

VARIETY REGISTRATION OFFICE (VRO) INSTRUCTIONS FOR DESCRIPTION OF VARIETY (DoV) FOR BARLEY

A. Description of Variety (DoV) Form

This description of variety (DoV) form is designed as an aid for the identification of barley varieties to provide sufficient information for pedigreed seed crop inspection and variety verification purposes. Companion documents include the "[Variety Registration Application Forms](#)" and the "[Procedures for the Registration of Crop Varieties in Canada](#)," both of which are available on the CFIA Variety Registration Office website.

The DoV form lists characteristics to be used as the basis for developing the description of barley varieties. It is recommended that the form be completed in as much detail as possible to ensure that an accurate description of the variety be on record. Uniformity and stability must be sufficient to ensure that the genetic purity of the variety has not been compromised during the development of the variety or during the seed multiplication process. However, accurate information on variability within the variety is essential for distinguishing between variants and off-types during the seed multiplication process. Variability within the variety (variants) is expected to be stable over the years.

If the variety cannot be distinguishable phenotypically, a variety detection method should be submitted (e.g. molecular method, DNA finger print). The detection protocol can be used if distinguishability of the variety is in question.

Information on this document may be accessible or protected as required under the provisions of the Access to Information Act. Information that could cause you or your organization injury if released is protected from disclosure as defined in Section 20 of the Access to Information Act.

Please indicate clearly traits that are considered to be confidential. Note that sufficient information must be considered public to facilitate crop inspection and certification.

B. Characteristics

The candidate variety must be described for all characteristics designated on the form with a word "required".

A rating system of 1-9 provides a scale for describing most characteristics in this form. To rate characteristics, select a value that best corresponds to the state indicated.

Each characteristic on this form has been arranged in a tabular format allowing the candidate variety (CV) and up to two comparison varieties to be described. In the case of hybrid crops, the hybrid and parents can be described using CV, comparison variety 1 (female inbred line) and comparison variety 2 (male inbred line) respectively. Please note that the required traits do not apply to the inbred line descriptions for hybrid varieties. Information on comparison varieties is useful but not mandatory for variety registration. Any reference varieties used must be registered for sale in Canada.

C. Form Submission

Please submit a hard copy in colour if images are included.

In addition to the hard copy in the application, it is encouraged to submit an electronic copy.

D. Form Functionality

Clearing an entry in a dropdown field: Hold the 'Ctrl' button while making a selection.



**VARIETY REGISTRATION OFFICE (VRO)
DESCRIPTION OF VARIETY (DoV) FOR BARLEY**

Section 1.0 Classification (required)

1.1 Type of barley			Six-row Covered		
1.2 Seasonal type			Spring		
1.3 Utilization					
Candidate Variety (Required) Feed (grain)		Comparison Variety 1		Comparison Variety 2	
1.4 Hybrid barley			<input type="radio"/> Yes		<input checked="" type="radio"/> No
1.6 Proposed variety name			AB Standswell		
1.7 Name of Comparison Varieties					
Comparison Variety 1			Comparison Variety 2		

Section 2.0 Seedling Characteristics

2.1 Seedling growth habit

<p>1 - erect 3 - semi-erect 5 - intermediate 7 - semi-prostrate 9 - prostrate</p>					
Candidate Variety 3=semi-erect		Comparison Variety 1		Comparison Variety 2	

2.2 Leaf sheath pubescence					
Candidate Variety (Required) 1=absent or very sparse		Comparison Variety 1		Comparison Variety 2	

Section 3.0 Plant Characteristics at Booting Stage

3.1 Leaf sheath pubescence					
Candidate Variety 1=absent		Comparison Variety 1		Comparison Variety 2	

3.2 Flag leaf length

Candidate Variety 5=medium			Comparison Variety 1			Comparison Variety 2		
-------------------------------	--	--	----------------------	--	--	----------------------	--	--



3.3 Flag leaf length (cm)

	Candidate Variety	Comparison Variety 1	Comparison Variety 2
Mean			
Range			
Standard Deviation			
# of plants measured			

3.4 Flag leaf width

Candidate Variety 5=medium	Comparison Variety 1	Comparison Variety 2
-------------------------------	----------------------	----------------------

3.5 Flag leaf width (mm)

	Candidate Variety	Comparison Variety 1	Comparison Variety 2
Mean			
Range			
Standard Deviation			
# of plants measured			

3.6 Flag leaf blade pubescence

Candidate Variety 1=absent	Comparison Variety 1	Comparison Variety 2
-------------------------------	----------------------	----------------------

3.7 Flag leaf sheath glaucosity

Candidate Variety 1=absent or very weak	Comparison Variety 1	Comparison Variety 2
--	----------------------	----------------------

3.8 Auricle colour

Candidate Variety 1=white	Comparison Variety 1	Comparison Variety 2
------------------------------	----------------------	----------------------

3.9 Auricle pubescence

Candidate Variety 1=absent or very sparse	Comparison Variety 1	Comparison Variety 2
--	----------------------	----------------------

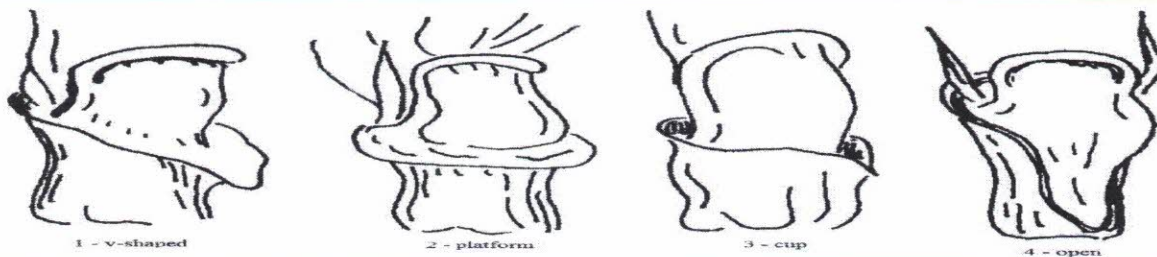
Section 4.0 Plant Characteristics after Heading

4.1 Plant height at maturity (stem plus spike, excluding awns)(cm)

	Candidate Variety	Comparison Variety 1	Comparison Variety 2
Mean	75.64		
Range	60-85cm		
Standard Deviation	7.93		
# of plants measured	30		



4.2 Collar shape



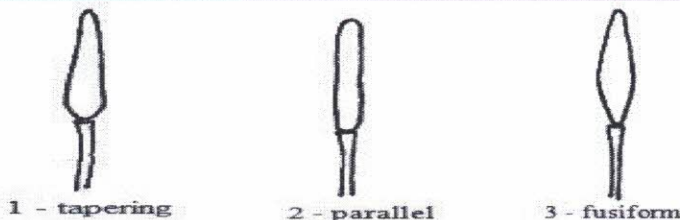
Candidate Variety (Required) 2=platform	Comparison Variety 1	Comparison Variety 2
--	----------------------	----------------------

4.3 Time to maturity (number of days from planting to maturity)

Candidate Variety (Required) 93.8	Comparison Variety 1	Comparison Variety 2
--------------------------------------	----------------------	----------------------

Section 5.0 Spike Characteristics

5.1 Spike shape



Candidate Variety 1=tapering	Comparison Variety 1	Comparison Variety 2
---------------------------------	----------------------	----------------------

5.2 Spike density

Candidate Variety (Required) 5=medium	Comparison Variety 1	Comparison Variety 2
--	----------------------	----------------------

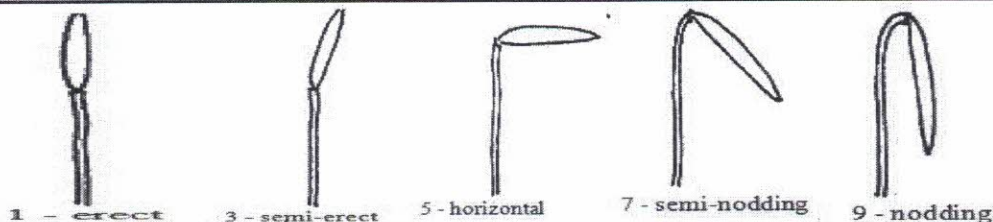
5.3 Spike length (excluding awns)

Candidate Variety 4=short to medium	Comparison Variety 1	Comparison Variety 2
--	----------------------	----------------------

5.4 Spike length (excluding awns) (cm)

	Candidate Variety	Comparison Variety 1	Comparison Variety 2
Mean			
Range			
Standard Deviation			
# of plants measured			

5.5 Spike attitude



Candidate Variety (Required) 3=semi-erect	Comparison Variety 1	Comparison Variety 2
--	----------------------	----------------------



5.6 Spike waxiness		
Candidate Variety 1=absent or very weak	Comparison Variety 1	Comparison Variety 2
5.8 Rachis first segment length		
Candidate Variety 5=medium	Comparison Variety 1	Comparison Variety 2
5.9 Rachis first segment curvature		
<p>3 - weak 5 - medium 7 - strong</p>		
Candidate Variety 7=strong	Comparison Variety 1	Comparison Variety 2
5.10 Glume awn length		
Candidate Variety 7=longer than length of glume	Comparison Variety 1	Comparison Variety 2
5.11 Lemma awns (please indicate approximate % in the box beside descriptors)		
Candidate Variety	Comparison Variety 1	Comparison Variety 2
1=awnless	1=awnless	1=awnless
2=awnlets on central rows, awnless on lateral rows	2=awnlets on central rows, awnless on lateral rows	2=awnlets on central rows, awnless on lateral rows
3=short on central rows, awnlets on lateral rows	3=short on central rows, awnlets on lateral rows	3=short on central rows, awnlets on lateral rows
4=long on central rows, awnlets on lateral rows	4=long on central rows, awnlets on lateral rows	4=long on central rows, awnlets on lateral rows
5=short (shorter than spike)	5=short (shorter than spike)	5=short (shorter than spike)
6=medium (equal to spike)	6=medium (equal to spike)	6=medium (equal to spike)
7=long (longer than spike)	7=long (longer than spike)	7=long (longer than spike)
8=hooded	8=hooded	8=hooded
9=other (specify)	9=other (specify)	9=other (specify)
100		
5.12 Lemma awn barbs		
Candidate Variety 3=smooth (few barbs at tip)	Comparison Variety 1	Comparison Variety 2



5.13 Lemma awn tip colour

Candidate Variety 5=purplish	Comparison Variety 1	Comparison Variety 2
---------------------------------	----------------------	----------------------

Section 6.0 Kernel Characteristics

6.1 Aleurone colour

Candidate Variety 1=colourless (white or yellow)	Comparison Variety 1	Comparison Variety 2
---	----------------------	----------------------

6.2 Lemma nerve anthocyanin colouration

Candidate Variety 5=medium	Comparison Variety 1	Comparison Variety 2
-------------------------------	----------------------	----------------------

6.3 Rachilla hair length

Candidate Variety	Comparison Variety 1	Comparison Variety 2
1=short (proportion - %) 100	1=short (proportion - %)	1=short (proportion - %)
2=long (proportion - %)	2=long (proportion - %)	2=long (proportion - %)

6.4 Kernel length

Candidate Variety 4=short to medium	Comparison Variety 1	Comparison Variety 2
--	----------------------	----------------------

6.5 Kernel length (mm)

	Candidate Variety	Comparison Variety 1	Comparison Variety 2
Mean	9.15		
Range	8-10		
Standard Deviation	1.05		
# of plants measured	30		

6.6 Kernel width

Candidate Variety 4=narrow to medium	Comparison Variety 1	Comparison Variety 2
---	----------------------	----------------------

6.7 Kernel width (mm)

	Candidate Variety	Comparison Variety 1	Comparison Variety 2
Mean	4		
Range	3.5-5		
Standard Deviation	.052		
# of plants measured	30		

6.8 Basal marking shape

Candidate Variety 3=incomplete horseshoe	Comparison Variety 1	Comparison Variety 2
---	----------------------	----------------------

6.9 Kernel weight (grams per 1000 kernels)

Candidate Variety 42.2	Comparison Variety 1	Comparison Variety 2
---------------------------	----------------------	----------------------

Section 7.0 Agronomic Characteristics

7.1 Winter hardiness

Candidate Variety 3=poor	Comparison Variety 1	Comparison Variety 2
-----------------------------	----------------------	----------------------



7.2 Lodging resistance		
Candidate Variety 7=good	Comparison Variety 1	Comparison Variety 2
7.3 Shattering resistance		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
7.4 Tolerance to straw breaking		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
7.5 Tolerance to neck breaking		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
7.6 Drought tolerance		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
Section 8.0 Quality Characteristics		
8.1 Malting quality		
Candidate Variety 3=poor	Comparison Variety 1	Comparison Variety 2
8.2 Protein content (%)		
Candidate Variety	Comparison Variety 1	Comparison Variety 2
Section 9.0 Reactions to Diseases		
Please supply data to substantiate claims of moderate to high resistance or race specificity. The variety can be advertised with pest resistance only if pest claims are made on this form.		
The following legend illustrates the choices in Section 9.		
0=not tested	1=resistant = R	
2=resistant to moderately resistant = R - MR	3=moderately resistant = MR	
4=moderately resistant to moderately susceptible = MR - MS	5=moderately susceptible = MS	
6=moderately susceptible to susceptible = MS - S	7=susceptible = S	
8=susceptible to highly susceptible = S - HS	9=highly susceptible = HS	
9.1 Scald (<i>Rhynchosporium secalis</i>)		
Candidate Variety 5=MS	Comparison Variety 1	Comparison Variety 2
9.2 Spot blotch (<i>Cochliobolus sativus</i>)		
Candidate Variety 3=MR	Comparison Variety 1	Comparison Variety 2
9.3 Stem rust (<i>Puccinia graminis</i>)		
Candidate Variety 3=MR	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race)	MCCFR	
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		



9.4 Net blotch - net form (<i>Pyrenophora teres forma maculata</i>)		
Candidate Variety 3=MR	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race) 102, 858		
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		
9.5 Net blotch - spot form (<i>Pyrenophora teres forma teres</i>)		
Candidate Variety 4=MR-MS	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race) wrs857, MBV25		
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		
9.6 Fusarium head blight (<i>Fusarium graminearum</i>)		
Candidate Variety 7=S	Comparison Variety 1	Comparison Variety 2
9.7 Covered smut (<i>Ustilago hordei</i>)		
Candidate Variety 1=R	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race) Western Races		
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		
9.8 True loose smut (<i>Ustilago nuda</i>)		
Candidate Variety 3=MR	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race) Western Races		
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		
9.8.1 Circle races		
Candidate Variety	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race)		
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		
9.8.2 Eastern races		
Candidate Variety	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race)		
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		



9.8.3 Western races		
Candidate Variety	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race)		
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		
9.9 Bacterial blight (<i>Xanthomonas translucens</i>)		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
9.10 Common root rot (<i>Chochliobolus sativus</i>)		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
9.11 Ergot (<i>Claviceps purpurea</i>)		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
9.12 Leaf rust (<i>Puccinia hordei</i>)		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
9.13 Leaf stripe (<i>Pyrenophora graminea</i>)		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
9.14 False loose smut (<i>Ustilago nigra</i>)		
Candidate Variety 1=R	Comparison Variety 1	Comparison Variety 2
9.15 Powdery mildew (<i>Erysiphe graminis</i>)		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
9.16 Septoria speckled leaf blotch (<i>Septoria passerinii</i>)		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
Candidate Variety (Specify race)		
Comparison Variety 1 (Specify race)		
Comparison Variety 2 (Specify race)		
9.17 Take-all (<i>Gaeumannomyces graminis</i>)		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
9.18 Barley stripe mosaic virus		
Candidate Variety 0=not tested	Comparison Variety 1	Comparison Variety 2
9.19 Barley yellow dwarf virus		
Candidate Variety 4=MR-MS	Comparison Variety 1	Comparison Variety 2



Section 10.0 Reactions to Pests

Please supply data to substantiate claims of moderate to high resistance or race specificity. The variety can be advertised with pest resistance only if pest claims are made on this form.

The following legend illustrates the choices in Section 10.

- | | |
|--|-------------------------------|
| 0=not tested | 1=resistant = R |
| 2=resistant to moderately resistant = R - MR | 3=moderately resistant = MR |
| 4=moderately resistant to moderately susceptible = MR - MS | 5=moderately susceptible = MS |
| 6=moderately susceptible to susceptible = MS - S | 7=susceptible = S |
| 8=susceptible to highly susceptible = S - HS | 9=highly susceptible = HS |

10.1 Other (specify)

Candidate Variety	Comparison Variety 1	Comparison Variety 2
Candidate Variety	Comparison Variety 1	Comparison Variety 2

Section 11.0 Reactions to Pesticides

In order for claims of pesticide resistance to be made, data must be submitted to support these claims.

Information on herbicide resistance data requirements needed in support of variety registration can be found in Appendix VII of the Procedures for the Registration of Crop Varieties in Canada on the CFIA website. Data requirements of the Pest Control Products Act must be met for pesticide registration or for the variety to be listed on a pesticide label.

Under the Pest Control Products Act, an applicant submits data to demonstrate resistance to a specific herbicide. This data cannot be extrapolated to all chemicals within that class of compounds.

Similarly, data can only be submitted as it relates to the intended use, i.e. data submitted on resistance of the plants under sprayed conditions cannot be extrapolated to resistance to residual herbicides.

NOTE

Tolerance refers to the natural and normal variability to pesticides and other agents which exist within a species and can easily and quickly evolve. Tolerance usually refers to relatively minor or gradual differences in intraspecific variability.

Resistance, as defined by the FAO (Food and Agriculture Organization of the United Nations) is: the decreased response of a population of animal or plant species to a pesticide or control agent as a result of their application. It has been found convenient to distinguish between physiological resistance (resistance developed after continued exposure) and behaviouristic resistance (due to behaviouristic factor that reduces plant exposure to the control agent).

Varieties of plants bred for the ability to avoid damage by a particular pesticide and be able to reproduce (e.g. via mutation breeding, gene transformation, gene editing, and/or other plant breeding techniques) would result in resistance to pesticides (e.g. Herbicide Resistance or HR).

Adapted from: H.M. LeBaron and Jonathon Gressell, Herbicide Resistance in Plants, Wiley-Interscience, 1982, ISBN 0-471-08701-7. Nomenclature is consistent with FAO Working Party of Experts on Resistance of Pests to Pesticides, Rome, Oct. 4-9,2, (1995) and with the WSSA (Weed Science Society of America): Weed Technology vol. 12, Issue 4, 2998, p. 789.

For the purpose of this section, only list the reactions to herbicides for which there is variability among cultivars. Please supply data to substantiate claims of resistance.

11.1 Tolerance to other (specify chemical(s) and reaction(s))

Candidate Variety	Comparison Variety 1	Comparison Variety 2
-------------------	----------------------	----------------------



Section 12.0 Variants

Describe any variants observed during seed increase of the candidate variety. Applicants may be requested to supply information on the parental material to justify the inclusion of variants as part of the variety. Where applicable, please provide information regarding the magnitude of the difference from the norm of the variety, for example, 10cm taller than the norm. Note: The breeder may request an amendment to the description of variants as new information presents itself.

Description of variants within variety and allowable frequency of each variant in each class of pedigreed seed:

Variant - Any seed or plant which:

- a. is distinct within the variety but occurs naturally within the variety,
- b. is stable and predictable with a degree of reliability compared to other varieties of the same kind, within known tolerances and,
- c. was originally part of the variety as released.
- d. It is not an off-type.**

12.1 Variant 1:

Specify

Breeder (/20,000 plants)	Select (/20,000 plants)	Foundation (/10,000 plants)	Registered (/10,000 plants)	Certified (/10,000 plants)
--------------------------	-------------------------	-----------------------------	-----------------------------	----------------------------

12.2 Variant 2:

Specify

Breeder (/20,000 plants)	Select (/20,000 plants)	Foundation (/10,000 plants)	Registered (/10,000 plants)	Certified (/10,000 plants)
--------------------------	-------------------------	-----------------------------	-----------------------------	----------------------------

12.3 Variant 3:

Specify

Breeder (/20,000 plants)	Select (/20,000 plants)	Foundation (/10,000 plants)	Registered (/10,000 plants)	Certified (/10,000 plants)
--------------------------	-------------------------	-----------------------------	-----------------------------	----------------------------

Section 13.0 Additional Information

13.1 Other Characteristics of the variety, other than what has been provided, which can help distinguish the variety and facilitate seed crop inspection in certified seed production (field will expand as required).

Rachilla length is mid-long to long

13.2 Other supplemental information to characterize this variety (e.g. DNA, fingerprinting) (fielded will expand as required).

13.3 Additional Certification Requirements (ACR) (e.g. isolation distance purity level by pedigreed class) (field will expand as required).



13.4 Any image that can be used for varietal identification, varietal verification to facility seed certification.