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# Official Grain Grading Guide

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## 22. Chick peas

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## **Classes, types and varieties**

### **Classes**

There are two classes of chickpeas, Kabuli and Desi.

- Kabuli chickpeas are typically whitish to light tan in colour however there are new varieties that are black or green in color.
- Desi chickpeas are typically brown in colour and smaller than Kabuli.

The class of chickpea forms part of the grade name; for example, Chickpea, No. 1 CW Kabuli.

The method of determining the class of a chickpea is by the size and colour of the chickpea.

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## Determination of dockage

### Definitions

Dockage is assessed and recorded to the nearest 0.1%.

Dockage is defined under the Canada Grain Act as “any material intermixed with a parcel of grain, other than kernels of grain of a standard of quality fixed by or under this Act for a grade of that grain, that must and can be separated from the parcel of grain before that grade can be assigned to the grain.” Dockage is removed by following the cleaning procedures described in this section of the guide.

The sample as it arrives is referred to as the uncleaned or dirty sample. Its weight is the gross weight of the sample. Dockage is assessed on the gross weight of the sample.

### Dockage not reported

- ▲ **Important:** Dockage is not reported for samples grading
- *Chick Peas, Sample CW (class) Account Fireburnt*
- *Chick Peas, Sample Salvage*
- *Chick Peas, Sample Condemned*

### Normal cleaning procedures

- ▲ **Important:** Wear gloves and a mask to handle any samples that you suspect may contain hazardous substances.

Dockage is assessed only on unprocessed samples of chick peas. All foreign material in processed samples is assessed as grading factors.

1. Using a Boerner-type divider, divide the uncleaned sample to obtain a representative portion.
  - Official samples shall be at least 1 kg.
  - Unofficial samples shall be at least 1 kg.
2. Choose the hand sieve for the class of chick peas that will achieve maximum removal of dockage material with minimum loss of chick peas:
  - **Kabuli:** No. 18 round-hole sieve (large seeded)  
No. 12 slotted sieve (medium seeded)
  - **Desi:** No. 12 slotted sieve
3. Sieve the sample, using approximately 250 grams at a time, over the appropriate sieve to remove all readily removable material.
4. Handpick the portion remaining on top of the sieve to remove all coarse foreign vegetable matter such as pods, stems, straw, thistle tops.

### Composition of dockage

All material removed by sieving or handpicking or both, as defined in *Normal cleaning procedures*.

## Optional analysis

Where a shipper requests special cleaning of a carlot of grain at a terminal elevator, and the elevator manager agrees, dockage material will be analyzed for the presence of grain. The percentage and grade of any grain contained in the dockage will be reported and elevator stocks will be adjusted on the basis of the analysis. Agreement of the shipper and unload elevator must be conveyed to the CGC in writing prior to the analysis being performed.

### Procedures

1. Analyze the official sample.
2. Record the following on inspection records:
  - The percentage by gross weight to the nearest 0.1% and the grade of chick peas.
  - The percentage by gross weight to the nearest 0.1% and the grade of grain separable from dockage.
  - The percentage of dockage.

#### Example

*95.0% Chick Peas, No. 1 CW Desi*

*4.0% Domestic Mustard Seed, No. 1 CAN Oriental*

*1.0% dockage*

## Sizing

Upon written request, samples of chick peas may be analyzed for size. Sizing procedures are as follows:

### Procedures

1. Using a Boener-type divider, divide the clean sample to obtain a representative portion of between 250 – 300 grams.
2. Pour the representative sample onto the left hand side of the hand sieve.
3. Move the sieve from left to right 20 times, using a sifting motion. One time is one complete motion from center, to one side, to the other side and back to the center. The total distance from left to right is 20 cm or about 8 inches.
4. Determine the amount remaining on top of the sieve. Passing your hand along the underside of the sieve may be necessary in order to dislodge all the seeds.
5. Report the percent by weight of the seeds remaining on top of the sieve.

**Note:** The size of sieve must be clearly indicated on the written request. Generally, sizing would be done using one of the following hand sieves – No. 8, 9 or 10 mm round hole, however, the analysis can be done on any sieve size as requested.

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## Grading

### Important definitions

#### Net weight of sample

The sample after cleaning and removal of dockage is called the cleaned sample. Its weight is the net weight of the sample. Percentages by weight for grading refer to percentages of the cleaned sample, or the net weight.

#### Hazardous substances in samples

Wear gloves and a mask to handle any samples that you suspect may contain hazardous substances. Hazardous substances are defined in the Regulations as “any pesticide, herbicide, desiccant or inoculant.”

#### Representative portion for grading

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

Values in the following table represent a range of recommended portions of samples for grading. Refer to definition of “Representative portion” in the glossary for a complete description of the terms “Minimum”, “Optimum” and “Export”.

**Representative portion of chick peas for grading, grams**

Grading factor	Minimum	Optimum	Export
Colour	working sample	working sample	working sample
Damage	100	250	250
Foreign material	100	250	500
Green	100	250	250
Insect parts	working sample	working sample	working sample
Mechanical damage including splits	100	250	250
Odour	working sample	working sample	working sample

#### Classes

There are two classes of chick peas, Kabuli and Desi. The class forms part of the grade name.

## Grading factors

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### Colour (CLR)

Colour is a grade determinant only in the Kabuli class. Colour is assessed after the removal of damaged chick peas and chick peas assessed as green. See *Damaged* and *Green*.

If chick peas are . . .	Colour is . . .
Sound, well matured and have a uniform normal colour	Good
Immature, but not green, have moderate amounts of adered soil, are lightly stained but otherwise moderately discoloured from natural causes	Fair
Do not meet the definition of fair colour	Poor

#### Representative portion for analysis

Minimum—working  
sample

Optimum—working  
sample

Export—working  
sample

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### Contaminated grain

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

Contaminated is defined in the “*Canada Grain Act*” as; “Contaminated means, in respect of grain, containing any substance in sufficient quantity that the grain is unfit for consumption by persons or animals or is adulterated within the meaning of the regulations made pursuant to sections B.01.046(1), B.15.001 and B.15.002(1) of the *Food and Drugs Act*.”

Samples deemed to be contaminated by the Grain Research Laboratory in consultation with the Chief Grain Inspector for Canada are graded *Chick Peas, Sample Condemned*.

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### Damage (DMG)

Damaged chick peas include

- Whole or broken chick peas that are sprouted, frost damaged, heated, damaged by insects, distinctly deteriorated or discoloured by weather or by disease, or that are otherwise damaged in a way that seriously affects their quality.

In Kabuli chick peas, white and shrivelled chick peas and yellow or water stained chick peas should be cut and examined for damage. If the cotyledons show

- Any signs of visible damage, they are considered damaged
- No signs of visible damage, they are considered in the evaluation of colour

#### Representative portion for analysis

Minimum—100 g

Optimum—250 g

Export—250 g

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**Earth pellets (EP)**

See *Foreign material*.

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**Ergot (ERG)**

See *Foreign material*.

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**Excreta (EXCR)**

**▲ Important:** Wear gloves and a mask to handle any samples that you suspect may contain excreta.

**Representative portion for analysis**

Minimum—working  
sample

Optimum—working  
sample

Export—working  
sample

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**Fertilizer pellets (FERT PLTS)**

Fertilizer pellets are typically either small, round and white or irregular shaped and pink or red. Fertilizer pellets are not considered a hazardous substance however there is no visible means of assuring that material resembling fertilizer pellets is not some other contaminant.

**Representative portion for analysis**

Minimum—working  
sample

Optimum—working  
sample

Export—working  
sample

**Procedures**

- Handpick any fertilizer pellets and determine the concentration basis the net working sample.
- Fertilizer pellets are assessed as stones 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 *Chick Peas, Held IP Suspect Contaminated Grain*.

**Note:** Canadian Grain Commission personnel should refer to ISO national work instruction “*Suspect Contaminated Grain, Handling Procedures*” for procedures to be followed when handling samples containing fertilizer pellets.

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**Fireburnt (FBNT)**

Fireburnt seeds have been charred or scorched by fire. No fireburnt seeds are allowed in chick peas.

**Procedure**

Samples considered fireburnt are graded *Chick Peas, Sample CW (class) Account Fireburnt*.

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**Foreign material (FM)**

Foreign material includes

- Other classes of chick peas
- Other grains and seeds
- Ergot and Sclerotinia
- Mineral matter, stones and earth pellets
- Any other material not removed by *Normal cleaning procedures*

**Representative portion for analysis**

Minimum—100 g

Optimum—250 g

Export—500 g

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**Green (GR)**

Chick peas may be considered green regardless of the cause. (Does not apply to green coloured varieties)

Frost-damaged chick peas which are green are considered under the grade determinant for *Green*.

Frost-damaged chick peas with no green colour are considered under the grade determinant for *Damage*.

**Kabuli** chick peas are considered green if they show any green colour of any size area anywhere on the seeds or seed coats.

**Desi** chick peas are considered green if they show distinctly green colour throughout the seed when cut to expose the cotyledons.

**Representative portion for analysis**

Minimum—100 g

Optimum—250 g

Export—250 g

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**Heated (HTD)**

Chick peas that have dull seed coats and discoloured cotyledons ranging from light tan to dark brown are considered heated. See *Damage*.

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**Insect damage (I DMG)**

See *Damage*.

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**Insect parts (I PARTS)**

Insect parts refers to pieces of insects such as grasshoppers and lady bugs that remain in the sample after cleaning or processing. Samples are analyzed for the percentage of insect fragments and graded according to established tolerances.

If pulse crops come into contact with insects during the harvesting process, it may result in seed staining and earth adhering to the seed and may result in samples having an objectionable odour. Samples containing staining of this nature will be considered to be earth tagged and graded according to colour definitions. Samples having a distinct objectionable odour not associated with the quality of the grain will be graded *Type of Grain Sample Account Odour*.

**Representative portion for analysis**Minimum—working  
sampleOptimum—working  
sampleExport—working  
sample**Mechanical damage including splits (MDMGINCSPLTS)**

In chick peas, mechanical damage including splits includes

- Whole chick peas with more than 10% of the chick pea broken off
- Split chick peas

6. ▲ **Important:** Seeds with hairline cracks and chipped seed coats are not considered mechanical damage.

**Representative portion for analysis**

Minimum—100 g

Optimum—250 g

Export—250 g

**Procedures**

Chick peas with mechanical damage are hand-picked.

**Odour (ODOR)**

There is no numeric tolerance for odour. Consider

- The basic quality of the sample
- The type and degree of the odour
- The presence of visible residue causing the odour

**Representative portion for analysis**Minimum—working  
sampleOptimum—working  
sampleExport—working  
sample

If odour is the grade determinant and there is . . .	Then the grade is . . .
A distinct objectionable odour not associated with the quality of the grain, but not heated or fireburnt	<i>Chick Peas, Sample CW (class) Account Odour</i>
A distinct heated odour	<i>Chick Peas, Sample CW (class) Account Heated</i>
A distinct fireburnt odour	<i>Chick Peas, Sample CW (class) Account Fireburnt</i>

**Sclerotinia sclerotiorum (SCL)**

*Sclerotinia sclerotiorum* is a fungus producing hard masses of fungal tissue, called *sclerotia*. The sclerotia vary in size and shape, have a course surface texture, vary in exterior color from dark black to gray to white and have a pure white interior. See *Foreign material*

**Soft earth pellets (SEP)**See *Foreign material*.

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## Stones (STNS)

See *Foreign material*.

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## Treated seed and other chemical substances

### Treated seed

Treated seed is grain that has been coated with an agricultural chemical for agronomic purposes. 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 standards for pesticide seed treatments are: cereals—pink or red, canola—baby blue or green. Seed treated with an inoculant may have a green stain. The coatings or stains may appear greasy or powdery and surface area distribution ranges 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.

7. **▲ Important:** Wear gloves and a mask to handle any samples that you suspect may contain contaminated grain.

### Representative portion for analysis

Minimum—working  
sample

Optimum—working  
sample

Export—working  
sample

If a sample is suspected of being coated with a pesticide, desiccant, inoculant or if the sample contains evidence of any foreign chemical substance other than fertilizer pellets, the sample shall be graded *Chick Peas, Held IP Suspect Contaminated Grain*.

**Note:** Canadian Grain Commission personnel should refer to ISO national work instruction “*Suspect Contaminated Grain, Handling Procedures*” for specific procedures to be followed when handling samples suspected of containing treated seed or other chemical substances.

## Primary and export grade determinants tables

### Chick peas, Canada Western Kabuli (CW)

Grade name	Standard of quality	Damage %	Mechanical damage including splits %	Green %	Foreign material		
	Colour				Excreta %	Insect parts %	Total %
No. 1 CW	Good, natural colour	0.5	1	0.5	0.01	0.02	0.10
No. 2 CW	Fair	1	2	1.0	0.01	0.02	0.2
No. 3 CW	Poor	2	3	2	0.01	0.02	0.2
Grade, if No. 3 specs not met	<i>Chick Peas, Sample CW Kabuli Account Colour</i>	<i>Chick Peas, Sample CW Kabuli Account Damaged</i>	<i>Chick Peas, Sample CW Kabuli Account Mechanical Damage including Splits</i>	<i>Chick Peas, Sample CW Kabuli Account Green</i>	<i>Chick Peas, Sample CW Kabuli Account Excreta</i>	<i>Chick Peas, Sample CW Kabuli Account Foreign Material</i>	<i>Chick Peas, Sample CW Kabuli Account Foreign Material</i>

### Chick peas, Canada Western Desi (CW)

Grade name	Damage %	Mechanical damage including splits %	Green %	Foreign material		
				Excreta %	Insect parts %	Total %
No. 1 CW	1	2	1.0	0.01	0.02	0.10
No. 2 CW	2	<u>3.5</u>	2.0	0.01	0.02	0.2
No. 3 CW	3	5	3	0.01	0.02	0.2
Grade, if No. 3 specs not met	<i>Chick Peas, Sample CW Desi Account Damaged</i>	<i>Chick Peas, Sample CW Desi Account Mechanical Damage including Splits</i>	<i>Chick Peas, Sample CW Desi Account Green</i>	<i>Chick Peas, Sample CW Desi Account Excreta</i>	<i>Chick Peas, Sample CW Desi Account Foreign Material</i>	<i>Chick Peas, Sample CW Desi Account Foreign Material</i>

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## **Export shipments**

Chick peas on export are graded in accordance with primary grade standards and specifications. Foreign material in cleaned or processed peas is treated as a grading factor and not assessed as dockage. Cargoes containing dockage may not be shipped except with permission from the CGC.