

Varieties of
Grain Crops for
Saskatchewan
1969

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

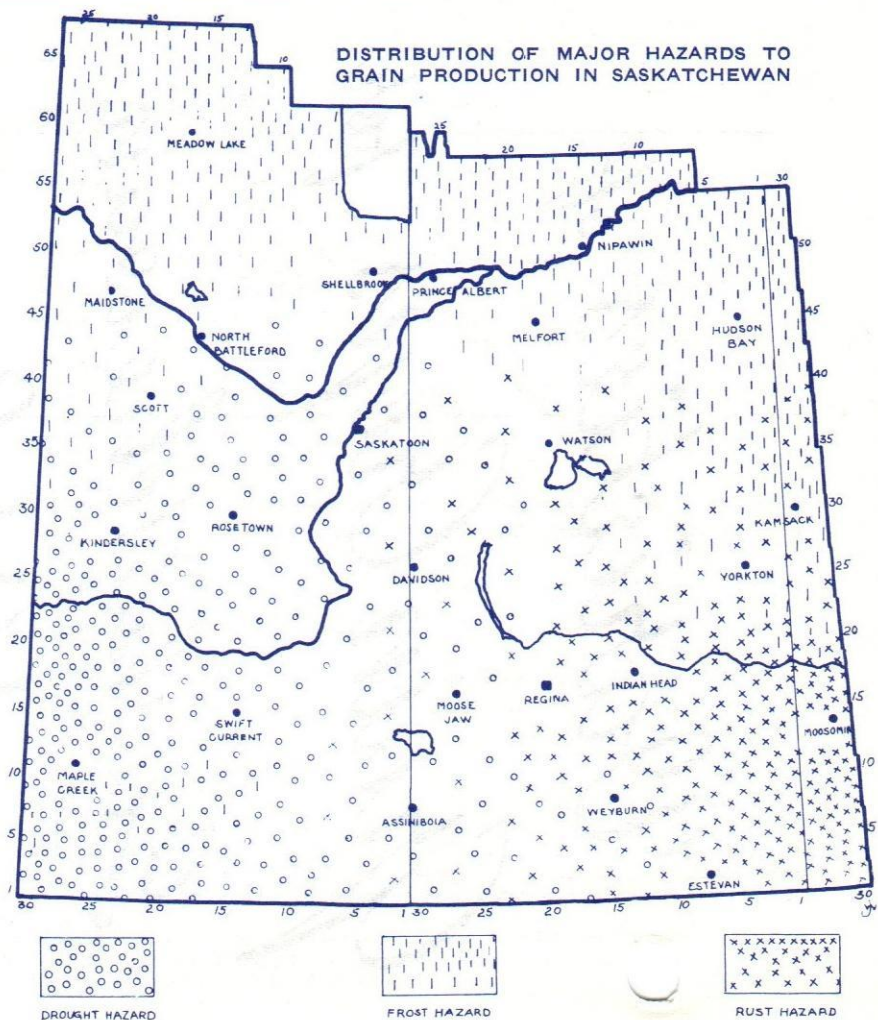
Varieties of Grain Crops for Saskatchewan 1969

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.

Growers should choose varieties with characteristics best able to meet the crop hazards which experience has shown are most likely to occur under their conditions. Based on long time records, the map at the right indicates the distribution in the province of the major hazards affecting grain production. The relative yields of varieties depend on the conditions under which they are grown.

Additional information concerning these varieties, or varieties not mentioned in this pamphlet, can be obtained from Agricultural Representatives, Research Stations and the University.

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



BREAD AND DURUM WHEAT – Main Characteristics of Varieties

Type and Variety	Order of Maturity	Resistance to							
		Lodging	Stem Rust	Leaf Rust	Loose Smut	Bunt	Root Rot	Spring Frost	Shattering
Bread									
Canthatch.....	3.....	Good.....	Fair.....	Poor.....	Fair.....	Fair.....	Fair.....	Good.....	Good.....
Chinook.....	3.....	Fair.....	Poor.....	Poor.....	Fair.....	Poor.....	Poor.....	Poor.....	Fair.....
Cypress.....	4.....	Fair.....	Poor.....	Poor.....	Poor.....	Poor.....	Poor.....	Poor.....	Fair.....
Lake.....	5.....	Good.....	Poor.....	Poor.....	Fair.....	Fair.....	Poor.....	Good.....	Fair.....
Manitou.....	4.....	Good.....	Good.....	Good.....	Fair.....	Fair.....	Fair.....	Good.....	Good.....
Park.....	1.....	Good.....	Poor.....	Poor.....	Fair.....	Poor.....	Fair.....	Good.....	Good.....
Pembina.....	2.....	Good.....	Good.....	Fair.....	Good.....	Fair.....	Fair.....	Good.....	Fair.....
Rescue.....	3.....	Fair.....	Poor.....	Poor.....	Poor.....	Poor.....	Poor.....	Poor.....	Fair.....
Selkirk.....	3.....	Good.....	Good.....	Fair.....	Good.....	Good.....	Poor.....	Good.....	Fair.....
Thatcher.....	3.....	Good.....	Poor.....	Poor.....	Fair.....	Fair.....	Fair.....	Good.....	Good.....
Durum									
Pelissier.....	7.....	Fair.....	Poor.....	Good.....	Fair.....	Poor.....	Poor.....	Good.....	Good.....
Ramsey.....	6.....	Fair.....	Good.....	Good.....	Poor.....	Fair.....	Poor.....	Good.....	Good.....
Stewart 63.....	7.....	Fair.....	Good.....	Good.....	Fair.....	Poor.....	Poor.....	Good.....	Good.....

COMMENTS:

Manitou is similar to **Thatcher** and **Canthatch** in plant type and milling qualities but is resistant to stem and leaf rust. **Manitou** ripens one or two days later than **Thatcher** and **Selkirk** and, like **Thatcher**, does well under dry conditions.

Rust remains a threat in Saskatchewan. **Selkirk** and **Pembina** are reasonably satisfactory for stem rust, however, **Manitou** has the best combination of stem and leaf rust resistance.

Sawflies increased in a number of areas of Saskatchewan in 1967 and 1968. Farmers in these areas should consider using one of the sawfly resistant varieties, **Cypress**, **Chinook** or **Rescue**. **Cypress** is more resistant to sawflies than **Chinook** and has better bread making qualities than **Rescue**.

OATS — Main Characteristics of Varieties

Variety	Order of Maturity	Resistance to				Percent Hull
		Lodging	Stem Rust	Leaf (Crown) Rust	Smut	
Fraser.....	5	Good	Good	Fair	Good	Low
Garry.....	2	Good	Good	Fair	Good	High
Harmon.....	4	Good	Good	Fair	Good	Medium
Kelsey.....	3	Good	Good	Good	Good	Low
Rodney.....	4	Good	Fair	Fair	Good	Low
Sioux.....	1	Good	Good	Fair	Good	Medium

COMMENTS:

All oat varieties are susceptible to one or more races of rust. However, for best protection, **Harmon**, **Garry**, **Kelsey**, **Sioux** and **Fraser** are recommended. **Harmon** is similar to **Rodney** in performance but has better stem rust resistance. **Kelsey** has yielded well in eastern Saskatchewan and Manitoba. It has the best leaf rust resistance and the grain is highest in energy.

Fraser is a promising new rust resistant variety, licensed in 1967. It appears to be better adapted to moist conditions than it does to dry.

Grizzly was licensed in 1967. It is a rust susceptible variety with a high percentage of hull. It is not adapted to the prairie area.

Ajax, **Pendek**, **Russell** and **Victory** have been deleted from the Table because there are new and better varieties.

BARLEY — Main Characteristics of Varieties

Type and Variety	Six or Two Rowed	Order of Maturity	Resistance to					Shattering
			Lodging	Stem Rust	Leaf Rust	Loose Smut	Covered Smut	
Feed								
Centennial.....	Two	4	Good	Poor	Poor	Poor	Poor	Good
Compana.....	Two	2	Poor	Poor	Poor	Poor	Poor	Good
Palliser.....	Two	6	Fair	Poor	Poor	Poor	Poor	Good
Galt.....	Six	5	Good	Good	—	Poor	Good	Good
Jubilee.....	Six	6	Fair	Good	Good	Poor	Fair	Fair
Eligible for C.W. Grades								
Conquest.....	Six	3	Good	Good	Poor	Good	Good	Fair
Gateway-63.....	Six	1	Fair	Poor	Poor	Poor	Poor	Fair
Paragon.....	Six	6	Good	Good	Poor	Good	Good	Fair
Betzes.....	Two	4	Fair	Poor	Poor	Poor	Poor	Good

COMMENTS:

Centennial is a two-rowed, rough awned variety of feed barley licensed in 1967. This variety has shorter straw and better resistance to lodging than **Betzes**. It performs well in the Black and Grey soil zones.

Galt is a high yielding, 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.

Paragon is a new six-rowed smooth awned malting variety licensed in 1967. It is shorter than **Conquest** and four to five days later. In general it is higher yielding except in some areas of the Brown soil zone.

Growers interested in two-rowed varieties should consider the merits of **Betzes**, **Palliser** and **Centennial**.

Parkland, **Keystone** and **Hannchen** have been deleted from the Table because there are new and better varieties.

FLAX — Main Characteristics of Varieties

Variety	Order of Maturity	Resistance to		Oil Quality	Seed Size	Flower Color
		Rust	Wilt			
Noralta.....	2	Good	Good	Good	Small	Blue
Norland.....	3	Good	Fair	Good	Large	White
Raja.....	1	Good	Fair	Medium	Large	Blue
Redwood 65.....	3	Good	Good	Good	Medium	Blue

COMMENTS:

Flax rust and other diseases overwinter in Saskatchewan. All the 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 analysed for Prussic acid content.

RYE — Main Characteristics of Varieties

Type and Variety	Resistance to			Kernel		Straw
	Winter Killing	Shattering	Lodging	Color	Size	Length
Fall Rye						
Antelope.....	Good.....	Poor.....	Poor.....	Variable.....	Small.....	Tall
Cougar.....	Fair.....	Good.....	Good.....	Green.....	Medium.....	Medium
Frontier.....	Good.....	Fair.....	Poor.....	Green.....	Medium.....	Tall
Spring Rye						
Prolific	—	Fair.....	Fair.....	Green.....	Medium.....	Tall

COMMENTS:

The old variety **Dakold 23** has been deleted from the list of commercially important varieties because it has been replaced by the higher yielding and equally winter hardy varieties, **Antelope** and **Frontier**. The variety **Cougar** is hardy enough to be grown in many areas, is shorter in straw length and slightly later maturing than either **Antelope** or **Frontier**.

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

RAPE

Rape is adapted to the parkbelt area of the province. Where drought is a hazard, rape frequently gives disappointing yields. Rape should never be sown on rape stubble because of insect and disease problems. Growers should check fields frequently and be prepared to apply insect control measures promptly.

Types and Varieties

Argentine type: The varieties **Target**, **Oro**, **Nugget** and **Tanka** are fairly tall growing and mature about the same time as wheat. **Target** yields more seed per acre and is one or two days earlier in maturity than other varieties. **Oro** seed yields are comparable to **Target**. **Oro** produces a seed oil free of erucic acid and is available only under contract production. Varieties **Nugget** and **Tanka** are rapidly being replaced by the higher yielding **Target** and **Oro**. Varieties of the Argentine type should be sown as early as wheat to avoid frosted seed and serious loss of grades. For delayed seedings use only turnip rape varieties.

Turnip rape (Polish type): The varieties **Echo** and **Arlo** are shorter growing, have smaller seeds, mature about three weeks earlier and have seedlings more resistant to frost than varieties of the Argentine type. **Echo** is higher yielding than **Arlo**. Turnip rape varieties should be used in areas where the frost-free season is short or where seeding is delayed until late May or early June.

TAME MUSTARD

Three types of mustard are grown commercially, **Yellow (White)**, **Oriental**, and **Brown**. **Yellow** mustard matures about two weeks earlier than wheat and is slightly lower yielding than turnip rape varieties. The pure yellow seed is larger than Argentine rapeseed and may be straight combined. **Oriental** and **Brown** mustard are taller growing, higher yielding and mature about one week later than **Yellow** mustard. **Oriental** mustard is at least 90% yellow seeded and is less susceptible to shattering than rapeseed or the reddish-brown seeded **Brown** mustard. **Oriental** and **Brown** mustard and Argentine type rape have the same size seed.

The mustards have shown good adaptation to the Brown and Dark Brown soil zones and most of the production is concentrated in these areas. In drought tolerance they are intermediate between wheat and rape. Contract production facilitates marketing.

SUNFLOWERS AND TAME BUCKWHEAT

Sunflowers and tame buckwheat 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. Sowing the varieties **Peredovik** or **Armavirec** on grain stubble in widely spaced rows, as a partial summerfallow is suggested for trial.

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.

TRITICALE AND FOREIGN WHEATS

The new crop, **Triticale**, is later maturing and does not yield substantially higher than wheat, oats or barley. Although this new crop eventually may have a place in Canadian Agriculture, the most advanced material presently available is not adapted to Saskatchewan.

Foreign and domestic wheat varieties of varying quality are being tested extensively in Saskatchewan. Some varieties gave high yields. However, since they are not hard red spring wheats it is not known what market there might be for them or what price they would bring. All aspects of their possible utilization are under intensive study.

SEED FACTS

Germination of grain from the 1968 crop may be low. Seed that was harvested in a tough or damp condition, was frosted, weathered, sprouted or diseased may have impaired germination; and the germinability of such seed may further decline during storage. **It is highly recommended that all grain to be used for seed should be tested for germination, preferably in early spring.** Samples for testing should be taken after the grain is cleaned. Seed testing services are provided by the Plant Products Division, Seed Section, Canada Department of Agriculture, 413 London Building, Saskatoon, and also by some grain companies.

A good farm practice is to use "certified" seed. This is a class of "pedigreed" seed and as such it must meet the standards of the Canada Seeds Act in regard to germination, purity of variety, freedom from weed seeds and other impurities. Certified seed is available in bulk as well as in sealed bags. An "over the quota" delivery privilege permits a farmer to exchange commercial grain for pedigreed seed.

Seed Cleaning

Commercial grain used for seed should be cleaned carefully to remove weed seeds, imperfect and small kernels and other impurities. Care should be taken to avoid contamination with other grain or seed-borne diseases. The use of specially designed cleaning plants is recommended in place of cleaning in country elevators which are not equipped to prevent mixing or contamination during handling.

Seed dressings have two main purposes. Those containing a fungicide are used in disease control; those containing an insecticide are used to control wireworms. Dual purpose seed dressings containing a fungicide and an insecticide are for the control of both diseases and wireworms.

Fungicides (both mercury and non-mercury compounds) are available which will give adequate control of those smuts that are carried on the surface of cereal seed; namely, bunt of wheat, all smuts of oats, and covered and false loose smut of barley. Further, fungicides afford some protection against seed rots and seedling blights. Some non-mercury compounds are satisfactory for the control of bunt of wheat but not for the other external smuts of cereals. Some other non-mercury compounds are recommended for the control of seed rots and seedling blights only.

Seed treatment with an appropriate fungicide is recommended for all flax seed, and for cereal seed carrying surface-borne smut. Tests for the presence of this smut are available upon request through some grain companies. Treatment is also recommended for cereal seed that is weathered or lightly frosted and for seed that contains much cracked grain, is discolored with smudge, black point or carries other diseases and germinates poorly. Severely frosted grain is not suitable for use as seed. Sound, clean cereal seed having high germination and freedom from or resistance to surface-borne smut may be sown without treatment.

When wireworms are a problem the seed should be treated with an insecticide. Seed treatments give better results on grain planted in fallow than on grain planted on stubble. Watch summerfallow crops for signs of wireworm damage; if damage is evident, plan to use a seed treatment on the next crop on summerfallow. Always follow recommended seeding practices. Deep seeding will reduce treatment effectiveness. Do not treat seed with an insecticide if the crop is to be grown for forage.

When damp or tough seed is used and chemical dressings are applied for disease or wireworm control, or both, the time span between treating and sowing should be kept as brief as possible. Some seed dressings may reduce the germination of damp or tough seed during storage.

When treating seed follow the directions on the container label. Use only the recommended rates. Most seed dressings are highly poisonous and care should be taken in their use. Seed dressings carrying distinctive colored dyes are recommended. **It is unlawful to sell treated grain to commercial elevator companies. Treated grain should not be used as a feed.** The Canada Seeds Act requires that any grain seed treated with a poisonous substance and offered for sale shall be stained a conspicuous color and labelled as follows: "Poisonous; do not use as a feed. This seed has been treated with (name of poisonous substance)."

Loose smuts of wheat and barley are carried inside the seed and chemical seed dressings are not effective in their control. These diseases can be controlled by the use of the resistant varieties shown above, and by the use of smut-free seed for susceptible barley varieties (registered or certified seed known by the producer to be free of smut). Further, seed from a smutty barley crop can be effectively treated by the hot water method, or by the salt-water soak method. (For procedure see your Agricultural Representative.)

OTHER INFORMATION RELATING TO GRAIN CROP PRODUCTION

Bulletins on fertilizers and weed control, generally revised annually, are available from sources given below. Information on plant diseases, insect pests and other aspects of production can be found in the Guide to Farm Practice in Saskatchewan, 1966. These publications may be obtained from Agricultural Representatives, Research Stations and the University of Saskatchewan.