



Varieties of Grain Crops for Saskatchewan 1987

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Grain Crop Production Areas

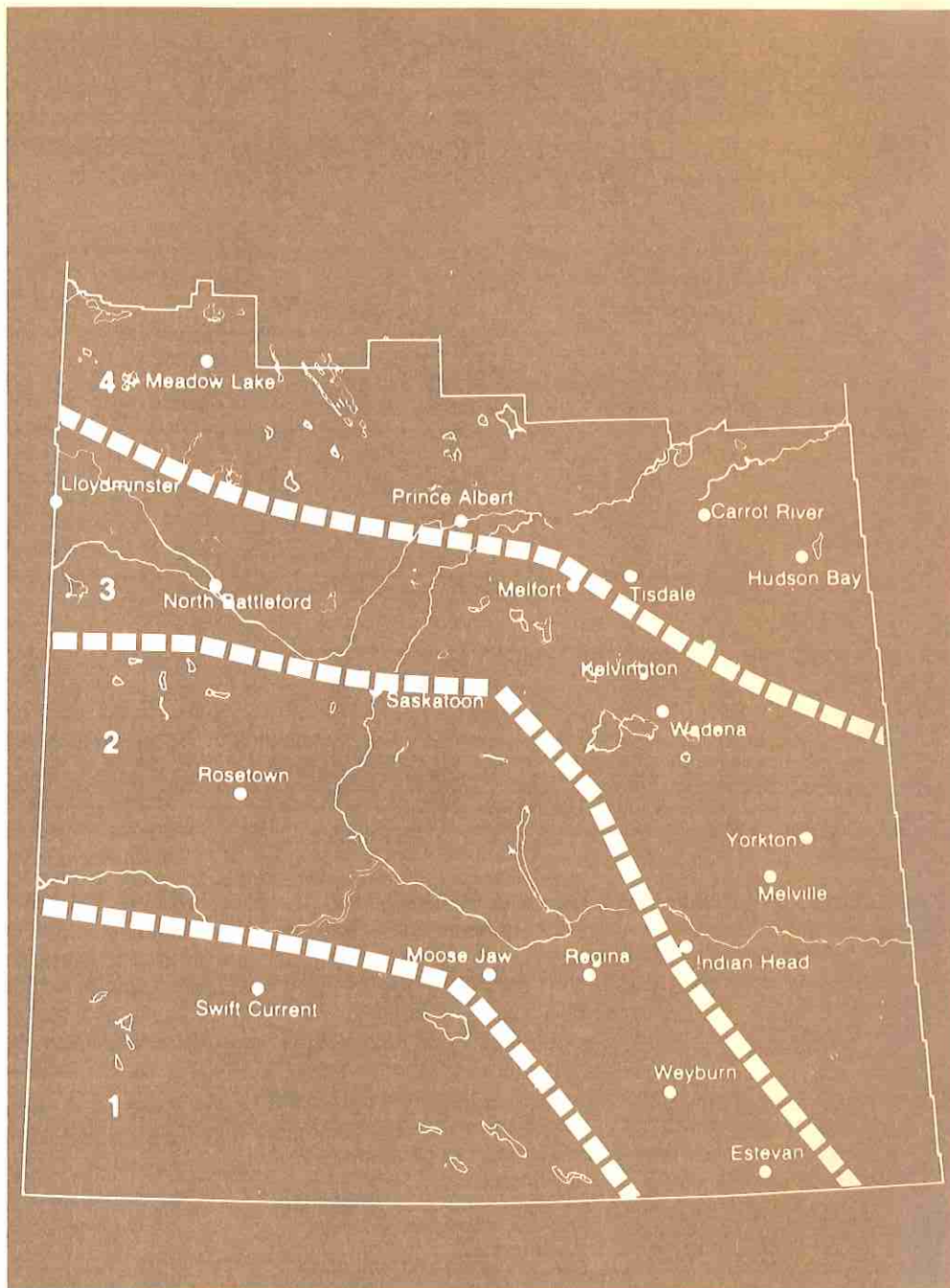
The cropland of Saskatchewan has been divided into four areas based roughly on climate, vegetation and soil type. The relative yields of crop varieties tend to vary from area to area. (See note below.) In choosing a variety a farmer will want to consider the yields in his area and special requirements such as early maturity, disease resistance or sawfly resistance.

- Area 1: Drought is a definite hazard and high winds are common. Sawfly outbreaks often occur in this area. Cereal rust may be a problem in the southeastern section.
- Area 2: Drought and sawflies may be problems in the western and central sections of the area. Cereal rust may be a problem in the southeastern section.
- Area 3: Drought is not as likely to be a problem in this area, particularly in the east. Cereal rust may occur in the eastern portion. The frost-free period can be fairly short in the northwestern and northeastern sections.
- Area 4: Rainfall is usually adequate for crop production. However, early fall frosts and wet harvest weather are frequent problems.

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

Relative Maturity. Maturity ratings are average number of days from seeding to swathing ripeness. The actual number of days to reach maturity depends on local climate and to some extent management practices. For example, Neepawa will often mature in less than 98 days in Area 1 and may require 120 days in Area 4. The maturity ratings should be considered as a guide to the relative maturity of the varieties, that is, whenever and wherever, Neepawa and Columbus are both seeded at the same time, Neepawa will reach maturity sooner than Columbus.

Relative yields presented in this pamphlet are the best estimates of expected yield advantages in the areas indicated. They are considerably more reliable than estimates based on data from a single test or from a single location. Farmers should be aware, however, that actual yields within an area, or in a particular year, may vary substantially from the average figures reported because of the natural variability. For example, Katepwa wheat is expected to outyield Neepawa by 3 percent in area 1. A farmer in this area may find that Katepwa will yield anywhere in the range of 6-7 percent lower than Neepawa to 10-11 percent higher than Neepawa. Occasionally, Katepwa may even yield outside this range. Similar variation in relative yields can be expected for most crop varieties.



Wheat

Main Characteristics of Varieties

Variety	Area 1	Area 2	Area 3	Area 4	Average Maturity in Days	Resistance to ***						
						Shat-Lodging	Stem-terring	Stem-Rust	Leaf-Rust	Loose-Smut	Bunt	Root-Rot
Yield as % of Neepawa (See note on front page)												
Bread Wheat												
Neepawa	100	100	100	100	98	G	.VG	.G	.P	.G	.P	.F
Benito	97	98	97	99	97	G	.G	.G	.G	.G	.F	.F
Columbus*	100	104	102	97	102	G	.F	.G	.G	.F	.G	.F
Conway	104	99	100	96	97	G	.G	.G	.P	.G	.F	.F
Katepwa	103	101	102	102	98	G	.G	.VG	.F	.G	.G	.F
Kenyon	98	102	101	97	98	G	.G	.VG	.VG	.G	.F	.F
Leader	98	96	—	—	100	F	.F	.G	.F	.F	.G	.VP
Lancer	97	99	—	—	100	F	.G	.G	.G	.G	.G	.F
Roblin**	102	101	95	99	97	G	.G	.G	.VG	.G	.P	.F
Canada Prairie Spring Wheat												
HY320*	120	122	125	120	102	G	.G	.G	.G	.P	.VP	.F
Yield as % of Wascana (See note on front page)												
Durum Wheat												
Wascana	100	100	100	100	101	F	.VG	.VG	.VG	.F	.VG	.F
Arcola	96	97	103	104	99	G	.VG	.VG	.VG	.F	.VG	.F
Kyle*	106	104	107	108	103	F	.VG	.VG	.VG	.F	.G	.F
Medora	100	98	103	105	100	G	.VG	.VG	.VG	.F	.VG	.F
Sceptre	101	99	106	115	100	G	.VG	.VG	.VG	.F	.G	.G
Wakooma	99	100	101	99	102	F	.VG	.VG	.VG	.F	.VG	.G

* These varieties are variable in maturity and may mature later under cool conditions.

** Based on less than three years of data.

*** Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

Comments:

In 1986 leaf and stem rust caused higher than normal grain yield losses on susceptible wheat cultivars. Crop losses caused by diseases vary with environmental conditions. Growing disease resistant varieties helps to protect against possible crop losses due to diseases.

Canada Western Red Spring Wheat

Benito has good leaf rust resistance, is earlier maturing, and is easier to thresh than **Neepawa**.

Conway, registered in 1986, has performed best in the Brown soil zone. Seed will not be available in 1987.

Columbus has good leaf rust resistance and has better sprouting and weathering resistance than the other varieties except **Leader**. **Columbus** is late maturing and must be sown early, particularly in area 4.

Katepwa is similar to **Neepawa** but has better stem and leaf rust resistance and is easier to thresh.

Kenyon is similar to **Neepawa** and has very good leaf and stem rust resistance.

Roblin, registered in 1986, has very good leaf and good stem rust resistance. Seed will not be available in 1987.

Leader and **Lancer** are resistant to wheat stem sawfly. **Lancer** has better resistance to wheat stem sawfly, seed shattering and root rot than **Leader**.

Canada Western Amber Durum

Arcola, **Medora** and **Sceptre** are early maturing and have short strong straw.

Kyle is higher yielding than other durum varieties but is a little taller and later maturing, making it best suited to the Brown and Dark Brown soil zones.

Sceptre is the shortest, strongest, strawed durum variety. Seed will not be available in 1987.

Canada Prairie Spring Wheat

Canada Prairie Spring wheat is a new class of wheat. **HY320**, a high yielding semidwarf wheat, is the only variety eligible for grades of this class. **HY320** is late maturing and must be sown early, particularly in Area 4.

Soft White Spring Wheat

Fielder and **Owens** are semidwarf varieties and are superior to other varieties in yielding ability, test weight, and resistance to powdery mildew. They are both susceptible to loose smut, bunt, and sprouting of the grain before harvest. **Owens** has resistance to stripe rust which occurs in some locations of southern Alberta.

Winter Wheat

Winter survival is the chief factor limiting winter wheat production in Saskatchewan. However, with proper management successful production is possible.

Norstar is the most winter-hardy variety of winter wheat available. In addition, it is high-yielding and has acceptable baking quality.

Norwin is a new semidwarf variety. It has very short, strong straw. Its winter hardiness and yield are inferior to **Norstar**. **Norwin** should be grown only under low winter stress, high moisture conditions where lodging and excessive straw production are problems.

If a reasonable stand survives the winter, winter wheat should yield about 25 percent higher than **Neepawa** spring wheat. It also has the additional advantages of early maturity, redistribution of labor requirements and increased competition with weeds.

Given the extremes of Saskatchewan winters, snow cover becomes a critical factor in winter cereal production. Snow

usually arrives earlier and stays later in the Black and Gray soil zones (Parkland) than in the Brown. For this reason, outside of the Chinook area in the extreme southwest of Saskatchewan, the greatest potential for winter wheat production lies in the northern part of the agricultural area. However, even in the Parkland, it is extremely difficult to maintain adequate snow cover for acceptable winter wheat survival on summerfallow fields. This means that, in most years, some form of snow trapping is necessary in most of Saskatchewan to ensure the successful overwintering of wheat. Standing stubble will provide effective snow trapping.

Seeding into standing stubble can result in successful winter wheat stands where the previous crop has been harvested at an early date and where moisture conditions are

adequate to permit good plant establishment before freeze-up. The standing stubble assists in trapping snow, and a very firm seedbed is provided. No seedbed preparation is necessary; however, good drill penetration is required. The hoe or press drill or zero-tillage drills will provide the best stands under these conditions.

Winter wheat should be seeded early enough to allow for the establishment of a healthy, vigorous plant before freeze-up. However, seeding too early will result in excessive growth in the fall and plants which are usually less resistant to injury and disease.

Generally recommended seeding dates in Saskatchewan are around August 25 for the north and September 7 for the extreme south of the agriculture area.

Barley

Main Characteristics of Varieties

Type and Variety	2 or 6 row	Rough or Smooth Awns	Yield as % of Bonanza (See note on front page)				Average Maturity in Days	Resistance to **					
			Area 1	Area 2	Area 3	Area 4		Lodging	Shattering	Net Blotch	Loose Smut	Other Smuts	Root Rot
Malting													
Bonanza	.6	S	100	100	100	100	89	G	VP	G	P	P	G
Argyle	.6	S	97	100	101	105	91	VG	VP	G	P	VP	G
Ellice	.2	R	98	108	104	106	92	G	VG	F	P	P	F
Harrington	.2	R	106	110	107	107	92	G	VG	P	P	VP	G
Klages	.2	R	104	101	102	100	94	F	VG	P	P	G	G
Feed													
Abee	.2	R	113	116	111	108	94	P	VG	P	P	F	G
Deuce*	.2	R	108	112	105	108	92	G	VG	F	P	G	G
Scout	.2	R	99	92	90	83	91	P	VG	VP	P	VP	G
Diamond	.6	S	110	113	110	108	89	F	F	G	P	G	VP
Heartland	.6	S	107	112	107	111	92	VG	F	VG	P	P	G
Johnston	.6	S	113	117	115	115	94	VP	P	F	P	VP	P
Leduc	.6	R	115	120	111	109	91	P	P	F	F	G	F
Tupper	.6	R	78	87	91	88	90	G	P	F	F	VP	G
Intensive Management +													
Samson	.6	R	—	—	—	—	92	VG	F	F	P	G	G
Duke	.6	R	—	—	—	—	93	VG	F	F	P	G	G
Winchester	.6	R	—	—	—	—	90	VG	F	G	P	G	F

+ These varieties are suited only to high input conditions, see comments section.

* Less than three years of data for yield figures.

** Resistance ratings; VG — very good; G — good; F — fair; P — poor; VP — very poor.

Comments:

Moist weather in recent years has caused a heavy build up of disease inoculum, especially net blotch. None of the current two-rowed varieties have good field resistance to all races of net blotch. Therefore growers who must plant barley on barley stubble should select six-rowed varieties which are more tolerant.

Of the varieties listed in the table, only **Johnston**, **Leduc** and **Winchester** have satisfactory resistance to scald.

None of the available varieties are resistant to all three types of smut. Therefore, seed should be treated on a regular basis. See the **Seed Facts** section for details.

Growers are reminded that commercial evaluation of new malting varieties requires a minimum of three years. Until this is done, only very limited quantities will be purchased for malting.

Six-Rowed Varieties

Argyle and **Bonanza** are acceptable for malting. **Argyle** is slightly higher yielding than **Bonanza** in northern and eastern Saskatchewan. It has very good straw strength, is similar to

Bonanza in height, but is 1-3 days later maturing. Both varieties have good resistance to stem rust but are susceptible to new races of loose smut.

Johnston has high yield potential but it is taller, weaker and later than the other feed varieties.

Leduc is similar in most respects to **Johnston** except that it is several days earlier maturing, rough awned.

Diamond combines early maturity with high yield. It has a large kernel but low bushel weight and a high hull percentage.

Heartland is a new six-rowed feed variety. It has short, strong straw and high yield potential. It is similar in maturity to **Leduc**. It has the best all round disease resistance of any variety.

Tupper is a six-rowed hulless variety suitable for production on the eastern prairies. It is similar in performance to **Bonanza** but is slightly later. See comments under **Scout**.

Samson, **Duke** and **Winchester** are new semidwarf feed varieties. They should be grown only under high moisture, high fertility conditions which would cause severe lodging in conventional varieties. High fertility tests in Saskatchewan have shown **Duke** to outyield **Samson** by 10%, however

Duke is 1-2 days later maturing. **Duke** has good resistance to scald. Insufficient yield data is available from Saskatchewan to evaluate **Winchester**. It is earlier but susceptible to stem rust.

Two-Rowed Varieties

Klages is an acceptable malting variety, however it is late and susceptible to leaf diseases. **Klages** germinates very readily so care should be taken to minimize exposure of swaths to rain.

Harrington is also an acceptable malting variety.

Harrington has yielded well in all areas, however, it is similar to **Klages** in disease resistance. Thus it is best suited to the traditional two-row area. It is stronger-strawed and 2-3 days earlier than **Klages**.

Ellice is a new two-rowed malting variety which has been judged to be satisfactory by the domestic industry. As with all new varieties the industry will be cautious in adopting it. **Ellice** is similar in maturity and yield to **Harrington** except in the

drier areas. It is taller than **Harrington** but has good straw strength. It has good stem rust and fair net blotch resistance but only fair root rot resistance. This variety has excellent potential for the eastern prairies.

Abee is a feed variety with high yield potential and plump kernels. It is similar to **Klages** in maturity and straw strength but it is shorter than **Klages**.

Deuce is a new two-rowed feed variety. It has very good straw strength, high yield and sufficient disease resistance for production on the eastern prairies.

Scout is a hullness variety similar in most respects to **Fairfield**. Because the hull is left in the field, comparable yields are 10-15% lower. Hullless seed is more susceptible to damage than hulled seed, so handling should be minimized. Markets for hullless barley have not been clearly defined but it should be valuable for hog feed, pet food and human consumption. **Scout** is higher in protein and lower in fiber than hulled varieties.

Canola (Rapeseed)

Main Characteristics of Varieties

Type & Variety	Yield as % of Westar (See note on front page)			% Oil	Average maturity in days	Resistance* to lodging
	Area 2	Area 3	Area 4			
Argentine						
Westar	100	100	100	43.3	95	G
Polish						
Tobin	85	86	85	42.1	85	G
Triazine Tolerant						
OAC Triton	66	67	69	40.0	99	F
Tribute	69	69	70	40.0	97	VP

* Resistance ratings; VG — very good; G — good; F — fair; P — poor; VP — very poor.

Comments:

Canola is the term used to designate rapeseed varieties with low erucic acid (< 2%) and low glucosinolate meal (< 30 µmol/g). This quality is required by the domestic industry and the export markets.

The three types of rapeseed (Argentine, Polish, TTC) belong to two different species. The black seeded varieties **Westar**, **OAC Triton** and **Tribute** are **Brassica napus**; the yellow brown seeded variety **Tobin** is **Brassica campestris**. On average **Westar** gives high seed yield, high oil content, matures in 95 days and has good lodging resistance, **Westar** can be grown in all areas which allow the successful cultivation of later maturing varieties. Under irrigation, **Westar** usually gives a greater increase in yield than **Tobin**, but irrigation may delay maturity by 4 to 5 days.

Tobin matures, on average, 10 days earlier than **Westar**. While, on average, **Tobin** yields less than **Westar**, when the growing season is shortened by frost or drought, the yield of **Tobin** can be equal to or higher than **Westar**, and **Tobin** is less likely to produce green seed.

OAC Triton and **Tribute** are triazine tolerant canola (TTC) varieties. Their seed yield, under weed free conditions, is significantly lower than that of **Westar**. They also have lower oil content. **OAC Triton** is late in maturing and has a tendency to lodge. **Tribute** is earlier maturing but is very susceptible to lodging. Both varieties have poor seedling vigor and require careful seedbed preparations. They should be planted only under severe infestations with stinkweed and/or wild mustard, weeds which cannot be controlled with canola herbicides. For registered herbicides consult "Chemical Weed Control in Cereal, Oilseed, Pulse and Forage Crops 1987".

All varieties are resistant to white rust (staghead) but are

susceptible to blackleg and sclerotinia.

For special industrial oil markets a high erucic acid oil is needed. Varieties producing such oils are available and information on the contract production of these varieties should be obtained from the industry.

Condiment Mustard

Main Characteristics of Varieties

Type & Variety	Yield as % of Cutlass	Average Maturity in days
Oriental		
Cutlass	100	96
Domo	99	96
Lethbridge 22A	92	96
Brown		
Commercial	95	98
White		
Gisilba	70	99
Kirby	73	98
Ochre	70	99
Tilney	73	101

Comments:

The three types of mustard grown belong to two different plant species. The yellow seeded Oriental mustard and the brown seeded Brown mustard are **Brassica juncea**, the yellow seeded White mustard is **Sinapis-alba**. Mustard is grown in the drier regions of the province because of the better seed quality obtained under these conditions. Oriental and Brown mustards are usually swathed, but straight combining is also possible. White mustard should be straight combined because of possible losses due to wind damage to the fluffy swath. Any mixtures of rapeseed in mustard, due to

volunteer plants in the field or to improper handling on the farm, cause substantial losses through grade reductions.

Oriental and Brown mustard varieties yield 10 to 20% more than **Westar** Canola and are earlier maturing. White mustard varieties yield 30% less than the Oriental and Brown mustards. All mustards are resistant to blackleg.

Mustard is usually grown under contract. Differences in yield between the types is compensated for by contract price.

Cutlass is the highest yielding, earliest maturing Oriental mustard variety and has superior seed quality.

Oat

Main Characteristics of Varieties

Variety	Yield as % of Calibre (See note on front page)				Test wt. (kg/hl)	% Hull	Maturity in days	Resistance to *			
	Area 1	Area 2	Area 3	Area 4				Lodging	Stem Rust	Leaf Rust	Smut
Calibre	100	100	100	100	50.0	22.9	93	G	VP	VP	P
Cascade	106	99	99	100	47.4	26.0	92	G	VP	VP	P
Dumont	97	100	97	95	48.8	23.5	94	F	VG	VG	VG
Harmon	93	91	89	85	48.2	24.1	91	G	VP	VP	P
Jasper**	94	95	94	90	50.0	22.5	89	F	VP	VP	P
Riel	93	97	95	91	50.0	21.0	93	G	VG	VG	VG

* Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

** Less than three years of data for area 4.

Comments:

Calibre has high yield potential and superior kernel quality, having very high test weight and low percent hull. **Calibre** is later maturing than **Harmon** but not as late as **Dumont**.

Cascade has high yield potential but poorer kernel quality than other available varieties, being lighter in test weight with higher hull content. Its maturity is intermediate to that of **Harmon** and **Calibre**.

Dumont has excellent disease resistance and kernel quality at least equal to **Harmon**, however it has weaker straw and lower yield potential than **Calibre**. **Dumont** is three to four days later maturing than **Harmon**. This variety should be

considered for use in the oat rust-area of southeastern Saskatchewan.

Harmon is a plump seeded variety, however its yield potential is inferior to that of several newer varieties.

Jasper is a new, early maturing variety with kernel quality equal to **Calibre**, however its yield potential is lower. It appears to be best adapted to northern Alberta.

Riel is a new variety with tan colored grain. It has excellent kernel quality and disease resistance, however, its yield potential is lower than other varieties available in Saskatchewan. It appears to be best adapted to production in Manitoba.

Flax

Main Characteristics of Varieties

Varieties	Yield as % of Dufferin (See note on front page)				Average Maturity in Days	Seed Size	Resistance to *		
	Area 1	Area 2	Area 3	Area 4			Rust	Wilt	Lodging
Dufferin	100	100	100	100	102	Medium	VG	G	F-G
McGregor	104	101	103	98	103	Small	VG	G	VG
Noralta	98	99	100	97	99	Small	VP	G	F-G
NorLin	109	105	103	109	101	Medium	VG	F	G
NorMan	114	102	103	104	101	Medium	VG	G	G
Vimy	120	110	102	100**	101	Large	VG	G	F

* Resistance ratings; VG — very good; G — good; F — fair; P — poor; VP — very poor

** Only one year of data for area 4.

Comments:

McGregor is a high yielding but later maturing variety. It has better straw strength than other varieties and should be considered for irrigation in areas where maturity is not a problem.

NorLin is high yielding and slightly earlier maturing than both **Dufferin** and **McGregor**.

NorMan is a medium-late variety that is similar in yield to

McGregor and **NorLin** in the Dark Brown and Black soil zones.

Vimy is a new medium-late variety that is very well adapted to zones 1 and 2. Seed of **Vimy** will not be available until 1988.

Frozen flax should be analysed by the Saskatchewan Feed Testing Laboratory to determine that it is free of prussic acid before using it as a livestock feed.

Field Pea (Yellow) Main Characteristics of Varieties

Variety	Yield as % of Century (See note on front page)		Average Maturity in days	Resistance to**		Seed Size (g/1000)
	Area 2 and Southern 3	Area 4 and Northern 3		Powdery	Seed Coat	
				Mildew	Breakage	
Century	100	100	100	F	F	260
Bellevue*	120	81	105	P	G	180
Tara	127	121	102	G	F	240
Tipu*	99	104	98	P	P	240
Titan*	116	112	102	P	G	290
Trapper	105	107	99	F	F	160
Victoria*	103	126	95	P	F	200

* Limited data only.

** Resistance ratings; VG — very good; G — good; F — fair; P — poor; VP — very poor.

Comments:

Field peas are grown mainly in the more northerly black and gray soil zones. Early seeding will usually result in late August maturity and increase the likelihood of harvesting high quality seed. Seed splitting is a problem with many varieties, but it can be reduced by harvesting peas tough and drying in an aeration bin.

The recommended seeding rate for **Trapper** is 135 kg/ha (120 lb/ac). Other varieties should be sown at higher rates in proportion to seed size.

Bellevue is a newly registered variety of high yield potential but late maturity. It is well adapted to the more southerly pea growing area of the province. Limited seed stocks will be available in 1988.

Tara has an angular seed shape which often results in lower market demand and price. As well, marketing opportunities for small seeded peas, particularly **Trapper**, are

expected to decline.

Tipu is a newly registered semi-leafless pea similar to **Century**. The main expected advantage of this plant type is easier harvesting as it does not lay as flat on the ground. This variety is quite susceptible to cracking when harvested too dry. Limited seed stocks will be available in 1987.

Titan is a newly registered pea that has large seeds and is high yielding. Limited seed stocks will be available in 1987.

Victoria is an early maturing variety that appears to be well adapted to the humid, cooler conditions of the more northerly grain growing area.

The field pea, like other legumes, offer considerable benefit when grown in rotation with other crops. Proper seed inoculation reduces input costs by replacing nitrogen fertilizer for profitable pea production. In addition, succeeding crops require considerably less nitrogen fertilizer to attain high yields. See seed inoculation section.

Rye Main Characteristics of Varieties

Type and Variety	Yield as % of Puma (See note on front page)				Resistance to *				
	Area 1	Area 2	Area 3	Area 4	Winter Killing	Shat- tering	Lodging	Stem Smut	Straw Length
Winter Rye									
Puma	100	100	100	100	G	G	F	P	Tall
Musketeer	106	102	104	105	G	G	G	G	Tall
Prima	104	111	108	107	G	G	F	G	Tall

* Resistance ratings; VG — very good; G — good; F — fair; P — poor; VP very poor.

Comments:

Musketeer and **Puma** are the most commonly grown varieties. All varieties are tall, however, **Musketeer** has stronger straw than **Puma** or **Prima**.

Prima is a new, high yielding variety of winter rye. It is similar to **Musketeer** in many characteristics.

Stem smut has been observed in a number of fields in Area 1 in recent years. The use of either **Prima** or **Musketeer** could alleviate the problem.

Gazelle is only variety of spring rye registered for production in Saskatchewan.

Corn, Fababean, Safflower, Tame, Buckwheat and Triticale

For information refer to the 1987 Guide to Farm Practice in Saskatchewan.

Lentil

Main Characteristics of Varieties

Variety	Yield as % of Laird	Height (cm)	Days to First Flower	Seed Size	Seeding rates kg/ha(lb/A)
Laird	100	41	51	Large	70-80(62-72)
Eston	107	30	48	Small	35-40(31-36)

Comments:

Lentil is best adapted to the Brown, Dark Brown and southernmost areas of the Black soil zones. It has about the same growing season requirement as durum wheat. However, lentil has an indeterminate growth habit and some stress is required during flowering to stimulate heavy pod set. A nitrogen stress can be induced by seeding early on cereal stubble. A drought stress occurs naturally during most years in the Brown and Dark Brown soil zones or can be induced by early seeding on light soils in the Black soil zone.

Young lentil plants can tolerate a light frost; a heavier frost will kill the tops, but they will regrow from axillary buds below the soil surface. Thus lentil can and should be seeded early, even earlier than wheat and as soon as the soil temperature

at seeding depth exceeds 5°C. Early seeding is also important from the standpoint of reducing the hazard from early fall frosts which severely damage immature seeds. Lentil will not tolerate flooding or salt-affected soils.

Lentil plants are short (30-45 cm) and must be swathed close to the ground using a pick-up reel. Thus, they should be seeded on a smooth, rock-free seedbed to facilitate swathing.

Two lentil varieties have been developed for Western Canada. **Laird** is a tall, late-maturing variety with extra-large seeds and has become the industry standard for quality. **Laird** has some resistance to Ascochyta leaf, stem and pod blight. **Eston** is a short, erect, early-maturing variety with small seeds.

Lentil producers should plant lentil seed that has been tested for seed-borne Ascochyta and use only seed testing "none-detected" or as low as is readily available.

Lentil marketing is a highly specialized business and it is advisable to grow lentil under contract.

For cropping practices, weed control and inoculation information, see the reference section.

Sunflower (oilseed)

Main Characteristics of Varieties

Variety	Yield as % of USDA 894	Average Maturity in days	Oil %
USDA 894	100	126	41.8
Cargill 205	110	124	45.1
Dahlgren 164	108	124	43.5
Sun M 20	100	117	46.0
Interstate 7101	106	123	43.2
Interstate 7111	111	121	46.9
Interstate 7000	106	122	47.2

Sunflower (confection)

Variety	Yield as % of USDA 894	Average Maturity in days	Seed Size % over 20/64 Screen
Sundak	100	127	22.4
Dahlgren 131	113	125	27.2

Comments:

Sunflower requires 110-130 days to mature, depending on the cultivar and the growing season. Both the oilseed and

confectionery seed types are grown in Saskatchewan as contract cash crops.

Oilseed sunflower are adapted to the Dark Brown and Black soil zones in southeastern Saskatchewan. Because of the relatively short growing season in this province early maturing cultivars are required. Early hybrid cultivars such as **Interstate 7000, 7101 and 7111** have almost totally replaced the open pollinated cultivars. Later maturing hybrids such as **Cargill 205, Dahlgren 164 and USDA 894** have also been grown. These later hybrids should be planted early and should be considered only in the extreme southeast of Saskatchewan and at Outlook. The very early hybrid, **Sun M 20**, is a possibility for interested growers who are located outside the traditional sunflower growing area.

Confectionery sunflower is best adapted to production under irrigation. Hybrid cultivars such as **Dahlgren 131**, and the open pollinated cultivars **Commander** and **Sundak** are offered by confectionery sunflower contractors.

Canary Seed

The seed of annual canarygrass, more commonly called canary seed, is used as food for caged and wild birds. It is generally grown under contract with the contracting companies providing the seed. Two licensed varieties are available. **Alden** and **Keet** are similar in yield, but **Keet** is earlier maturing and more resistant to lodging. The maturity requirements are equal to wheat. Average moisture is required for canary seed and growing the crop on sandy soils is not recommended. Summerfallow is generally used, but canary seed may be grown successfully on well-prepared stubble, providing adequate moisture is available.

Seed early in May at 34 kg/ha (30 lb/A) (germination greater than 85 percent). Plant the seed 3.5 to 5 cm deep into a firm seedbed. A grain drill is recommended.

Fertilizer recommendations are similar to those for cereal crops. No serious insect or disease problems have been identified. Canary seed is very sensitive to diclofop methyl and trifluralin. It should not be seeded on land that was treated with trifluralin the previous year.

Canary seed is resistant to shattering. It may be straight-combined or swathed when fully matured.

Seed Facts

Pedigreed Seed

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

Seed should be carefully cleaned to remove weed seeds, trash, small or broken kernels, ergot and sclerotia. **Country grain elevators are not equipped to clean grain to seed standards, and the risk of mixing varieties and types of grain is very high.**

Seed Treatment

Smuts that attack wheat, barley, oat and rye can be controlled by chemical seed treatments. If bunt or smut was observed in a crop which is being used for seed it should be treated. However, it may be a wise precaution to treat seed of susceptible varieties periodically, depending on the susceptibility of the variety. Varieties rated **Very Poor** should be treated every year and varieties rated **Poor** every second year.

The virulent form of blackleg is now widespread on canola in Saskatchewan. Treatment of seed with a recommended fungicide is highly recommended in order to reduce the risk of introducing the disease into unaffected areas. Growers with carry-over stocks of treated seed should have these tested for germination.

Coating of canola which incorporates the appropriate seed dressing is a convenient alternative to on farm seed treatment.

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

Wireworms, which attack all grain crops, and flea beetles, which attack canola and mustard, can be controlled by seed treatment with insecticides. 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.

Ergot

Ergot attacks all varieties of rye, triticale, wheat and barley, as well as most common species of grass. Oats are rarely attacked and all broadleaved species are immune. Grain containing 0.1% ergot is considered poisonous and should not be used as food. For details on the disease obtain a copy of 'Ergot of Grains and Grasses'. Publ. 1438.

Seed Inoculation

Legume crops are only able to fix atmospheric nitrogen if their roots are well nodulated with nitrogen-fixing bacteria. Whenever a legume is planted in a field it is important that the seed be inoculated with the **proper** strain of nitrogen-fixing bacteria immediately before seeding. The use of a sticker such as a syrup solution or a powdered milk solution will help assure proper inoculation.

Ascochyta on Lentil

Lentil producers should plant lentil seed that has been tested for seed-borne Ascochyta and use only seed testing "none-detected" or as low as is readily available.

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 37°C for batchdriers, or 43°C 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.

Production Notes

All classes of wheat including durum and triticale are susceptible to wheat midge. Farmers in the infested area should be prepared to spray these fields with recommended insecticides if necessary. Refer to **Orange Wheat Blossom Midge** Publication.

Residue of infected crops may harbor disease agents. Seeding into stubble of the same crop kind may increase disease risk, particularly in the higher rainfall areas.

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