

25. Experimental grades of wheat

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Criteria for designation as experimental grades

Experimental grades for selected varieties of wheat have been established to allow Canadian agricultural entities to market test varieties that do not readily fit into the existing grade structure, but which show some promise for acceptability in world markets.

A variety is eligible to be assigned to the grades defined in the experimental grade schedules only if the variety is designated by the Canadian Grain Commission.

The criteria for a variety to be eligible for designation are

- There is evidence that Canadian producers will derive a benefit from its production either immediately or in the future.
- There is supportive data for its agronomic characteristics and end-use quality.
- The variety will be produced under contract to the sponsoring organization.
- The variety will remain in the program for a specified period.

When a variety is no longer eligible for the experimental grades, the sponsoring organization purchases and disposes of all existing stocks to prevent adulteration of registered varieties unless the Canadian Grain Commission establishes a grade schedule for that variety and any other varieties of that grain having similar qualities.

Wheat

Classes and varieties

A variety from any class of wheat may be approved for eligibility for experimental grades. The class of wheat is noted in the remarks on inspection records.

Samples containing admixtures of registered Canadian or foreign varieties in excess of 5.0% by weight are graded 'Canada Western Feed'.

Cleaning

- Dockage is assessed using the procedure described in Chapter 4 of this Guide.
- All special cleaning described in Chapter 4 is applied to experimental grades, provided that the grade can be improved.

Feed or sample grades

Samples eligible for experimental grades but displaying grading factors other than stones that are above established tolerances are graded 'Canada Western Feed' or 'Sample' depending on the severity of the grading factors.

Rounding rules

Rounding rules are outlined in [schedule 3 of the Canada Grain Regulations](#). When official inspection results are expressed numerically, they should be expressed to the same decimal precision as the applicable tolerance in the primary grade determination tables.

Representative portion for grading

All grading is done on representative portions divided down from the clean sample, using a Boerner-type divider.

The optimum representative portion is the representative sample size within the minimum and maximum range used to obtain the most accurate result when assessing an objective factor. It is determined by taking into consideration the tolerance and concentration of the objective factor being assessed.

See **Wheat chapter** for Representative portion of wheat for grading

Grading factors

Contaminated grain (CONTAM GRN)

▲ **Important:** Wear gloves and a mask to handle any sample that is suspected of containing contaminated grain.

Grain is contaminated for the purposes of the *Canada Grain Act* if the grain contains any substance in sufficient quantity that the grain is either

- (a) adulterated for the purposes of the *Food and Drugs Act*; or
- (b) contaminated within the meaning of the regulations made under section 51 of the *Safe Foods for Canadians Act*.

Treated seed

Treated seed is grain that has been adulterated with an agricultural chemical for agronomic purposes. The types of agricultural chemicals used to treat seed include pesticides, fungicides and inoculants. These seed dressings contain a dye to render the treated seed visually conspicuous. The colour of the dye varies depending upon the type of treatment and the type of grain. The current Canadian colour standard for pesticide and fungicide seed treatments for cereal (including corn) is red or pink. The colour standard for pesticide and fungicide seed treatments for canola is blue; however, green has also been used. Pulse crop (including soybeans) pesticide and fungicide seed treatments are typically blue or green. The coatings or stains may appear greasy or powdery and the surface area covered may range from tiny flecks to complete coverage.

Other chemical substances

Other chemical substances refers to any chemical residues either adhering to the kernel or remaining in the sample and to samples having a chemical odour of any kind.

Extraneous material

Can be defined as glass, metal, wood, plastic or any other material not already defined in the Official Grain Grading Guide.

Procedure

If a sample is suspected of being coated with a pesticide, desiccant, inoculant or if the sample contains evidence of extraneous material, including any foreign chemical substance other than fertilizer pellets (FERT PLTS), the sample shall be graded 'Wheat, Held IP Suspect Contaminated Grain' and submitted to the Canadian Grain Commission. Determination as to whether grain is contaminated will be made by the Grain Research Laboratory in consultation with the Chief Grain Inspector for Canada. Samples deemed to be contaminated are graded 'Wheat, Sample Condemned'.

Degermed (DGM)

Tolerances apply to kernels not classed as sprouted (SPTD).

Extraneous material

See Contaminated grain (CONTAM GRN)

Fertilizer pellets (FERT PLTS)

Fertilizer pellets are a manufactured plant nutrient product used by producers in the production of grain. They are typically small, round or irregular shaped and usually white, grey, brown, pink or reddish in colour.

Procedure

- Handpick any fertilizer pellets and determine the concentration in the net working sample.
- Fertilizer pellets are assessed as stones (STNS) when the concentration does not exceed 1.0% of the net sample weight.
- Samples containing fertilizer pellets in excess of 1.0% of the net sample weight are graded 'Wheat, Held IP Suspect Contaminated Grain'. The sample should be submitted to the Canadian Grain Commission. Determination as to whether grain is contaminated will be made by the Grain Research Laboratory in consultation with the Chief Grain Inspector for Canada. Samples deemed to be contaminated are graded 'Wheat, Sample Condemned'.

Grass green (GRASS GR)

Grass-green kernels are a distinct vivid green throughout because of immaturity.

Hard vitreous kernels (HVK)

Vitreousness is the natural translucent colouring that is a visible sign of kernel hardness. It is a factor for hard wheat varieties only. For a full description, see Chapter 4.

Insect damage (I DMG)

Consider the overall quality of the sample.

Stones (STNS)

Stones are hard shale, coal, hard earth pellets, and any other nontoxic materials of similar consistency. Fertilizer pellets are assessed as stones when constituting 1.0% or less of the net sample weight. See **Fertilizer pellets (FERT PLTS)** for specific procedures to be followed when samples contain fertilizer pellets.

Procedure

1. Handpick stones from a representative portion of the cleaned sample.
2. Determine stone concentration in the net sample.

Note: Stones may be removed and included in dockage if the material removed is 5.0% or less of the gross weight of the sample. See **Cleaning for grade improvement**.

- In western Canada samples of grain containing stones in excess of basic grade tolerances, up to 2.5% are graded 'Wheat, Rejected (basic grade) Account Stones'. The 'basic grade' refers to a grade established in the *Canada Grain Regulations* (grades listed in the first column in grade determination tables) that would have been assigned to the sample if it contained no stones.
- In western and eastern Canada grain containing more than 2.5% stones is graded 'Wheat, Sample Salvage'.

Examples: Western Canada

Excerpt from grade determination tables for
Wheat, Canada Western Experimental

Grade name	Stones %
No. 1 CW EXPRMTL	0.03
No. 2 CW EXPRMTL	0.03
No. 3 CW EXPRMTL	0.06
CW Feed	0.10

Basic grade:..... Wheat, No. 3 Experimental

Reason for basic grade:..... Mildew

If the above sample contained	Grade in Western Canada
0.08% stones	Wheat, Rejected No. 3 CW Experimental Account Stones
3.0% stones	Wheat, Sample Salvage

Test weight (TWT)

Test weight is the weight of a known volume of grain expressed in kilograms per hectolitre. For the procedure, see Chapter 1 of this guide, **Test weight**.

Treated seed and other chemical substances

See **Contaminated grain (CONTAM GRN)**

Primary grade determination tables

Wheat, Canada Western Experimental (CW EXPRMTL), standard of quality

Grading factor	No. 1 CW EXPRMTL	No. 2 CW EXPRMTL	No. 3 CW EXPRMTL	CW Feed	Grade, if specs for CW Feed not met
Degree of soundness	Reasonably well matured, reasonably free from damaged kernels	Fairly well matured, may be moderately bleached or frost-damaged, reasonably free from severely damaged kernels	May be frost-damaged, immature or weather-damaged, moderately free from severely damaged kernels	Reasonably sweet, excluded from other grades of wheat on account of damaged kernels	
Minimum test weight kg/hL (g/0.5 L)	75 (365)	72 (350)	69 (335)	65 (315)	Wheat, Sample CW Account Light Weight
Minimum hard vitreous kernels * %	65	No minimum	No minimum	No minimum	
Variety	Any wheat variety of the class Canada Western Experimental designated as such by Order of the Commission	Any wheat variety of the class Canada Western Experimental designated as such by Order of the Commission	Any wheat variety of the class Canada Western Experimental designated as such by Order of the Commission	Any class or variety of wheat excluding amber durum and CWSP	

* Minimum hard vitreous kernels is a factor for hard wheat varieties only

Wheat, Canada Western Experimental (CW EXPRMTL), foreign material

Grading factor	No. 1 CW EXPRMTL	No. 2 CW EXPRMTL	No. 3 CW EXPRMTL	CW Feed	Grade, if specs for CW Feed not met
Ergot %	0.04	0.04	0.04	0.10	Wheat, Sample CW Account Ergot
Excreta %	0.01	0.01	0.01	0.03	Wheat, Sample CW Account Excreta
Matter other than cereal grains %	0.2	0.3	0.5	1.0	Wheat, Sample CW Account Admixture
Sclerotinia %	0.04	0.04	0.04	0.10	Wheat, Sample CW Account Admixture
Stones %	0.03	0.03	0.06	0.10	2.5% or less - Wheat, Rejected grade, Account Stones Over 2.5% - Wheat, Sample Salvage
Total % Foreign material	0.6	1.2	2.4	10.0	See Mixed grain

Wheat, Canada Western Experimental (CW EXPRMTL), grading factors

Grading factor	No. 1 CW EXPRMTL	No. 2 CW EXPRMTL	No. 3 CW EXPRMTL	CW Feed	Grade, if specs for CW Feed not met
Artificial stain, no residue %	0.0	0.1	0.1	2.0	Wheat, Sample CW Account Stained Kernels
Binburnt, severely mildewed, rotted, mouldy %	0.01	0.02	0.03	2.50	Wheat, Sample CW Account Heated
Total % Heated, binburnt, severely mildewed rotted, mouldy	0.1	0.4	1.0	2.5	Wheat, Sample CW Account Heated
Contrasting classes %	0.5	1.5	2.5	10%, either alone or in combination with each other, of amber durum and any variety of the class CWSP	Over 10% amber durum - Wheat, Sample CW Account Admixture
Total % Wheats of other classes or varieties and contrasting classes	1.5	3.0	5.0	10%, either alone or in combination with each other, of amber durum and any variety of the class CWSP	Over 10% amber durum - Wheat, Sample CW Account Admixture
Dark immature %	1	3	10	No limit	
Degermed %	4	7	13	No limit	
Fireburnt %	0.0	0.0	0.0	2.0	Wheat, Sample CW Account Fireburnt
Fusarium damage %	0.3	1.0	2.0	5.0	Over 5.0% - Wheat, Sample CW Account Fusarium Damage Over 10% - Wheat, Commercial Salvage
Grass green %	0.8	2.0	10.0	No limit	
Grasshopper, army worm %	1	3	8	No limit	
Natural stain %	1	2	5	No limit	
Pink %	2	5	10	No limit	
Sawfly, midge %	2	5	10	No limit	
Shrunken %	4	4	4	No limit	
Broken %	5	6	7	13	Sample Broken Grain
Total % Shrunken and broken	7	8	9	No limit within broken tolerances	
Smudge %	0.3	1.0	5.0	No limit	
Total % Smudge and blackpoint	10	20	35	No limit	
Severely sprouted %	0.1	1.5	5.0	No limit	
Total % Sprouted	0.5	1.5	5.0	No limit	