Canadian Grain Commission | Commission canadienne des grains

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Official Grain Grading Guide

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Quality ● Service ● Innovation

1. Determining test weight

Test weight is the weight of a measured volume of grain expressed in kilograms per hectolitre.

Equipment needed to determine test weight

Ohaus 0.5 litre measure	A cylindrical shaped cup with an inside diameter of approximately 90 mm and a height of approximately 77.5 mm. The measure is calibrated to contain 500 ml of water, ± 1 mL, at 20°C.
Cox funnel	A funnel with a 3.81 cm opening and a drop of 4.41 cm, from the opening in the funnel to the top of the measure used to uniformly direct the flow of grain into the 0.5 litre cup..
Striker	A piece of round hardwood, 2.2 cm in diameter and approximately 23 cm in length.
Scale	Any CGC approved electronic metric scale.
Computer interface	For CGC inspection purposes, the electronic scale is connected to a computer which converts the grams in the 0.5 L Ohaus measure to grams per hectolitre. If the computer interface is not available, the test weight conversion can be done by utilizing charts provided by the CGC Statistical unit.
Test weight conversion charts	Used to convert the weight in grams from the Ohaus 0.5 L measure to kg/hL.

Procedure:

1. Fill the Ohaus measure to overflowing with the grain to be tested.
2. Ensure the slide is inserted into the Cox funnel.
3. Pour the contents of the 0.5 litre measure, plus an extra handful, into the Cox funnel.
4. Place the 0.5 litre measure on a solid base.
5. Position the Cox funnel on top of the 0.5 litre measure so that the notched legs of the Cox funnel fit securely onto the measure's rim.
6. Remove the slide on the Cox funnel quickly so that the grain drops evenly into the 0.5 litre measure.
7. Carefully remove the Cox funnel from the top of the 0.5 litre measure so as not to disturb the grain.

   ▲ **Important:** Any jarring of the cup at this point will result in compaction of the grain in the 0.5 litre measure and could produce inaccurate results.
8. Place the hardwood striker on the rim of the 0.5 litre measure and, using three zigzag, equal motions, scalp off the excess the grain in the measure.
9. Pour the grain remaining in the 0.5 litre measure into the scale pan.
10. Determine the weight in grams of the grain in the scale pan.
11. Convert the grams in the 0.5 litre measure to kg/hl.

Note: The CGC conversion formula takes into account the compaction factor of the various grains and is incorporated into the ISA computer software and the conversion charts. Doubling the weight of the grain in the 0.5 litre measure and dividing by ten (10) will not accurately predict the kg/hl.

Test weight, except for corn, is determined after the removal of dockage as defined in the cleaning procedures described for each class of grain.

Test weight on corn is determined prior to removal of cracked corn and foreigh material. At country elevators in eastern Canada, test weight is determined after the removal of dockage.

Note: Samples are graded *Sample Account Light Weight* only if the test weight is lower than the minimum established for that class of grain and in accordance with the Order of Precedence as stated in the *Glossary* section of the Official Grain Grading Guide.