

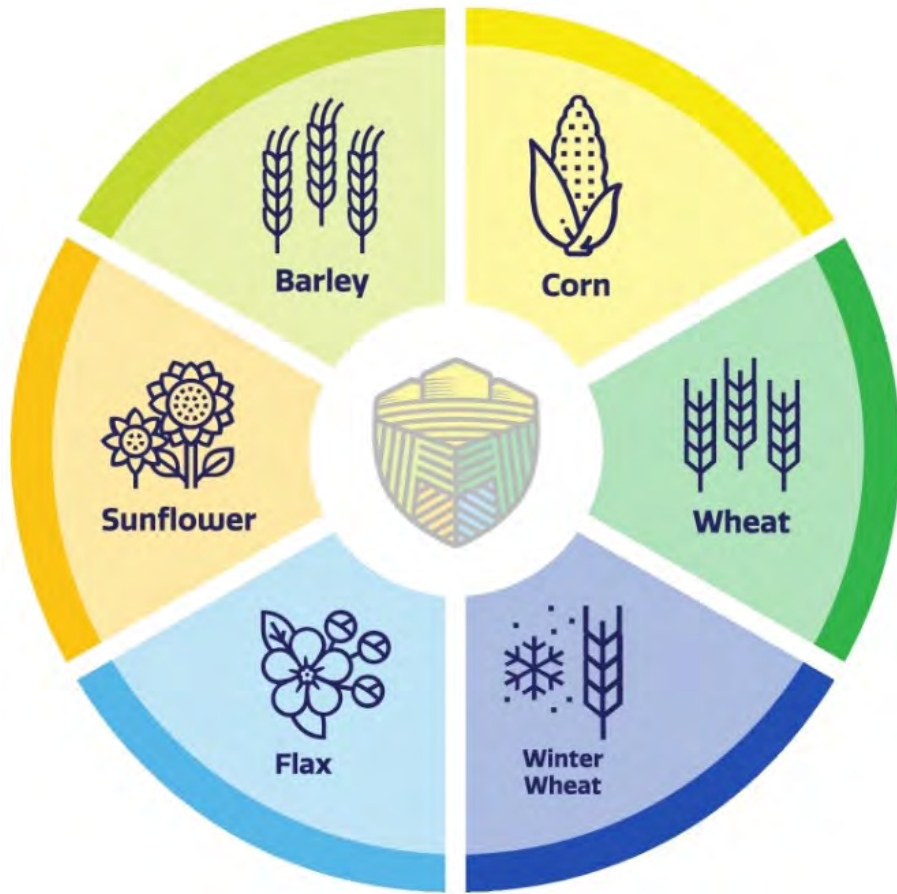


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Growing Wheat in Manitoba

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Who are we?



MANITOBA FIELD CROP ACRES MCA REPRESENTS



MANITOBA FARMERS GROW MORE THAN JUST ONE CROP (EFFICIENCY OF MCA)



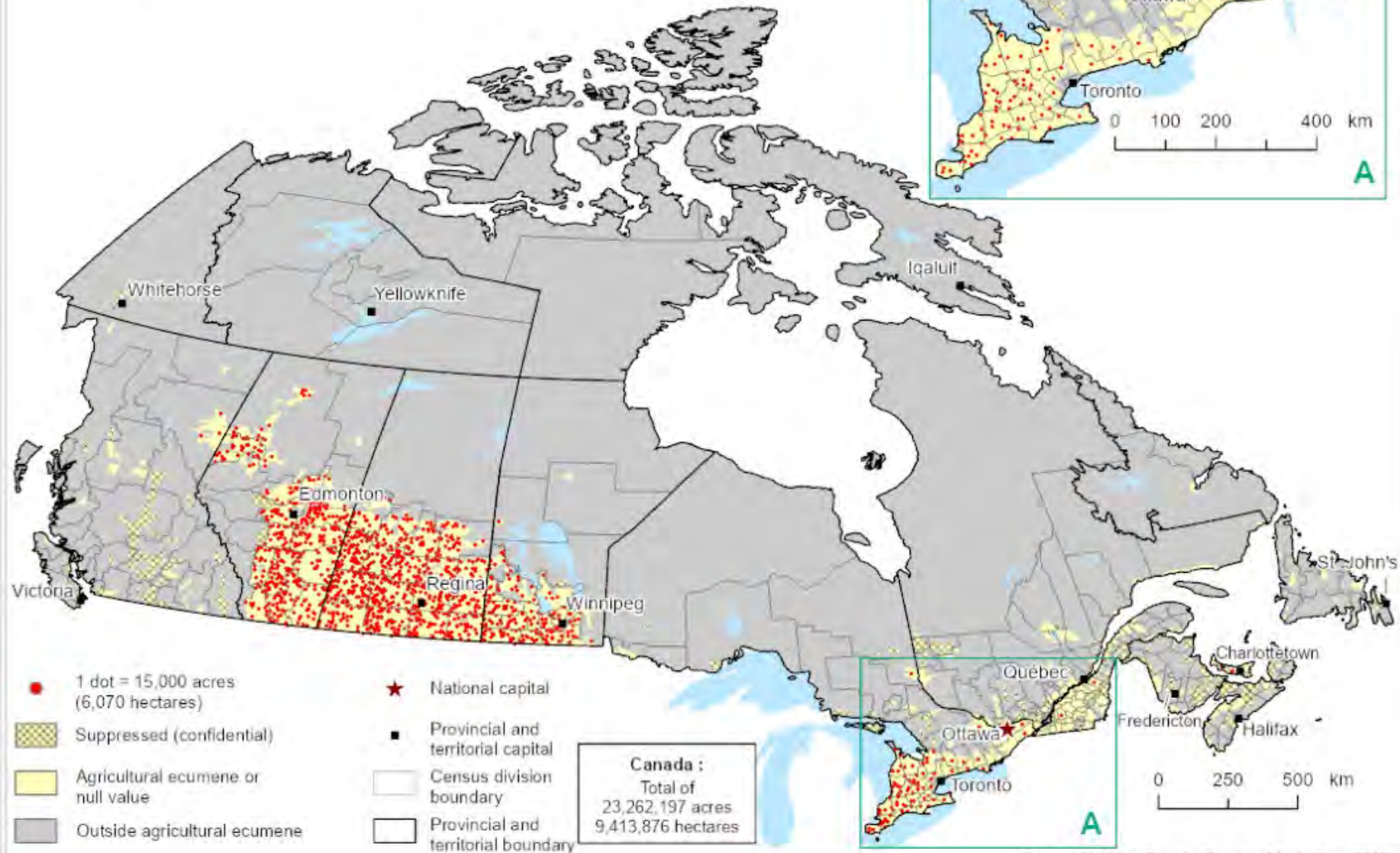


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Growing Spring Wheat

CANADA

Total wheat area
by census division (CD), 2021



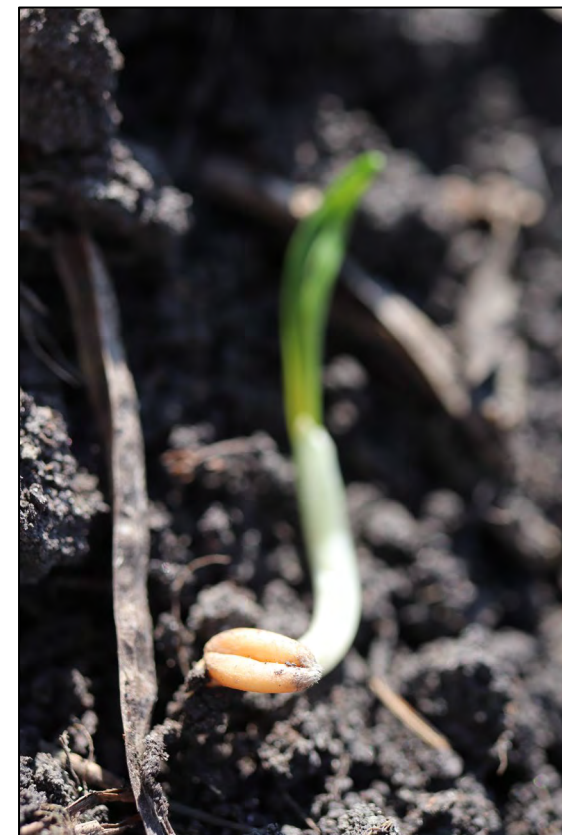
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Statistics
Canada Statistique
Canada

Canada

Seeding & Germination




Emergence & Tillering



Stem Elongation, Booting, Heading, & Flowering







[5 Tips ▾](#)[Crops ▾](#)[Tools & Resources ▾](#)

Tip 1 – Use acceptable pesticides only

Only apply pesticides that are registered for use on your crop in Canada, won't create trade concerns, and are acceptable to both domestic and export customers.

[Learn More](#)

Kernel (grain) Development



Wheat grains through the ripening stages. From left to right: late milk, soft dough, hard dough, hard kernel and harvest ripe. Source: [BBCH Staging Manual](#), [Oklahoma State University](#)



Harvest





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Productivity & Sustainability

Crop Rotation



Variety Selection & Breeding

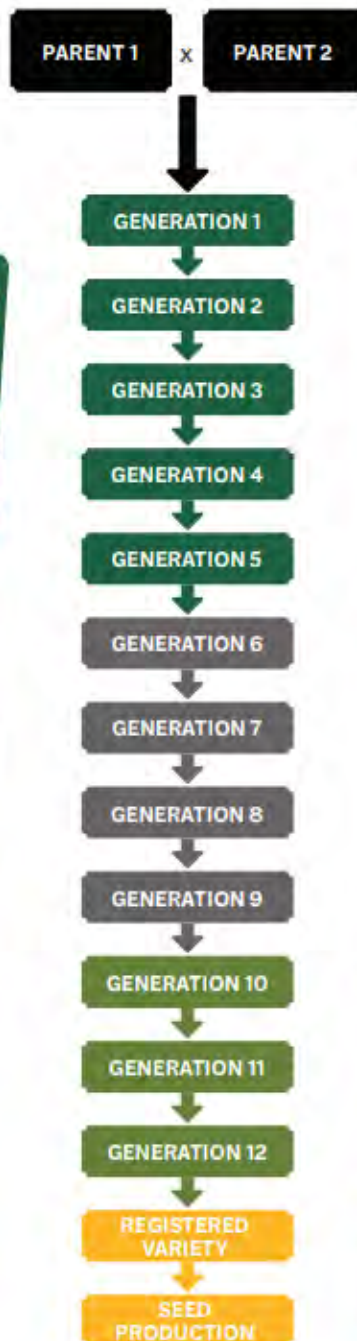
Considerations:

- Seed source
- Yield
- Days to maturity
- Disease package
- Lodging risks

SPRING WHEAT (continued)

Variety Descriptions

Class/Variety	Site Years Tested	Yield bu/acre	Protein %	Maturity + / - 99 days	Height + / - 81 cm	Spike Awned	Resistance Level:										Fusarium ²
							Lodging	Sprouting	Loose Smut	Common Bunt	Leaf ¹ Spots	Stem Rust	Leaf Rust	Stripe Rust	Head Blight		
Canada Western Red Spring																	
AAC Alida VB0	33	73	14.7	2	6	Y	VG	VG	R	I	MS	R	R	MR	MR		
AAC Brandon0	122	74	14.4	2	0	Y	VG	P	MR	S	I	R	R	MR	MR		
AAC Broadacres VB0	31	77	14.3	3	6	Y	VG	F	—	MR	—	R	R	MR	I		
AAC Cameron VB0	34	78	14.0	1	13	Y	G	F	S	R	I	MR	MR	S	I		
AAC Craven VB0	7	79	13.9	3	0	Y	VG	F	—	MS	—	MR	I	R	MR		
AAC Darby VB0	42	72	14.9	-2	13	Y	G	VG	—	MS	—	MR	R	R	I		
AAC Dutton0	30	77	14.1	1	2	Y	VG	F	I	R	—	R	R	MR	MR		
AAC Elie0	45	72	14.5	2	-3	Y	VG	F	I	I	I	R	R	MR	I		
AAC Hassler0	17	72	15.1	-1	8	Y	G	P	I	MS	—	MR	R	R	I		
AAC Hockley0	28	73	14.4	2	-1	Y	VG	F	—	R	—	MR	R	R	MR		
AAC Hodge VB0	29	77	14.1	2	8	Y	VG	P	MS	R	R	R	R	R	MR		
AAC LeRoy VB0	34	76	14.4	0	7	Y	G	G	—	I	MS	MR	MR	MR	MR		
AAC Magnet0	33	72	14.5	0	8	Y	G	P	—	S	MS	R	R	I	MR		
AAC Oakman VB0	7	71	14.3	3	4	Y	VG	—	—	R	—	R	R	R	I		
AAC Redberry0	45	73	14.5	0	8	Y	G	G	R	I	MS	R	R	R	I		
AAC Redstar0	31	72	14.4	0	6	Y	VG	G	—	MR	—	R	MR	MR	MR		
AAC Russell VB0	31	76	14.5	2	4	Y	VG	F	—	MR	—	MR	R	R	MR		
AAC Spike0	18	71	14.4	0	-6	Y	VG	G	—	MR	—	R	R	R	MR		
AAC Starbuck VB0	37	77	14.6	1	1	Y	G	F	MR	S	S	I	MR	MR	MR		
AAC Stoughton VB0	18	76	13.7	3	2	Y	G	—	—	MR	—	R	R	I	MR		
AAC Tisdale0	32	72	15.3	1	8	Y	G	P	MR	MR	MS	R	R	S	MR		
AAC Viewfield0	52	75	14.5	3	-5	Y	VG	G	S	MR	I	R	MR	R	I		
AAC Walker VB0	18	78	14.2	2	1	Y	VG	VG	—	MR	—	R	R	R	MR		
AAC Walsh0	18	75	14.3	2	-2	Y	VG	—	MR	MR	—	MR	R	I	MR		
AAC Warman VB0	33	72	14.6	0	12	Y	G	F	MR	S	I	R	R	MS	MR		
AAC Westking0	18	76	14.1	2	-3	Y	VG	F	—	R	—	MR	R	I	MR		
AAC Wheatland VB0	33	77	14.4	1	0	Y	VG	G	R	MR	S	R	R	I	I		



NUMBER OF
BREEDING LINES



New crosses (cross-pollinations) are produced annually. Crossing “shuffles” the genetic deck, creating plants with new combinations of desirable genes. As new technologies have become available, researchers have utilized these tools to analyze the genetic makeup of the crosses.

- ▶ Once a cross is made, it takes many generations of self-pollination or “inbreeding” until a wheat variety is uniform and will remain the same generation after generation. Two generations of the inbreeding process can be completed each year.
- ▶ Researchers evaluate plant height, maturity date and their other agronomic characteristics. Poor performers are eliminated.
- ▶ Researchers also evaluate for resistance to rust and other fungal diseases, which can cause significant yield losses.
- ▶ In generations three and four, characteristics important for end use are evaluated, such as grain protein content, flour content and gluten strength for baking.

- ▶ Grain yield is first evaluated during these generations.
- ▶ Researchers evaluate for resistance to Fusarium head blight, a fungal disease that reduces grain yield and quality, and produces toxins impacting humans and livestock.

- ▶ Once a breeder has a high-performing potential variety, it is submitted into variety registration trials. For three years and up to 12 locations per year, it is evaluated for grain yield and quality, agronomics and resistance to important diseases.
- ▶ After these trials, a committee of experts (breeders, farmers, processors, scientists and more) reviews the data. Only if the variety shows merit will it be recommended for registration to the CFIA.

- ▶ Once a variety has been registered, it goes through seed production within the pedigree seed system. From the small amount of seed a breeder has, seed is increased over three to four years to produce the large quantities needed by farmers.

Tillage and Residue Management



Fertility

- Fertilizers
 - Nitrogen, Phosphate, Potassium, Sulphur, Micronutrients, Manure
- 4R's
 - Right...Source, Rate, Time, Place
- Soil testing
- Practical and appropriate application methods



Weeds, Diseases, and Insects



Technology





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Final Thoughts

Every Farm is Unique

Variables:

- Business model
- Soil type and profile
- Climate
- Equipment
- Disease
- Weed spectrum
- Crop rotation
- Agronomic practices
- Amount of land per person/machine
- Cultural practices
 - Tillage



Growing Wheat in Manitoba





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