average maturity in days relative to Conquest.

**Races of loose smut that can attack previously resistant varieties have been found in the eastern part of the province.

COMMENTS:

Loss appraisal studies in Saskatchewan for 1973 and 1974 indicate an estimated average yield reduction of 14% due to common root rot. HECTOR and BONANZA appear to have superior field tolerance to the disease.

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

FERGUS is a two-rowed, rough-awned variety

that is no longer eligible for malting grades in Western Canada.

HECTOR is a two-rowed, rough-awned variety licensed in 1973. Small scale tests by industry for malting and brewing quality have thus far proved satisfactory. It offers more resistance to lodging and shattering than BETZES. It shows great promise for southwestern Saskatchewan and should prove an attractive alternative to the varieties COMPANA and PALLISER.

WHEAT

Main Characteristics of Varieties

Type and Variety	Yield as % of Manitou			Maturity*	Resistance to						
	Area 1	Area 2	Area 3		Lodging	Stem Rust	Leaf Rust	Loose Smut	Bunt	Root Rot	Shattering
Bread											
Manitou	100	100	100	(99)	Good	Good	Poor	Good	Fair	Fair	Good
Canuck	100	96	—	+3	Fair	Poor	Poor	Good	Fair	Fair	Good
Cypress	91	88	—	+1	Fair	Poor	Poor	Poor	Poor	Poor	Fair
Napayo.....	100	101	100	+1	Good	Good	Poor	Good	Fair	Fair	Good
Neepawa.....	104	103	101	=	Good	Good	Poor	Good	Fair	Fair	Good
Utility											
Glenlea	113	121	121	+2	Good	Good	Good	Good	Fair	Fair	Good
Norquay	115	119	99	+1	Good	Good	Good	Poor	Fair	Fair	Good
Pitic 62	118	121	112	+6	Good	Poor	Fair	Poor	Poor	Fair	Good

Yield as % of Stewart 63

	Area 1	Area 2	Area 3								
Durum											
Stewart 63	100	100	100	+7	Fair	Good	Good	Fair	Poor	Poor	Good
Hercules	91	94	107**	+1	Good	Good	Good	Good	Fair	Poor	Good
Macoun	103	103	97**	+3	Good	Good	Good	Good	Good	Poor	Good
Pelissier	104	—	—	+8	Fair	Poor	Good	Good	Poor	Poor	Good
Wakooma.....	111	107	104**	+4	Good	Good	Good	Good	Good	Fair	Good
Wascana	113	109	112**	+4	Good	Good	Good	Good	Good	Poor	Good

*Average maturity in days relative to Manitou.

**Limited data only.

COMMENTS:

Incidence of the wheat stem sawfly is increasing in southwestern Saskatchewan. CANUCK, CYPRESS and CHINOOK are sawfly resistant varieties.

CANUCK is the highest yielding of the sawfly resistant wheats. Slightly taller and later maturing than CYPRESS it is more resistant to lodging. Seed supply of CANUCK will be limited until 1976.

NAPAYO, an awned variety, is very similar to MANITOU. The awns tend to give a more open swath. NAPAYO may be useful where harvesting problems arise from slow drying in the swath or in picking up the swath from light stands.

PITIC 62, GLENLEA and NORQUAY are high yielding wheats eligible for utility grades only. PITIC 62 has out yielded MANITOU by up to 30% in parts of Areas 1 and 2. Low bushel weight often results from harvesting PITIC 62 too early.

NORQUAY is a white, semi-dwarf wheat best

suited to Areas 1 and 2. It is strong-strawed, shorter than PITIC 62, up to 5 days earlier in maturity, and has a higher bushel weight.

GLENLEA is taller than MANITOU and earlier maturing than PITIC 62. It is high yielding in Areas 2 and 3 but has less yield advantage over the bread wheats in the Brown soil zone.

MACOUN is slightly taller than HERCULES. It has good bushel weight and possesses the most desirable quality for macaroni and spaghetti manufacture of the current durum varieties. Seed of MACOUN will be in limited supply until 1976.

WAKOOMA, WASCANA, MACOUN and HERCULES all have improved quality and are more desirable for the export market than are the older varieties, STEWART 63 and RAMSEY. For this reason and their lower yields, STEWART 63 and RAMSEY should no longer be grown.

OATS

Main Characteristics of Varieties

Variety	Yield as % of Harmon			Maturity*	Resistance to				Percent Hull
	Area 1	Area 2	Area 3		Lodging	Stem Rust	Leaf Rust	Smut	
Harmon	100	100	100	(93)	Fair	Poor	Fair	Fair	23.8
Fraser	108	108	102	+3	Good	Poor	Poor	Fair	22.9
Garry	103	100	95	=	Fair	Poor	Fair	Fair	24.7
Hinoat	73	78	76	-5	Fair	Poor	Poor	Fair	24.7
Hudson	104	111	105	+1	Good	Good	Good	Fair	24.4
Kelsey	105	106	107	-1	Fair	Poor	Fair	Fair	22.6
Random	109	109	107	=	Good	Poor	Fair	Poor	24.1
Sioux	106	107	103	-2	Fair	Poor	Poor	Fair	23.6

*Average maturity in days relative to Harmon.

COMMENTS:

HARMON is a plump-seeded variety with moderately strong straw.

RANDOM is responsive to fertilizer and early seeding, and it has a higher average yield than **HARMON**. It has short, strong straw but it is lighter in bushel weight than **HARMON**.

SIoux and **KELSEY** are early varieties and are recommended if seeding is delayed. **KELSEY** appears to be better adapted to dark-brown and black soils than to brown soils.

FRASER is a late maturing, strong-strawed variety with good yielding capacity.

HUDSON, licensed in 1974, has short strong straw and is the only commercial variety with resistance to race C10 of stem rust. Its bushel weight has averaged 2 pounds less than **HARMON**. Seed supply will be limited in 1975.

HINOAT, licensed in 1973, is a special purpose high protein oat for milling. It is the shortest and earliest maturing oat but is low in yield.

FLAX

Main Characteristics of Varieties

Variety	Yield as % of Redwood 65			Maturity*	Resistance to		Seed Size	Flower Color
	Area 1	Area 2	Area 3		Rust	Wilt		
Redwood 65	100	100	100	(106)	Poor	Good	Medium	Blue
Linott	93	91	99	-4	Good	Good	Medium	Blue
Noralta	96	96	92	-6	Poor	Good	Small	Blue
Norland	98	95	81	=	Poor	Fair	Large	White
Raja	70	81	59**	-11	Good	Good	Large	White

*Average maturity in days relative to Redwood 65.

**Limited data only.

COMMENTS:

NORALTA, **NORLAND** and **REDWOOD 65** are susceptible to several new races of rust which first appeared in 1973. **LINOTT** and **RAJA** are the only resistant varieties presently available but seed remains in short supply.

Rust and other flax diseases overwinter in Sas-

katchewan. To minimize these diseases, avoid planting flax on or near flax stubble. Use clean seed as the refuse or debris in the seed may be infected with the disease.

Frozen flax should be analysed by the Saskatchewan Feed Testing Laboratory to determine that it is free from Prussic acid before using it for livestock feed.

RYE

Type and Variety	Yield as % of Antelope			Winter Killing	Resistance to		Kernel		Straw Length
	Area 1	Area 2	Area 3		Shattering	Lodging	Color	Size	
Fall Rye									
Antelope	100	100	—	Good	Poor	Poor	Variable	Small	Tall
Cougar	133	112	—	Fair	Good	Good	Green	Medium	Medium
Frontier	114	112	—	Good	Fair	Poor	Green	Medium	Tall
Kodiak	113	116	—	Fair	Fair	Fair	Tan	Large	Tall
Puma	132	124	—	Good	Good	Fair	Green	Medium	Tall
Spring Rye									
Prolific	—	—	—	—	Fair	Fair	Green	Medium	Tall
Gazelle	—	—	—	—	Fair	Fair	Green	Medium	Tall

COMMENTS:

Where winter hardiness is not a problem and moisture is in good supply, COUGAR is often desirable because of its shorter straw. On the lighter, drier soils PUMA and FRONTIER have the advantage.

GAZELLE spring rye, developed by the University of Saskatchewan, is a high yielding replacement for PROLIFIC.

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.

In order to meet the demands of the edible oil market for less than 5% erucic acid, only low erucic varieties are recommended for general production in 1975. Rapeseed varieties or strains (e.g. TARGET, TURRET, R-500) which do not produce low erucic oil should only be grown under contract for specialized

industrial markets. Use of certified seed is essential to insure that quality characteristics of the improved rapeseed varieties are maintained in order to avoid marketing problems.

The low erucic *B. napus* varieties MIDAS and TOWER, both have the early maturity and shorter plant height of the normal erucic variety TARGET. While MIDAS produces the highest seed and oil yields, TOWER produces meal of superior quality because of its low glucosinolate level and excellent protein content.

The low erucic *B. campestris* varieties TORCH and SPAN are similar in agronomic characteristics such as plant height and days to mature; however, TORCH produces a higher yield of seed, oil and protein than SPAN.

Variety	AREA 2			AREA 3		
	Yield as % of Span	Maturity in days	% Oil	Yield as % of Span	Maturity in days	% Oil
B. napus (Argentine type)						
Midas	139	98	44.1	130	103	43.6
Zephyr	129	101	41.1	128	105	40.6
Tower	123	98	42.9	107	103	41.3
B. campestris (turnip rape)						
Torch	101	87	39.7	102	90	39.7
Span	100	87	39.5	100	90	39.1

MINOR CROPS

FIELD PEAS Main Characteristics of Varieties

Variety	Yield as % of Century	Maturity*	Seed Size	Cotyledon Color	Vine Length	Seeding rate (lb/ac.)
Century	100	(100)	Large	Yellow	Tall	170
Trapper	99	-2	Small	Yellow	Medium	110
Triumph	107	-3	V. Large	Green	Medium	220

*Average maturity in days relative to Century.

COMMENTS:

Field peas are best adapted to the parkland area of the province. Growers should investigate potential markets such as home-grown protein, industrial use or pea soup before seeding. Protein content varies considerably among fields of the same variety and, thus,

it is advisable to obtain a protein analysis on peas used in livestock rations. Field pea seed should be inoculated before planting. See SEED INOCULATION section.

FABABEAN (Horse Beans) Main Characteristics of Varieties

Variety	Yield as % of Ackerperle	Maturity*	Seed Size	Plant Height
Ackerperle	100	(112)	Small	Tall
Erfordia	113	+2	Large	Tall
Diana	112	-6	Medium	M. Tall

*Average maturity in days relative to Ackerperle.

COMMENTS:

Fababeans are a promising source of protein for livestock feeding. They should be seeded early and are best adapted to that portion of the Black soil zone with the longest growing season. Seed at about 150 pounds per acre (5 seeds per square foot) 3 inches deep in rows 6 to 7 inches apart. Fababean seeds are very large and a

seeder with a deep-fluted cup must be used to prevent seed cracking. In order to reduce shattering losses, swathing can be done as soon as the lower most pod turns dark on 25% of the plants. Fababean seed should be inoculated before planting. See SEED INOCULATION section.

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.

MANCAN is a new variety with about a 25% larger seed than TEMPEST or TOKYO. MANCAN and TEMPEST are about 10% higher yielding than TOKYO.

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 section.

TAME MUSTARDS

The mustards are intermediate between rapeseed and wheat in drought tolerance. Mustards are less susceptible to shattering than rapeseed and can be straight combined.

The three types of mustard grown commercially are **YELLOW**, **ORIENTAL** and **BROWN**. Yellow mustard in comparison to turnip rape is slightly lower in seed yield, a few days later in maturity and similar in plant height. Brown mustard matures a few days later than Yellow mustard but earlier than Argentine type rapeseed. Seed yields of Brown and Oriental mustard are usually 10 to 15% higher than Argentine type rape and 25 to 30% higher than Yellow mustard. The yield differences between the mustard species are usually compensated by a contract price differential.

In the last few years, there has been a trend by contracting companies to replace the unnamed strains of Canadian origin with the following named varieties:

GISILBA — a variety of Yellow mustard from Germany that is equal in yield and other characteristics to common Canadian Yellow mustard strains.

LETHBRIDGE 22A — an Oriental mustard with superior seed color under a wide range of climatic conditions.

STOKE — an Oriental mustard with high yield of seed and allyl isothiocyanate.

EKLA — a German Brown mustard variety, slightly lower yielding than common Canadian strains but higher in allyl isothiocyanate.

Mixtures of mustard and rapeseed due to volunteering or handling on the farm cause substantial losses through a grade reduction. Rapeseed and mustard should not be grown on the same farm and preferably not in the same district.

TRITICALE

Triticale is a new man-made species derived from wheat and rye. **ROSNER** is the only variety licensed in Canada thus far. It is lower yielding than other cereals on the Prairies but improved varieties are expected which will make Triticale more competitive.

SUNFLOWERS

Sunflowers have been grown successfully in central and southern Saskatchewan. Because of the need for early maturity, only the variety **KRASNODARETS**, is recommended. The crop is more drought-tolerant than other oilseed crops and is adapted to a range of soil

types. In general, the lighter soils which warm up early in the spring are preferred. Early planting is recommended since sunflowers have good resistance to frost into the four-leaf stage.

Solid seeding in rows 12 to 18 inches is the standard practice. The standard grain seeding equipment, preferably the press or double-disc drill, sowing at about seven pounds per acre will provide a desirable population of 25,000 plants per acre. **Sunfallow** provides some crop return in a summerfallow year. A single or double row of sunflowers sown 10 or more feet apart on cereal stubble allows normal grain tillage machinery to either straddle the row or till between the rows. For best results in the crop following sunfallow the stalks should be left standing to trap the winter snow.

Herbicides are available for control of most weeds in sunflowers. However, if there is any secret to successful sunflower production, it is the practice of cross-harrowing in the seedling stage. Sunflowers are extremely susceptible to 2,4-D or MCPA drift. Special attachments are required for combine harvesting.

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 every two or three years depending on the susceptibility of the variety.

Various fungicides have been registered for the control of seedling diseases. Flax and rye seed should be treated to promote good seedling growth.

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 1973. 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.

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.