

CO-OPERATIVE BULK HANDLING LTD**2022/23 Barley Receival Standards****Malting and Feed Grades****Issued: September 2022**

The assessment procedures and limits contained in these standards have been developed and adopted in accordance with GIWA guidelines and principles where operationally possible.

It is the Growers responsibility to ensure that ALL Barley Deliveries are of the current season, mature, of the nominated variety (minimum 95% purity) and free from objectionable contaminants as listed below.

THE LOAD IS NOT ACCEPTABLE IF IT DOES NOT ADHERE TO THE LIMITS AND STANDARDS REQUIRED FOR DELIVERY. UNACCEPTABLE LOADS ARE EITHER UNDERGRADE OR CONTAMINATED. UNDERGRADE LOADS ARE THOSE THAT DO NOT ADHERE TO THE LIMITS CONTAINED IN THIS DOCUMENT (UNDERGRADE LOAD PROCEDURES MUST BE FOLLOWED - SEE GRAIN QUALITY ASSESSMENT MANUAL MODULE 3).

CONTAMINATED LOADS ARE LOADS WHICH CONTAIN ANY OF THE FOLLOWING CONTAMINANTS FOUND ANYWHERE THROUGHOUT THE SAMPLING PROCESS INCLUDING IN THE TRUCK, BUCKET, DURING ASSESSMENT, DURING DISCHARGE OR POST DELIVERY IF THE IDENTITY CAN BE PRESERVED.

CBH reserves the right to reject any delivery that contains any commercially unacceptable contaminant or has any inherent vice or feature that would affect the ability of CBH to outturn the grain at the grade in respect of which the grain is received by CBH.

If a Level 1 or 2 contaminant is found notify the RPOIC immediately, a Contaminated Load Sample will be collected, and a Contaminated Grain Report completed.

The Quality Coordinator/Senior Specialist - Quality will also instigate a Contaminated Load Report in IBIS.

If a Level 3 contaminant is found a Contaminated Load Sample will be collected. No Contaminated Grain Report is required. Please immediately contact the Quality Coordinator/Senior Specialist – Quality, who will complete a Contaminated Load Report in IBIS.

① A strong garlic odour may indicate the presence of Phosphine, please stop sampling and inform RPOIC immediately.

CONTAMINANTS

Level 1 contaminants are those that cannot be removed and constitute a significant food safety or quality risk, including:

- BALL SMUT - Defective grain of **wheat** caused by infection by the spores of the fungus *Tilletia caries*. Also called Stinking Smut or Bunt.
- CHEMICAL RESIDUES – Residues of any chemical compounds not approved for barley, used in contravention of the labelled instructions or chemicals more than the MRL (detectable by any means including post-harvest testing).
- DRYACIDE TREATED GRAIN - Dryacide is a white coloured mineral compound placed on grain to prevent grain insects. Though non-toxic, it affects the flow properties of grain.
- DYED GRAIN – Any substance which changes the colour of the grain. This does not include grains classified as Pink Stained Grains.
- FERTILISER
- GLASS / HARD PLASTIC
- PICKLED GRAIN - Grain that has been treated to prevent disease and is recognised mainly by the colour (generally red or blue), as particles of the compound adhere to the kernel.
- RODENT BAITS
- TAINTED GRAIN - grain that has been contaminated by another substance causing it to smell. Examples are diesel, eucalyptus and grease.

Level 2 contaminants are those that constitute a food safety or processing hazard and may be able to be managed in the supply chain at a significant cost including:

- ANIMAL RESIDUE or EXCRETA -This includes all excreta, bodies, and parts thereof. **This also refers to the presence of meat meal, blood meal and/or poultry offal meal.**
- LIVE GRAIN INSECTS - These are any insects that feed on grain or grain residue.
- MUSTY GRAINS – Grain that has been in storage and has a disagreeable smell.
- PLASTIC – pieces of softer plastic including bags, containers, mulesing clips and ear tags etc.
- STOCK FEED or PELLETS
- OTHER OBJECTIONABLE MATERIAL – includes clumps of damp and/or mouldy grain

Level 3 contaminants are those that can be managed on farm and present a food safety or processing risk, including;

- CORIANDER - Refer Seed Impurities of Grain Handbook.
- CROW GARLIC - Refer to Seed Impurities of Grain Handbook.
- METAL.
- FIELD MADDER – These are a type of foreign seed
- THREE-HORNED BEDSTRAW – Declared pest. Refer Seed Impurities of Grain Handbook.

NO LOAD CAN BE RETENDERED IF IT CONTAINS THE CONTAMINANTS LISTED ABOVE.
GRAIN CONTAINING THESE CONTAMINANTS CANNOT BE BLENDED WITH OTHER LOADS
AND DELIVERED

If a load containing these contaminants is knowingly delivered, then the grower will be charged under the provisions of the Bulk Handling Act and Regulations.

Refer to GQAM Module 3 “Contaminated loads” – for detailed instructions.

Document Assistance

GTA Visual Recognition Standards Guide
Grain Quality Assessment Manual

Varietal Grouping List
Definitions and Photos

VARIETIES

All malting varieties that meet the malting standard limits are to be stored separately.
All other varieties of barley are to be stored as feed grade unless specified

If no service is available for a variety of malting barley the load may be remote sampled /certified to a site with that service or received as FEED.
Refer to the GQAM Module 3 for instructions on Remote Sampling/Certifying a Load.

GRADING

All acceptable loads of barley will have a grade determined to facilitate storage of the load.

The grades are either Malting or Feed grade.

The grade is determined by:

1. The variety of the grain - declared by the Grower.
2. The services available at the site.
3. The results of the analysis.

Grades

The following are the grades used for storage of barley

Variety	Grade	Description
Bass	BASS1	Bass Malting Barley
Flinders	FLIN1	Flinders Malting Barley
La Trobe	LATR1	La Trobe Malting Barley
Maximus CL	MAXI1	Maximus Variety Barley
Spartacus CL	SPAR1	Spartacus Malting Barley
RGT Planet	PLAN1	Planet Malting Barley
Any	BFED1/BFEDX	Feed Barley

Grading

The grade of a load is generally determined by the computer and is displayed after the analysis results have been entered and calculated.

The sampler will have to determine the grade of a load if:

1. **The computer does not display a grade for storage**, this means you do not have that service available - if unsure why no grade please contact the Quality Coordinator/Senior Specialist – Quality who may instruct you to call OSS.
2. The computer breaks down and loads are being received manually.

Service Availability

The services available on site impact the load and storage grades assigned to loads. Where a service is not offered on site, samplers must inform the grower when a load could achieve a higher grade at a site with the service.

Loads can be Remote Sampled to other sites for delivery. Refer to the GQAM Module 3 for more information.

1. OBTAIN A REPRESENTATIVE SAMPLE

Obtain a representative sample by spearing each trailer. Minimum requirements: 4 spears per trailer.

2. INFRATEC ANALYSIS

1. Scoop a subsample from the composite bucket and place into the Infratec hopper.
2. Press "Analyse" to start Infratec Analysis.
3. Results are auto captured.

3. HECTOLITRE WEIGHT

1. Ensure the chondrometer set is verified and on a level, stable surface.
2. Fill the small sample tray with grain from the bucket. Pour the grain from the small sample tray into the chondrometer at a steady, constant rate. Visually check the grain for obvious contaminants and impurities while pouring the grain.
3. Once the entire chondrometer is full, place one hand over the filler tube. Slide the cutter bar into the slot and push it through the grain with **a single firm stroke**, taking care not to shake or jar the **chondrometer**. Return the excess grain from the small sample tray into the bucket.

❶ If the chondrometer is jarred or shaken whilst in use it must be emptied and refilled again.

4. Leaving the cutter bar pressed in and holding the chondrometer bucket and filler tube as one, remove the filler tube and the surplus grain from above the cutter bar (similar to breaking an egg). This should be done over the large tray or the composite bucket.
5. Return the chondrometer bucket to an upright position then withdraw the cutter. Return the excess grain from the large sample tray into the bucket.
6. Transfer grain in chondrometer bucket to balance bowl.
7. Capture the hectolitre weight by selecting the corresponding auto-capture button.

4. FOREIGN MATERIAL ASSESSMENT- HALF LITRE

1. Empty the grain from the balance bowl onto the large sample tray.
2. Spread the grain over the entire tray and assess for foreign material:
 - a. Remove, group and weigh as required.
 - b. Remove and count as required.
 - c. Remove and measure as required.

5. SCREEN YOUR GRAIN

1. Fit the **2.5mm Barley screen** onto the **2.2mm Barley screen**, fit to the bottom tray then to the Agtator. Ensure both coloured strips on the screens are centred to align the slots.
2. Pour the half litre from the large sample tray onto the top of the 2.5mm screen on the Agtator. Set the Agtator to 40 shakes and firmly press the green button to begin.

6. BLACK PLASTIC MEASURE ASSESSMENTS (FROM BUCKET)

1. Scoop **ONE** level black plastic measure from the composite bucket and empty it onto the small sample tray.
2. Remove and count visually defected kernels.

6.2 TWO BLACK PLASTIC MEASURES

1. Add an additional **ONE** level black plastic measure to the small sample tray to assess a total of **TWO** black plastic measures.
2. Remove and count insect damaged grain and foreign seeds.
3. Return grain to bucket.

7. RETENTION AND 2.2MM SCREENINGS

1. Once the Agtator is finished, separate the 2.5mm screen from the 2.2mm screen. Tip the contents on top of the 2.5mm screen onto a large sample tray then transfer the grain to the balance bowl and weigh.
2. Capture as **RETENTION** by selecting the corresponding auto-capture button.
3. Transfer grain from balance bowl to large tray.
4. Separate 2.2mm screen from bottom tray on the Agtator. Pour the contents of the bottom tray into the balance bowl and weigh.
5. Capture as **2.2mm screenings** by selecting the corresponding auto-capture button.
6. Transfer 2.2mm screenings to the small tray.

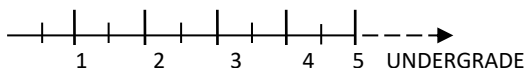
8. ASSESSMENT AFTER CAPTURING RETENTION AND 2.2MM SCREENINGS

8.1 SEEDS, DEAD GRAIN INSECTS AND FUNGUS BEETLES

1. From screenings material in small tray, remove and count drakeseed, dead grain insects and live fungus beetles.

8.2 RYEGRASS ERGOT

1. Remove all ryegrass ergot and lay the pieces found end to end. Measure the length in cm.



8.3 SMALL FOREIGN SEEDS ASSESSMENT

1. If SFS are present, pour the screenings over a **SFS** or insect screen and shake screen until no more material falls through.
2. Separate the small foreign seeds from all other material in the bottom tray, transfer to the balance bowl and auto-capture the result.

8.4 UNMILLABLE MATERIAL

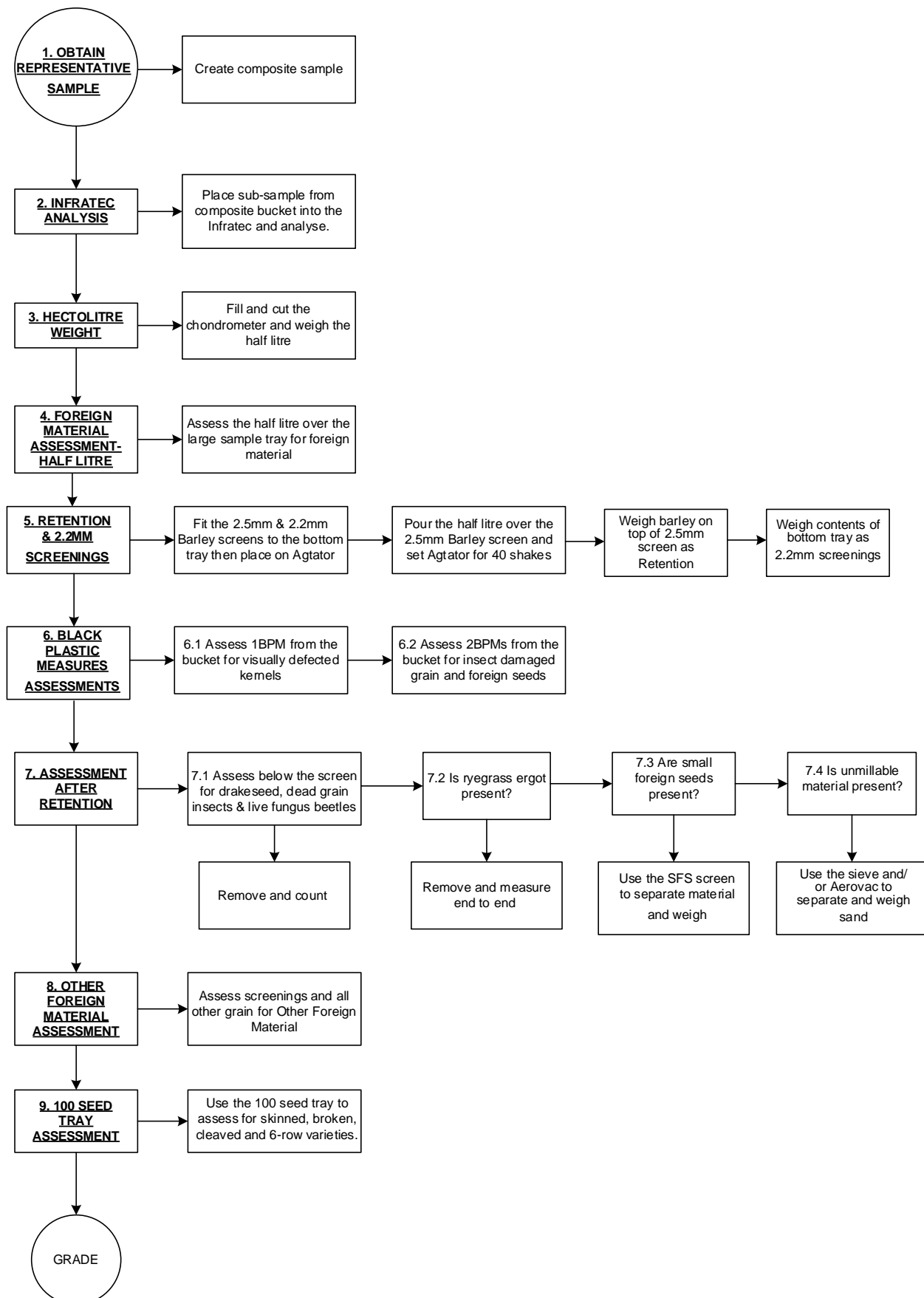
1. If sand is present, empty the screenings into a kitchen sieve held over a tray, shake the kitchen sieve until no more material passes through.
2. If there is only sand in the tray, transfer to the balance bowl, combine any stones found previously with the sand and capture weight as Unmillable Material.
3. If the sand can't be easily separated, use the Aerovac to do so.
 - a. Ensure the collection and cyclone tray are in place on the Aerovac and turn the machine on and adjust **needle to 110**.
 - b. Slowly empty the separated material into the funnel connected to the side of the Aerovac and run the machine until no more material is passed into the upper tray.
 - c. Transfer the sand remaining in the Aerovac tray to the balance bowl. Combine any stones found previously with the sand and capture weight as Unmillable Material.

9. OTHER FOREIGN MATERIAL ASSESMENT

1. Check screenings and all other grain for Other Foreign Material, including pieces of snail shell (less than half an entire shell), pieces of stored grain insects (not whole), pieces of insects large/small, pieces of static flower & any other non-vegetative material not listed.
2. Pick out and weigh the Other Foreign Material on the electronic balance.

10. 100 SEED TRAY ASSESSMENT (MALT GRADES ONLY, NOT REQUIRED ON MALT GRADES GOING BFED1)

1. Place a handful of clean barley from the RETENTION grain onto the 100 seed tray. Shake the barley over the tray until each of the 100 slots contains a barley kernel.
2. Ensure that all excess barley is removed from the top of the tray.
3. Examine the barley in the 100 slots for skinned, broken and cleaved grain.

PROCEDURE FLOW CHART

2022/23 Barley Receival Standards Limits		
* Direct any queries regarding these Receival standards to the local CBH Quality Coordinator.		
* Copies of the most up to date Receival standards can be downloaded from LoadNet®.		
* To deliver as Malt, Varietal Purity should be equal to or greater than 95%		
	DATE:	17/0/2022
NOTE: Not all grades are available at all sites	MALT1	BFED1/ BFDEC
2. INFRATEC ANALYSIS		
Protein (minimum %)	9.5	No Limit
Protein (maximum %)	12.8	No Limit
Moisture Content (maximum %)	12.5	13
Colour (minimum)	56	51
Temperature (maximum)	45	50
Temperature limit only applicable to grain that has been dried		
3. HECTOLITRE WEIGHT		
Hectolitre Weight (kg/hl) (minimum)	64.0	56.0
Hectolitre Weight (grams) (minimum)	320.0	280.0
4. FOREIGN MATERIAL ASSESSMENT- HALF LITRE		
REMOVE AND WEIGH		
Radish Pods (maximum)	0.4g	4.0g
Includes radish pods, serradella pods and other plant material not listed in this Standard		
Head Smut/Smuttet Grain (maximum)	0.1g	0.2g
Irregular shaped brownish/black lump which easily breaks into pieces. Includes clean barley covered in spores		
Unmillable Material (maximum)	0.3g	0.3g
Stones in grams (to be added to any sand found in bottom tray after screenings)		
REMOVE AND COUNT		
Type 1 Seeds (maximum)	1	1
Sunflower, Safflower, Variegated Thistle		
Type 2 Seeds (maximum)	1	20
Lupins, Field Peas, Vetch, Faba Beans, Chick Peas		
Type 3 Seeds (maximum)	1	20
Doublegees		
Type 4 Seeds (maximum)	5	50
Saffron Thistle, Paddy Melon		
Snail Shells (maximum)	NIL	1
Live or Dead, more than half a snail shell		
Fusarium Affected Barley	NIL	NIL
Light weight, white and chalky appearance and may have a red to orange discolouration on the kernel surface		
Sappy Material (maximum)	30	50
Any material including barley that is soft and moist when pressed. May or may not be green.		
Severely Damaged Grains (maximum)	1	1
Mould, heat damaged/burnt or other serious visual defects.		
Grain appears dark brown or blackened, including under the husk		
Dry Green Barley Grains (maximum)	30	No Limit
Barley surface is distinctly green and grain is dry and hard		
Sprouted Barley (maximum)	Nil	10
Visible evidence of shoot or root system beginning to emerge from the germ		
Field Insects (maximum)	15	15
Whole bodies, live or dead. Grasshoppers, ladybirds, woodbugs, pea/native weevils, armyworms, bronzed field beetles, earwigs		
REMOVE AND MEASURE		
Sticks (maximum length)	6 cm	6 cm
Sticks (maximum diameter)	1 cm	1 cm
Includes Faba Bean and Canola Stalks		
5. RETENTION & 2.2MM SCREENINGS ASSESSMENT		
Retention (minimum % of 1/2L)	80.0	No Limit
2.5mm BARLEY SCREEN (40 shakes) - ALL MATERIAL REMAINING ON TOP OF THE SCREEN IS CAPTURED AS RE		
2.2mm Screenings (maximum % of 1/2L)	No Limit	No Limit
2.2mm BARLEY SCREEN (40 Shakes) - ALL MATERIAL IN THE BOTTOM TRAY		
6. BLACK PLASTIC MEASURE ASSESSMENTS (FROM BUCKET)		
6.1 ONE BLACK PLASTIC MEASURE (400 GRAINS)		
Heavily Discoloured	10	No Limit
Staining is dark in appearance and affects more than the germ end		
Spotted/Field Fungi Affected Only (maximum)	20	No Limit
Black spotting or grey surface discolouration greater than 10% of the grain surface		
Germ End Staining	30	No Limit
Distinct dark brown to black discolouration on the germ end equal to or greater than 1mm		
Pink Fungal Stained Barley	Nil	1
Orange, pink or red discolouration found anywhere on the surface of the kernel. Grains appear otherwise healthy.		
Distorted Kernels (maximum)	20	45
Grains that have collapsed on the dorsal side		
Blue/Black Kernels (maximum)	Nil	4
Kernels have a blue or black colour under the bran layer. Also includes black-hulled varieties.		
6.2 TWO BLACK PLASTIC MEASURES (800 GRAINS)		
Insect Damaged Grain	4	No Limit
Any visible insect damage penetrating through to the white endosperm		
Type 7A Seeds (maximum)	6	40
Oats, Wild Oats, Black/Brown Oats, Speargrass		
Type 7B Seeds (maximum)	8	40
Clover Burr, Medic, Marshmallow and any other seed not mentioned in this Standard		
Type 6 Seeds (maximum)	8	80
Wheat, Triticale, Cereal Rye		
7. ASSESSMENT AFTER RETENTION		
7.1 SEEDS, DEAD GRAIN INSECTS AND FUNGUS BEETLES		
Type 5 Seeds (maximum)	10	100
Drakeseed		
Dead Grain Insects (maximum)	10	10
Live Fungus Beetles (maximum)	Nil	1
7.2 RYEGRASS ERGOT		
Ryegrass Ergot (maximum length)	3cm	3cm
Purple to black fungal body with white inside, hard and fractures easily		
7.3 SMALL FOREIGN SEEDS ASSESSMENT		
Small Foreign Seeds (maximum % of 1/2L)	1%	2%
Ryegrass, Canary Seed, Turnip, Canola, Dock Seed, Radish Seed, Serradella Seed		
7.4 UNMILLABLE MATERIAL		
Unmillable Material (maximum g)	0.3g	0.3g
Grams of Sand and Stones - includes any unmillable material removed from 1/2L		
8. OTHER FOREIGN MATERIAL ASSESSMENT		
Other Foreign Material (maximum % of 1/2L)	0.1%	0.2%
Includes pieces of Snail Shell (less than half an entire shell), pieces of Stored Grain Insects (not whole), pieces of Insects Large/ Small, and pieces of static flower and any other non-vegetative material not listed.		
9. 100 SEED TRAY ASSESSMENT ((MALT grades only, not required on malt grades going BFED1)		
6 Row Barley (maximum)	5	No Limit
Different varieties of Barley identified by longer, thinner shape and twisted crease		
Skinned and Broken (maximum)	10	No Limit
Skinned: 1/3 or more total surface area of the husk missing OR missing/damaged husk on the germ end OR germ has been removed. Broken: 1/3 or more missing from the kernel		
Cleaved Barley (maximum)	1	No Limit
Split along crease or on the dorsal, ventral or side of grain exposing white endosperm		

CO-OPERATIVE BULK HANDLING LTD

2022/23 Canola Receival Standards

Issued September 2022



The assessment procedures and limits contained in these standards have been developed and adopted in accordance with GIWA guidelines and principles where operationally possible.

It is the Growers responsibility to ensure that ALL Canola Deliveries are of the current season, mature, of the nominated variety, free from objectionable contaminants as listed below and that ALL Canola 1 and Canola 2 (CAN1 and CAN2) Deliveries are free of genetically modified material (minimum 99.1% purity).

THE LOAD IS NOT ACCEPTABLE IF IT DOES NOT ADHERE TO THE LIMITS AND STANDARDS REQUIRED FOR DELIVERY. UNACCEPTABLE LOADS ARE EITHER UNDERGRADE OR CONTAMINATED. UNDERGRADE LOADS ARE THOSE THAT DO NOT ADHERE TO THE LIMITS CONTAINED IN THIS DOCUMENT (UNDERGRADE LOAD PROCEDURES MUST BE FOLLOWED - SEE GRAIN QUALITY ASSESSMENT MANUAL Module 3).

CONTAMINATED LOADS ARE LOADS WHICH CONTAIN ANY OF THE FOLLOWING CONTAMINANTS FOUND ANYWHERE THROUGHOUT THE SAMPLING PROCESS INCLUDING IN THE TRUCK, BUCKET, DURING ASSESSMENT, DURING DISCHARGE OR POST DELIVERY IF THE IDENTITY CAN BE PRESERVED.

CBH reserves the right to reject any delivery that contains any commercially unacceptable contaminant or has any inherent vice or feature that would affect the ability of CBH to outturn the grain at the grade in respect of which the grain is received by CBH.

If a Level 1 or 2 contaminant is found notify the RPOIC immediately, a Contaminated Load Sample will be collected and a Contaminated Grain Report completed.

The Quality Coordinator/Senior Specialist - Quality will also instigate a Contaminated Load Report in IBIS.

If a Level 3 contaminant is found a Contaminated Load Sample will be collected. No Contaminated Grain Report is required. Please immediately contact the Quality Coordinator/Senior Specialist – Quality, who will complete a Contaminated Load Report in IBIS.

ⓘ A strong garlic odour may indicate the presence of Phosphine, please stop sampling and inform RPOIC immediately.

CONTAMINANTS

Level 1 contaminants are those that cannot be removed and constitute a significant food safety or quality risk including;

- BALL SMUT - Defective grain of **wheat** caused by infection by the spores of the fungus *Tilletia caries*. Also called Stinking Smut or Bunt.
- CHEMICAL RESIDUES – Residues of any chemical compounds not approved for canola, used in contravention of the labelled instructions or chemicals more than the MRL (detectable by any means including post-harvest testing).
- DRYACIDE TREATED GRAIN - Dryacide is a white coloured mineral compound placed on grain to prevent Grain Insects. Though non-toxic, it affects the flow properties of grain.
- DYED GRAIN – Any substance which changes the colour of the grain.
- FERTILISER
- GLASS / HARD PLASTIC
- PICKLED GRAIN - Grain that has been treated to prevent disease and is recognised mainly by the colour (generally red or blue), as particles of the compound adhere to the kernel.
- RODENT BAIT
- TAINTED GRAIN - This is grain that has been contaminated by another substance causing it to smell of that substance. Examples are diesel, eucalyptus and grease.

Level 2 contaminants are those that constitute a food safety or processing hazard and may be able to be managed in the supply chain at a significant cost including;

- ANIMAL RESIDUE or EXCRETA - This includes all excreta, bodies and parts thereof. **This also refers to the presence of meat meal, blood meal, poultry offal meal.**
- LIVE GRAIN INSECTS - These are any Insect that feed on Grain.
- PLASTIC – Pieces of softer plastic includes bags, containers, mulesing clips and ear tags etc.
- STOCK FEED or PELLETS
- OTHER OBJECTIONABLE MATERIAL – includes clumps of damp and/or mouldy grain

Level 3 contaminants are those that can be managed on farm and present a food safety or processing risk, including;

- CORIANDER - Refer to Seed Impurities of Grain Handbook.
- CROW GARLIC – Refer to Seed Impurities of Grain Handbook.
- THREE-HORNED BEDSTRAW – Declared pest. Refer Seed Impurities of Grain Handbook.
- STICKS - defined as any piece of wood greater than 1cm in length and 0.5cm in diameter. **This also includes canola stubble greater than 1cm in diameter and 3cm in length.**
- METAL.
- SNAIL SHELLS/ FRAGMENTS LARGER THAN 10MM – These are alive or dead, whole snail shells or non-whole pieces/ fragments of snail shell that cannot fit through a 10mm hole.

NO LOAD CAN BE RETENDERED IF IT CONTAINS THE CONTAMINANTS LISTED ABOVE
GRAIN CONTAINING THESE CONTAMINANTS CANNOT BE BLENDED WITH OTHER LOADS
AND DELIVERED

If a load containing these contaminants is knowingly delivered, then the grower will be charged under the provisions of the Bulk Handling Act and Regulations.

Refer to Module 3 “Contaminated loads” – for detailed instructions.

Document Assistance

GTA Visual Recognition Standards Guide
Grain Quality Assessment Manual

Varietal Grouping List
Definitions and Photos

VARIETIES

CAN1 and CAN2 are Non - GM varieties

CAG1 and CAG2 are GM varieties

General site guidelines for Receivals of GM Canola – Dual GM/Non- GM Sites

1. All deliveries have the same CDF. **Please be vigilant for CAG1 and CAG2 GM Canola varieties.**
2. Where possible, truck containing GM canola is to remain at sample platform during sampling and assessment process to enable GM grain to be returned to truck.
3. Grain is to be assessed using equipment designated GM canola only.
4. All Grain is to be returned to the GM truck (exclusive of required samples) including grain cleaned out of sampling equipment.

Sampling and assessment**Sites with 1 sample shed**

1. A designated “GM only assessment area” is to be set up in the shed, including separate sampling station for GM grain (screen, Infratec, Aerovac etc).
2. A separate GSS bucket is to be used for GSS collection.

Sites with multiple samples sheds

1. One sample shed should be designated as “GM only”
2. Optional: A Yellow GSS bucket is to be used for GSS collection.

Remote Sampling/Certified load Guidelines

The availability of the remote sampling/certified load process for GM Canola is at the discretion of Zone/Area Management (dependent on access to appropriate sampling equipment).

1. All deliveries have the same CDF. **Please be vigilant for CAG1 and CAG2 GM Canola varieties.**
2. Where possible, truck containing GM canola is to remain at sample platform during sampling and assessment process to enable GM grain to be returned to truck.
3. Once truck has been sampled, the auto spear must be run once after the sample has been collected to clear the hose, and the blender must be emptied into a bucket to remove anything that has been collected. This material should be returned to the truck delivering the GM canola.

1. OBTAIN A REPRESENTATIVE SAMPLE

Obtain a representative sample by spearing each trailer. Minimum requirements: 4 spears per trailer.

2. ASSESSMENT ON 100 GRAMS (RUTHERGLEN BUGS)

1. Weigh out 100 grams of canola from the bucket, checking for Rutherglen bugs while pouring.
2. If any Rutherglen bugs are seen:
 - a. empty the 100 grams onto the small sample tray, remove, count and record the number of Rutherglen bugs.
 - b. Return canola seed to the balance bowl.

① The Infratec analysis can be started without any canola in the hopper.

3. 500 GRAM FOREIGN MATERIAL/LARGE ADMIXTURE

1. From the bucket, add canola to the seed in the balance bowl, so the electronic balance records a total weight of 500 grams.
2. Empty the 500 gram sample over the **2.4mm Canola** screen and tap until no more material passes through the screen.
3. Remove the canola screen from the bottom tray and upend the screen onto the large sample tray. Ensure all material remaining in the screen is removed and added to large tray.
4. Roll any remaining canola off the large tray into the bottom tray with the clean canola, leaving any weed seeds and other defects on the large sample tray.
5. Remove and count any snails, field insects and budworm from the material remaining on the large sample tray.
6. Remove any stones found in the large sample tray and place in balance bowl. If sand is present in the bottom tray, separate using a sieve or Aerovac and add to bowl. Capture the combined weight of all stones and sand as Unmillable Material.
7. **Weigh remaining contents from the top of the screen INCLUDING all large foreign seeds, canola sclerotes and ryegrass ergot. Capture as Large Admixture.**

① Snails, field insects, budworm and Unmillable Material are not captured as Large Admixture.

8. From this material remaining on top of the screen: remove, group, count, weigh or measure any large foreign seeds, ryegrass ergot and canola sclerotes.

4. ADMIXTURE

1. Empty the contents from the bottom tray into a small sample tray.
2. Ensure that both trays are in place in the Aerovac and turn the machine on, twist the knob until the needle is stable on the green line.
3. Slowly empty the sample from the small tray into the funnel connected to the side of the Aerovac. Do not adjust the flow of the grain once the canola has been added.
4. Turn off the Aerovac once no material is being passed into the collection drawer. Remove any admixture remaining in the clean canola and add to the collection drawer.
5. The material in the top collection drawer is the Admixture. If any whole seeds are present in the admixture place into a small sample tray and roll the whole seeds out of the admixture.
6. Capture the weight of the Admixture.

5. INFRATEC ANALYSIS

1. From the clean canola from the Aerovac, set aside 1BPM of grain for steps 6 and 7.
2. Place the remainder of clean grain into the Infratec for analysis.
3. Press "Analyse" to start Infratec Analysis
4. Results are auto captured.

6. DAMAGED SEED ASSESSMENT

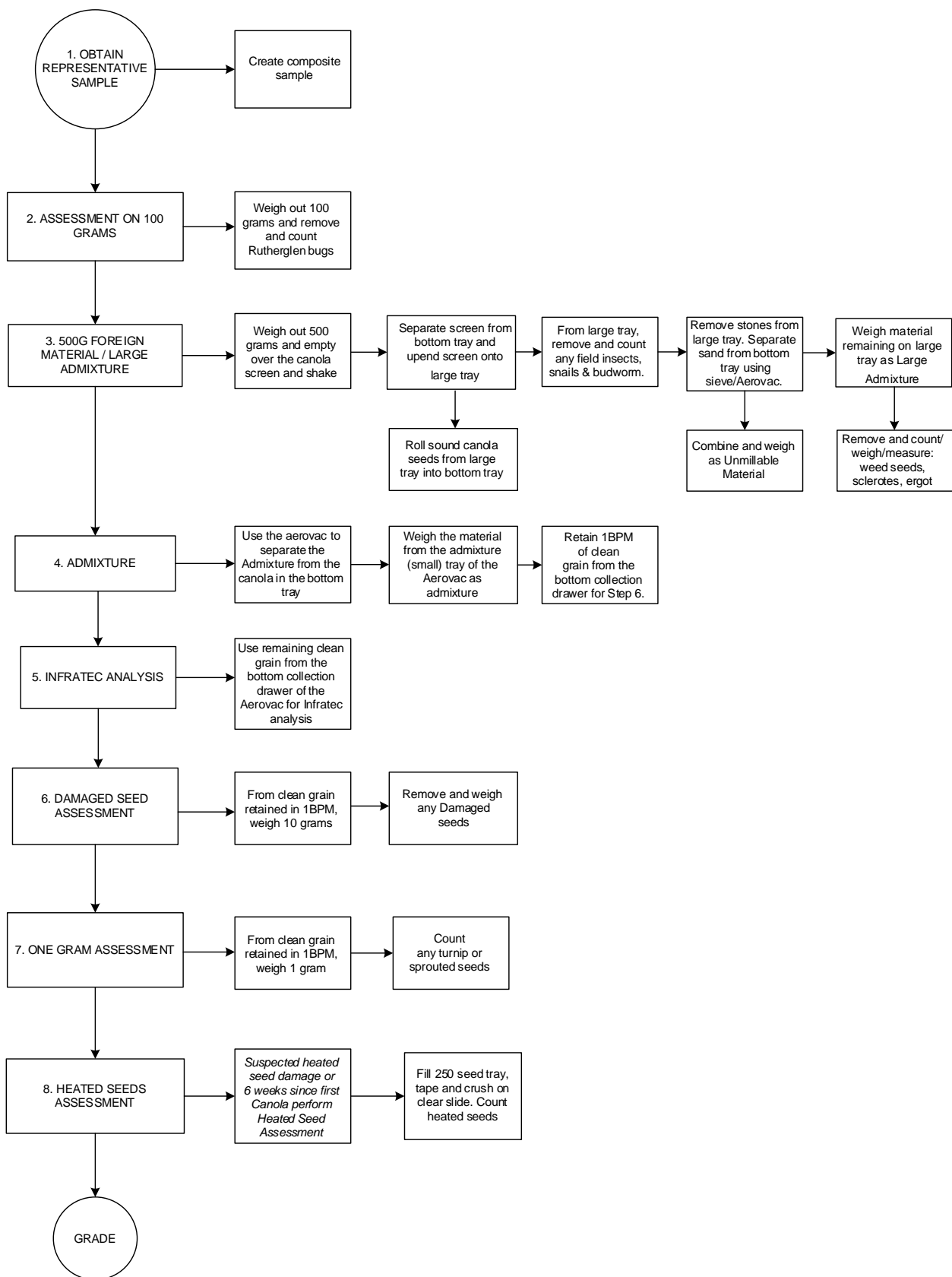
1. Using the clean grain in the 1BPM, weigh out 10 grams of canola.
2. Spread the 10 grams sample over the small sample tray and pick out any damaged seeds.
This can be made easier by gently rolling the canola to separate the shrivelled seeds, although the sound seeds must be checked for other damages.
3. Put all damaged seeds in the balance bowl and capture the weight.

7. ONE GRAM ASSESSMENT

1. Weigh 1 gram from the cleaned canola and empty onto a small sample tray.
2. Pick out the suspected turnip seeds (smaller than canola and reddish in colour).
3. Crush the collected canola seeds. **Canola is yellow** on the inside and **turnip is white** on the inside. Count and record the number of turnip seeds.
4. Separate, count and record any sprouted seeds found.

8. HEATED SEEDS ASSESSMENT

- *Weeks 1 – 6 of Canola receivals: assessment conducted on loads rejected for high moisture or suspected heated seeds.*
 - *After 6 weeks of Canola receivals: assessment mandatory on all loads.*
1. Place the 250 seed tray on top of the large sample tray.
 2. Use the clean canola to cover the 250 seed tray ensuring each hole is filled and remove all excess canola.
 3. Roll masking tape over the length of the seed tray covering the 250 canola seeds.
 4. Carefully remove the tape and stick along the clear plastic panel.
 5. Run the roller over the masking tape ensuring to crush every canola seed against the plastic panel.
 6. Check the opposite side of the plastic panel to determine the colours of the crush seeds, a **sound canola seed will be yellow** and the **heated seeds will be brown**.
 7. Count and record any heated seeds.

PROCEDURE FLOW CHART

2022/23 Canola Receival Standards Limits

*Direct any queries regarding these Receival standards to the local CBH Quality Coordinator.

* Copies of the most up to date Receival standards can be downloaded from LoadNet®.



Date: 7/09/2022

	CAN1	CAG1 (GMO Canola)	CAN2	CAG2 (GMO Canola)	CANS/CAGS
NOTE: Not all grades are available at all sites					
2. ASSESSMENT ON 100 GRAMS (RUTHERGLEN BUGS)					
Rutherglen Bugs (maximum) Live or Dead	50	50	50	50	50
3. 500 GRAM FOREIGN MATERIAL/LARGE ADMIXTURE					
REMOVE AND COUNT					
Small Snails less than 10mm (Maximum) Live or Dead Any snails larger than 10mm are a level 3 contaminant. Includes whole snails/shells or non-whole pieces that cannot fit through a 10mm hole. Count as a small snail if whole but less than 10mm; a broken piece more than half a shell but less than 10mm, or a snail body without a shell. Any non-whole snails/shells or broken pieces less than 10mm and less than or equal to half a snail are to be included in the weight of the admixture	1	1	1	1	10
Field Insects (maximum) Grasshoppers, Ladybirds, Wood Bugs, Pea/Native Weevils, Armyworms, Bronzed Field Beetles, Earwigs and all other field insects	20	20	20	20	20
Budworm (maximum) Includes all caterpillars	7	7	7	7	7
REMOVE AND WEIGH					
Unmillable Material (maximum grams) Sand, Stones	0.3g	0.3g	0.3g	0.3g	0.3g
WEIGH					
Large Admixture (maximum %) Large Admixture (maximum g) Consists of any admixture remaining on top of the 2.4mm canola screen, foreign seeds, sclerotes, ryegrass ergot <i>Does not include Unmillable Material, field insects, budworm or snails</i>	1.5% 7.5g	1.5% 7.5g	3.0% 15.0g	3.0% 15.0g	3.0% 15.0g
Canola Sclerotes (maximum %) Canola Sclerotes (maximum g)	0.50% 2.5g	0.50% 2.5g	0.50% 2.5g	0.50% 2.5g	0.50% 2.5g
COUNT					
Type 1 Seeds (maximum) Doublegees, Sunflower, Saffron Thistle, Variegated Thistle	1	1	1	1	1
Type 2 Seeds (maximum) Lupins, Faba Beans, Chick Peas, Vetches, Field Peas and any other pulse	7	7	20	20	7
MEASURE					
Ryegrass Ergot (maximum) Purple to black fungal body with white inside, hard and fractures easily	5 cm	5 cm	5 cm	5 cm	5 cm
4. ADMIXTURE					
Admixture (maximum %) Admixture (maximum g) Consists of any straw, pods, weed seeds, snail shell pieces, vegetable matter and damaged seeds. Any material remaining in clean canola after Aerovac should be included as Admixture.	5.0% 25.0g	5.0% 25.0g	10.0% 50.0g	10.0% 50.0g	10.0% 50.0g
Large Admixture/Admixture Combined (maximum %) Large Admixture/Admixture Combined (maximum g)	5.0% 25.0g	5.0% 25.0g	10.0% 50.0g	10.0% 50.0g	10.0% 50.0g
5. INFRATEC ANALYSIS					
Protein %	No Limit	No Limit	No Limit	No Limit	No Limit
Moisture Content (maximum %)	8.0	8.0	8.0	8.0	8.0
Oil Content (minimum %)	38.0	38.0	30.0	30.0	30.0
Temperature (maximum)	No Limit	No Limit	No Limit	No Limit	No Limit
6. DAMAGED SEED ASSESSMENT - 10 GRAMS					
Damaged Seeds (maximum %) Damaged Seeds (maximum g) Discoloured from mould (grey), green seeds or otherwise distinctively physically damaged	3.0% 0.3g	3.0% 0.3g	10.0% 1.0g	10.0% 1.0g	3.0% 0.3g
7. ONE GRAM ASSESSMENT					
Wild Turnip (maximum) Smaller and red in colour, white inside	6	6	6	6	6
Sprouted Seeds Only (maximum) Seed coat is split and root has emerged	15	15	15	15	15
8. HEATED SEEDS ASSESSMENT					
Heated Seeds (maximum per 250 seeds) Seeds have gone rancid, when crushed the seed kernel is brown and oil smells sour • Weeks 1 – 6 of Canola receivals: assessment conducted on loads rejected for high moisture or suspected heated seeds. • After 6 weeks of Canola receivals: assessment mandatory on all loads.	1	1	1	1	1

CO-OPERATIVE BULK HANDLING LTD**2022/23 Chickpea Receival Standards****Issued September 2022**

The assessment procedures and limits contained in these standards have been developed and adopted in accordance with GIWA guidelines and principles where operationally possible.

It is the Growers responsibility to ensure that ALL Chickpea Deliveries are of the current season, mature, of the nominated variety and free from objectionable contaminants as listed below.

THE LOAD IS NOT ACCEPTABLE IF IT DOES NOT ADHERE TO THE LIMITS AND STANDARDS REQUIRED FOR DELIVERY. UNACCEPTABLE LOADS ARE EITHER UNDERGRADE OR CONTAMINATED. UNDERGRADE LOADS ARE THOSE THAT DO NOT ADHERE TO THE LIMITS CONTAINED IN THIS DOCUMENT (UNDERGRADE LOAD PROCEDURES MUST BE FOLLOWED. SEE GRAIN QUALITY ASSESSMENT MANUAL, MODULE 3).

CONTAMINATED LOADS ARE LOADS WHICH CONTAIN ANY OF THE FOLLOWING CONTAMINANTS FOUND ANYWHERE THROUGHOUT THE SAMPLING PROCESS INCLUDING IN THE TRUCK, BUCKET, DURING ASSESSMENT, DURING DISCHARGE OR POST DELIVERY IF THE IDENTITY CAN BE PRESERVED.

CBH reserves the right to reject any delivery that contains any commercially unacceptable contaminant or has any inherent vice or feature that would affect the ability of CBH to outturn the grain at the grade in respect of which the grain is received by CBH.

If a Level 1 or 2 contaminant is found notify the RPOIC immediately. A Contaminated Load Sample will be collected and a Contaminated Grain Report completed.

The Quality Coordinator/Senior Specialist - Quality will also instigate a Contaminated Load Report in IBIS.

If a Level 3 contaminant is found a Contaminated Load Sample will be collected. No Contaminated Grain Report is required. Please immediately contact the Quality Coordinator/Senior Specialist – Quality, who will complete a Contaminated Load Report in IBIS.

① A strong garlic odour may indicate the presence of Phosphine, please stop sampling and inform RPOIC immediately.

CONTAMINANTS

Level 1 contaminants are those that cannot be removed and constitute a significant food safety or quality risk;

- BALL SMUT - Defective grain of **wheat** caused by infection by the spores of the fungus *Tilletia caries*. Also called stinking smut or bunt.
- CHEMICAL RESIDUES – Residues of any chemical compounds not approved for chick peas, used in contravention of the labelled instructions or chemicals in excess of the MRL (detectable by any means including post-harvest testing).
- DRYACIDE TREATED GRAIN - Dryacide is a white coloured mineral compound placed on grain to prevent grain insects. Though non-toxic, it affects the flow properties of grain.
- DYED GRAIN – Any substance which changes the colour of the grain.
- FERTILISER
- GLASS/HARD PLASTICS
- PICKLED GRAIN - Grain that has been treated to prevent disease and is recognised mainly by the colour (generally red or blue), as particles of the compound adhere to the kernel.
- RODENT BAIT
- TAINTED GRAIN - Grain that has been contaminated by another substance causing it to smell. Examples are diesel, eucalyptus and grease.

Level 2 contaminants are those that constitute a food safety or processing hazard and may be able to be managed in the supply chain at a significant cost;

- ANIMAL RESIDUE - This includes all bodies and parts thereof. **This also refers to the presence of meat meal, blood meal, poultry offal meal.**
- LIVE GRAIN INSECTS - These are any insects that feed on grain.
- PLASTIC – Pieces of softer plastic includes bags, containers, mulesing clips and ear tags etc.
- LIVE PEA WEEVILS – Note; dead pea weevils are acceptable.
- STOCK FEED or PELLETS
- OTHER OBJECTIONABLE MATERIAL – includes clumps of damp and/or mouldy grain

Level 3 contaminants are those that can be managed on farm and present a food safety or processing risk;

- CORIANDER - Refer to Seed Impurities of Grain Handbook.
- CROW GARLIC - Refer to Seed Impurities of Grain Handbook.
- THREE-HORNED BEDSTRAW – Declared pest. Refer Seed Impurities of Grain Handbook.
- STICKS - Defined as any piece of wood greater than 1cm in length and 0.5cm in diameter. **This also includes canola stubble greater than 1cm diameter and 3cm length.**
- METAL.

NO LOAD CAN BE RETENDERED IF IT CONTAINS THE CONTAMINANTS LISTED ABOVE
GRAIN CONTAINING THESE CONTAMINANTS CANNOT BE BLENDED WITH OTHER LOADS AND
DELIVERED

If a load containing these contaminants is knowingly delivered, then the grower will be charged under the provisions of the Bulk Handling Act and Regulations.

Refer to GQAM Module 3 “Contaminated loads” – for detailed instructions.

Document Assistance

GTA Visual Recognition Standards Guide
Grain Quality Assessment Manual

Varietal Grouping List
Definitions and Photos

1. OBTAIN A REPRESENTATIVE SAMPLE

Obtain a representative sample by spearing each trailer. Minimum requirements: 4 spears per trailer.

2. INFRATEC RESULTS

1. Scoop a subsample from the composite bucket and place into the Infratec hopper.
2. Press "Analyse" to start Infratec Analysis.
3. Results are auto captured.

3. 200 GRAM COUNT

1. Weigh out 200 grams from the bucket and place on the Chickpea Screen (4.0mm) with the bottom tray attached.
2. Shake the screen in the direction of the slots until no more material passes through.
3. Remove and count any doublegees and pulses from both the top of the screen and the bottom tray. Set this material to one side as it will be included with Foreign Material in step 4.2.

4. 200 GRAM ASSESSMENTS

If any small and sound chick peas have passed through to the bottom tray, remove them and place them back with the chick peas on top of the screen.

4.1 UNMILLABLE MATERIAL

1. Remove all Unmillable Material from above the screen and the bottom tray.
2. If sand is present, separate the sand using a small foreign seed screen or a sieve.
3. Weigh all Unmillable Material together. Leave in the balance bowl as this material will be included in step 4.2.

4.2 FOREIGN MATERIAL WEIGH

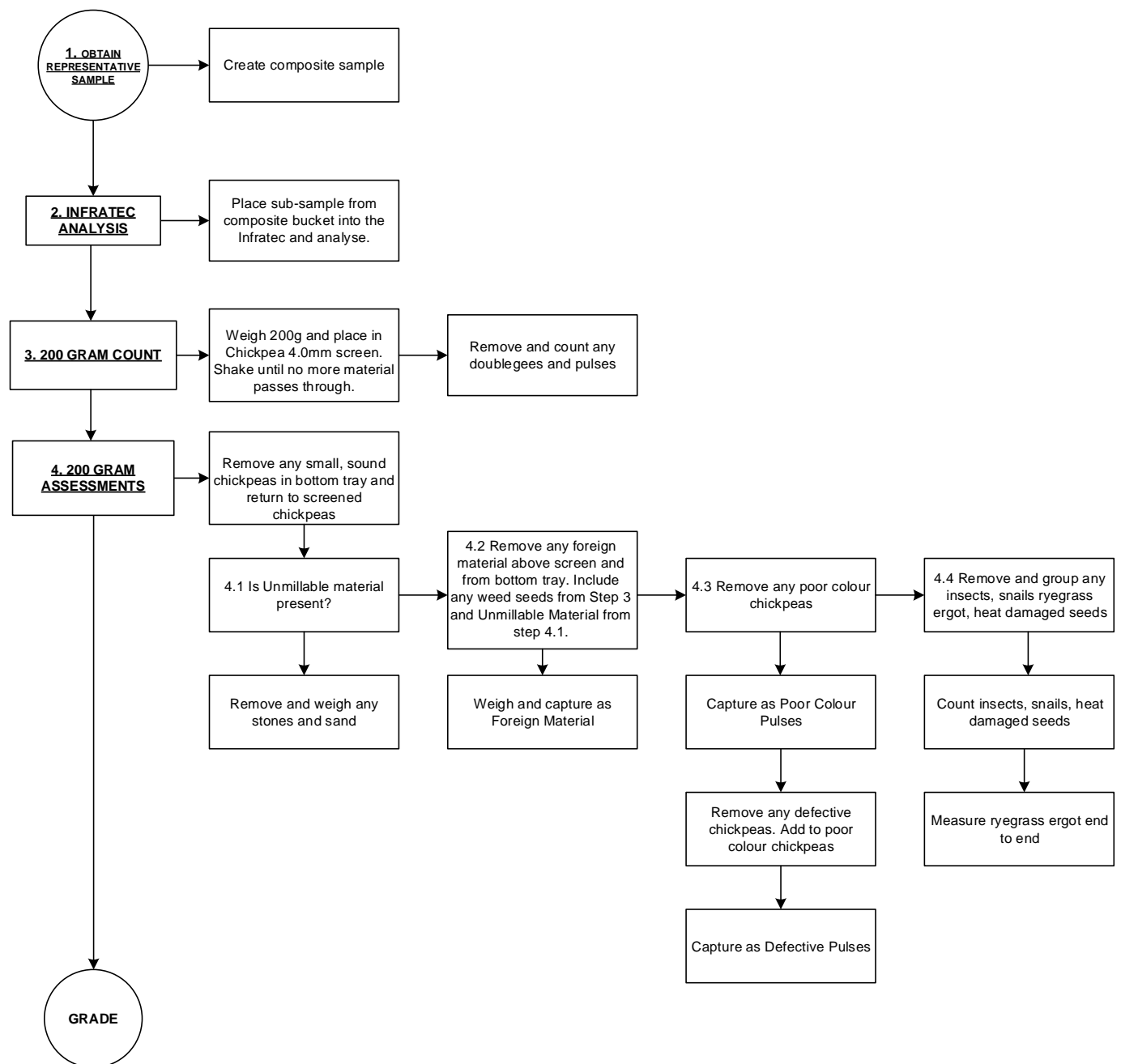
1. Remove any Foreign Material from above the screen and the bottom tray.
2. Include any weed seeds previously counted/removed from step **3**.
3. Include the Unmillable Material from step **4.1**.
4. Weigh and capture as Foreign Material.

4.3 POOR COLOUR AND DEFECTIVE CHICKPEAS

1. Remove and weigh any poor colour chickpeas. Capture as Poor Colour Pulses.
2. If defective chickpeas are present, remove and combine them with the poor colour chickpeas and weigh together. Capture as Defective Pulses.

4.4 FOREIGN MATERIAL COUNT

1. Lay all pieces of ryegrass ergot found end to end and measure the length.
2. Remove and count any severely damaged grains.
3. Remove, group and count any dead grain insects, field insects or whole snail shells.

PROCEDURE FLOW CHART

2022/23 Chickpea Receival Standards



* Direct any queries regarding these Receival standards to the local CBH Quality Coordinator.

* Copies of the most up to date Receival standards can be downloaded from LoadNet®.

Date 7/09/2022

NOTE: Not all grades are available at all sites

	CHI1	CFED1
2. INFRATEC RESULTS		
Protein	No Limit	No Limit
Moisture Content (maximum %)	14.0	14.0
3. 200 GRAM COUNT		
Doublegees (maximum)	5	20
Field Peas (maximum)	15	25
Pulses (maximum)	3	20
Lupins, Vetches - remove from pods where applicable		
4. 200 GRAM ASSESSMENTS		
Screen: Chickpea 4.0mm slots, shake until no more material passes through		
4.1 UNMILLABLE MATERIAL		
Unmillable Material (maximum %)	0.5%	0.5%
Unmillable Material (maximum g)	1g	1g
Sand, Stones and Mineral Matter		
4.2 FOREIGN MATERIAL WEIGH		
Foreign Material (maximum %)	3.0%	6.0%
Foreign Material (maximum g)	6g	12g
All Unmillable material, all weed seeds, all other vegetable matter other than chickpeas.		
4.3 POOR COLOURED AND DEFECTIVE CHICKPEAS		
Poor Colour Pulses (maximum %)	2.0%	5.0%
Poor Colour Pulses (maximum g)	4g	10g
Seed coats vary from dark brown to black. Includes stained and weather damaged seed coats and green. Does not include tiger striping or speckles.		
Defective Pulses (maximum %)	6.0%	15.0%
Defective Pulses (maximum g)	12g	30g
All Poor Colour Chickpeas, seeds that are broken, chipped, frost damaged, diseased, green, hail damaged, insect damaged, sappy, shrivelled, split, sprouted, weather damaged, and/or wrinkled.		
4.4 FOREIGN MATERIAL COUNT		
Ryegrass Ergot (maximum length)	2 cm	2 cm
Purple to black fungal body with white inside, hard and fractures easily		
Severely Damaged Grains (maximum)	1	1
Mould, heat damaged/burnt or other serious visual defects. Grain appears dark brown or blackened, including under the seed coat.		
Dead Grain Insects (maximum)	5	5
Field Insects (maximum)	15	15
Live or Dead, Grasshoppers, Woodbugs, Ladybirds, Armyworms, Pea/Native Weevils (dead only - live are considered a Contaminant)		
Whole Snail Shells (maximum)	1	1
Whole or more than half shells, including bodies. Fragments Acceptable		

CO-OPERATIVE BULK HANDLING LTD**2022/23 Field Pea Receival Standards****Issued September 2022**

The assessment procedures and limits contained in these standards have been developed and adopted in accordance with GIWA guidelines and principles where operationally possible.

It is the Growers responsibility to ensure that ALL Field Pea Deliveries are of the current season, mature, of the nominated variety and free from objectionable contaminants as listed below.

THE LOAD IS NOT ACCEPTABLE IF IT DOES NOT ADHERE TO THE LIMITS AND STANDARDS REQUIRED FOR DELIVERY. UNACCEPTABLE LOADS ARE EITHER UNDERGRADE OR CONTAMINATED. UNDERGRADE LOADS ARE THOSE THAT DO NOT ADHERE TO THE LIMITS CONTAINED IN THIS DOCUMENT (UNDERGRADE LOAD PROCEDURES MUST BE FOLLOWED SEE GRAIN QUALITY ASSESSMENT MANUAL, MODULE 3).

CONTAMINATED LOADS ARE LOADS WHICH CONTAIN ANY OF THE FOLLOWING CONTAMINANTS FOUND ANYWHERE THROUGHOUT THE SAMPLING PROCESS INCLUDING IN THE TRUCK, BUCKET, DURING ASSESSMENT, DURING DISCHARGE OR POST DELIVERY IF THE IDENTITY CAN BE PRESERVED.

CBH reserves the right to reject any delivery that contains any commercially unacceptable contaminant or has any inherent vice or feature that would affect the ability of CBH to outturn the grain at the grade in respect of which the grain is received by CBH.

If a Level 1 or 2 contaminant is found notify the RPOIC immediately. A Contaminated Load Sample will be collected and a Contaminated Grain Report completed.

The Quality Coordinator/Senior Specialist - Quality will also instigate a Contaminated Load Report in IBIS.

If a Level 3 contaminant is found a Contaminated Load Sample will be collected. No Contaminated Grain Report is required. Please immediately contact the Quality Coordinator/Senior Specialist – Quality, who will complete a Contaminated Load Report in IBIS.

ⓘ A strong garlic odour may indicate the presence of Phosphine, please stop sampling and inform RPOIC immediately.

CONTAMINANTS

Level 1 contaminants are those that cannot be removed and constitute a significant food safety or quality risk;

- BALL SMUT - Defective grain of **wheat** caused by infection by the spores of the fungus *Tilletia caries*. Also called stinking smut or bunt.
- CHEMICAL RESIDUES – Residues of any chemical compounds not approved for field peas, used in contravention of the labelled instructions or chemicals in excess of the MRL (detectable by any means including post-harvest testing).
- DRYACIDE TREATED GRAIN - Dryacide is a white coloured mineral compound placed on grain to prevent grain insects. Though non-toxic, it affects the flow properties of grain.
- DYED GRAIN – Any substance which changes the colour of the grain.
- FERTILISER
- GLASS/HARD PLASTICS
- PICKLED GRAIN - Grain that has been treated to prevent disease and is recognised mainly by the colour (generally red or blue), as particles of the compound adhere to the kernel.
- RODENT BAIT
- TAINTED GRAIN - Grain that has been contaminated by another substance causing it to smell. Examples are diesel, eucalyptus and grease.

Level 2 contaminants are those that constitute a food safety or processing hazard and may be able to be managed in the supply chain at a significant cost;

- ANIMAL RESIDUE - This includes all bodies and parts thereof.
- LIVE GRAIN INSECTS - These are any insects that feed on grain.
- PLASTIC – Pieces of softer plastic includes bags, containers, mulesing clips and ear tags etc...
- LIVE PEA WEEVILS – Note; dead pea weevils are acceptable.
- STOCK FEED or PELLETS
- OTHER OBJECTIONABLE MATERIAL – includes clumps of damp and/or mouldy grain

Level 3 contaminants are those that can be managed on farm and present a food safety or processing risk;

- CORIANDER - Refer to Seed Impurities of Grain Handbook.
- CROW GARLIC - Refer to Seed Impurities of Grain Handbook.
- THREE-HORNED BEDSTRAW – Declared pest. Refer Seed Impurities of Grain Handbook.
- STICKS - defined as any piece of wood greater than 1cm in length and 0.5cm in diameter. **This also includes canola stubble greater than 1cm in diameter and 3cm in length.**
- METAL.

NO LOAD CAN BE RETENDERED IF IT CONTAINS THE CONTAMINANTS LISTED ABOVE
GRAIN CONTAINING THESE CONTAMINANTS CANNOT BE BLENDED WITH OTHER LOADS AND DELIVERED

If a load containing these contaminants is knowingly delivered, then the grower will be charged under the provisions of the Bulk Handling Act and Regulations.

Refer to GQAM Module 3 “Contaminated loads” – for detailed instructions.

Document Assistance

GTA Visual Recognition Standards Guide
Grain Quality Assessment Manual

Varietal Grouping List
Definitions and Photos

1. OBTAIN A REPRESENTATIVE SAMPLE

Obtain a representative sample by spearing each trailer. Minimum requirements: 4 spears per trailer.

2. INFRATEC RESULTS

1. Scoop a subsample from the composite bucket and place into the Infratec hopper.
2. Press "Analyse" to start Infratec Analysis
3. Results are auto captured.

3. 200 GRAM COUNT

1. Weigh out 200 grams from the bucket and place on the Faba Bean Screen (3.75mm) with the bottom tray attached.
2. Shake the screen in the direction of the slots until no more material passes through.
3. Count any animal excreta, doublegees and pulses from both the top of the screen and the bottom tray. Set this material to one side as it will be included with Foreign Material in step 4.2.

4. 200 GRAM ASSESSMENTS

If any small and sound field peas have passed through to the bottom tray, remove them and place them back with the field peas on top of the screen.

4.1 UNMILLABLE MATERIAL

1. Remove all unmillable material from above the screen and the bottom tray.
2. If sand is present, separate the sand using a small foreign seed screen or a sieve.
3. Weigh all Unmillable Material together. Leave in the balance bowl as this material will be included in step 4.2.

4.2 FOREIGN MATERIAL WEIGH

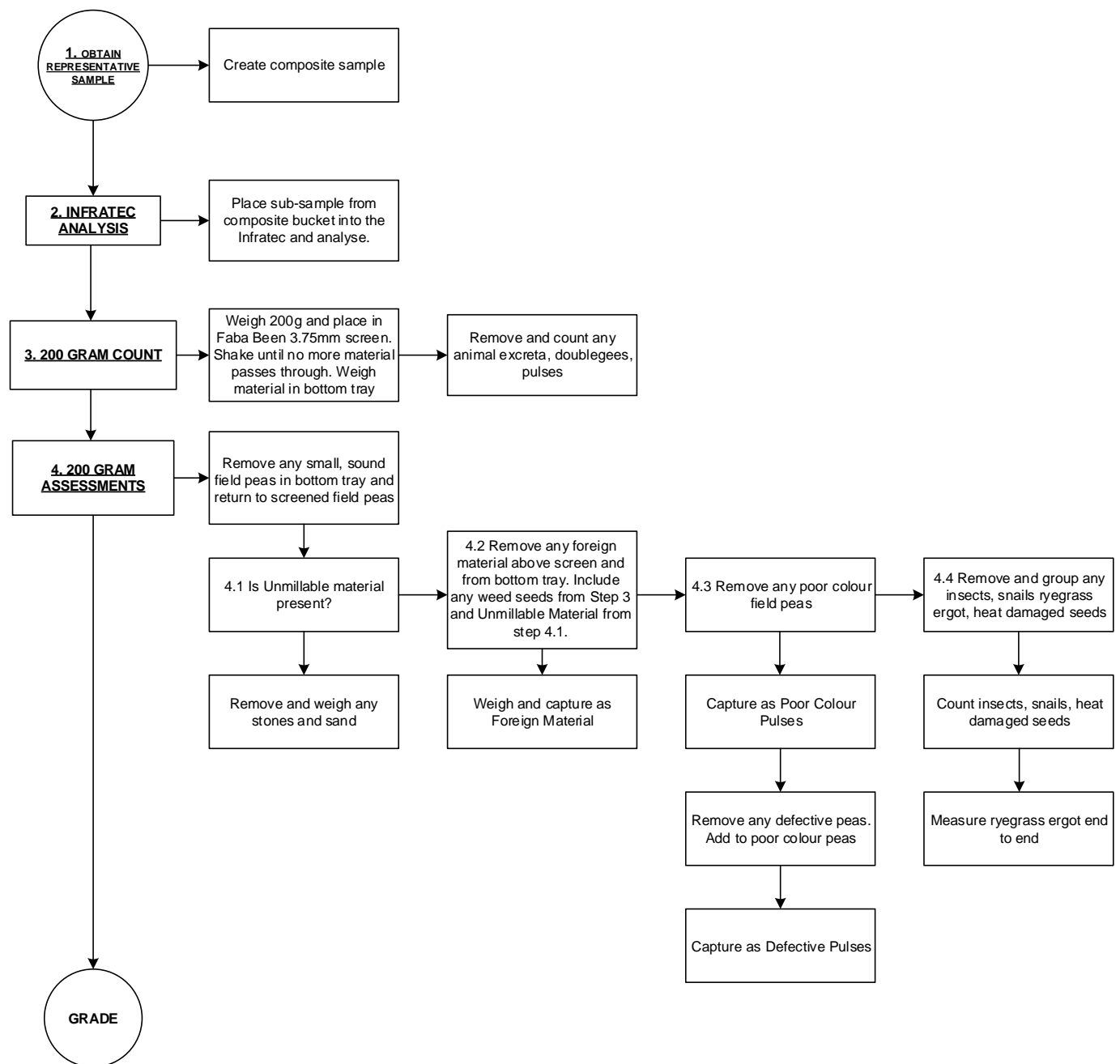
1. Remove any foreign material from above the screen and the bottom tray.
2. Include any weed seeds previously counted/removed from step **3**.
3. Include the Unmillable Material from step **4.1**.
4. Weigh and capture as Foreign Material.

4.3 POOR COLOURED AND DEFECTIVE FIELD PEAS

1. Remove and weigh any poor coloured field peas. Capture as Poor Colour Pulses.
2. If defective field peas are present remove and combine them with the poor coloured field peas and weigh together. Capture as Defective Pulses.

4.4 FOREIGN MATERIAL COUNT

1. Lay all pieces of ryegrass ergot found end to end and measure the length.
2. Remove and count any severely damaged grains.
3. Remove, group and count any dead grain insects, field insects or whole snail shells.

PROCEDURE FLOW CHART

2022/23 Field Pea Receival Standards



* Direct any queries regarding these Receival standards to the local CBH Quality Coordinator.

* Copies of the most up to date Receival standards can be downloaded from LoadNet®.

Date: 7/09/2022

NOTE: Not all grades are available at all sites

	PKA1	PEA1	PEA2	PEAMIL	PFED1
2. INFRATEC RESULTS					
Protein	No Limit	No Limit	No Limit	No Limit	No Limit
Moisture Content (maximum %)	14.0	14.0	14.0	14.0	14.0
3. 200 GRAM COUNT					
Animal Excreta Consists of waste matter eliminated or separate from an organism	1	1	1	1	1
Doublegees (maximum)	5	5	5	5	15
Pulses (maximum) Chick Peas, Lupins, Faba Beans, Lentils, Vetches- remove from pods where applicable	10	10	15	15	20
4. 200 GRAM ASSESSMENTS					
Screen: Faba Bean 3.75mm slots, shake until no more material passes through					
4.1 UNMILLABLE MATERIAL					
Unmillable Material (maximum %)	0.30%	0.50%	0.50%	1%	0.50%
Unmillable Material (maximum g) Sand, Stones and Mineral Matter	0.6g	1g	1g	2g	1g
4.2 FOREIGN MATERIAL WEIGH					
Foreign Material (maximum %)	3.0%	3.0%	3.0%	3.0%	6.0%
Foreign Material (maximum g) All Unmillable material, all other vegetable matter other than field peas. Includes white milling field peas	6g	6g	6g	6g	12g
4.3 POOR COLOURED AND DEFECTIVE FIELD PEAS					
Poor Colour Pulses (maximum %)	1.0%	1.0%	1.0%	1.0%	15.0%
Poor Colour Pulses (maximum g) Seed coats with visible markings, dark brown to black in colour. Includes green kernels inside the seed coat	2g	2g	2g	2g	30g
Defective Pulses (maximum %)	3.0%	3.0%	7.0%	7.0%	15.0%
Defective Pulses (maximum g) All Poor Colour Peas, seeds that are broken, damaged, split, sappy, green, immature, shrivelled, distorted, insect damaged and sprouted	6g	6g	14g	14g	30g
4.4 FOREIGN MATERIAL COUNT					
Ryegrass Ergot (maximum length) Purple to black fungal body with white inside, hard and fractures easily	2 cm	2 cm	2 cm	2 cm	2 cm
Severely Damaged Grains (maximum) Mould, heat damaged/burnt or other serious visual defects. Grain appears dark brown or blackened, including under the seed coat.	1	1	1	1	1
Dead Grain Insects (maximum)	5	5	5	5	5
Field Insects (maximum) Live or Dead, Grasshoppers, Woodbugs, Ladybirds, Armyworms, Pea/Native Weevils (dead only - live are considered Contaminant)	15	15	15	15	15
Whole Snail Shells (maximum) Whole or more than half shells. Fragments Acceptable	1	1	1	1	1

CO-OPERATIVE BULK HANDLING LTD**2022/23 Lupin Receival Standards****Issued September 2022**

The assessment procedures and limits contained in these standards have been developed and adopted in accordance with GIWA guidelines and principles where operationally possible.

It is the Growers responsibility to ensure that ALL Lupin Deliveries are of the current season, mature, of the nominated variety and free from objectionable contaminants as listed below.

THE LOAD IS NOT ACCEPTABLE IF IT DOES NOT ADHERE TO THE LIMITS AND STANDARDS REQUIRED FOR DELIVERY. UNACCEPTABLE LOADS ARE EITHER UNDERGRADE OR CONTAMINATED. UNDERGRADE LOADS ARE THOSE THAT DO NOT ADHERE TO THE LIMITS CONTAINED IN THIS DOCUMENT (UNDERGRADE LOAD PROCEDURES MUST BE FOLLOWED - SEE GRAIN QUALITY ASSESSMENT MANUAL MODULE 3).

CONTAMINATED LOADS ARE LOADS WHICH CONTAIN ANY OF THE FOLLOWING CONTAMINANTS FOUND ANYWHERE THROUGHOUT THE SAMPLING PROCESS INCLUDING IN THE TRUCK, BUCKET, DURING ASSESSMENT, DURING DISCHARGE OR POST DELIVERY IF THE IDENTITY CAN BE PRESERVED.

CBH reserves the right to reject any delivery that contains any commercially unacceptable contaminant or has any inherent vice or feature that would affect the ability of CBH to outturn the grain at the grade in respect of which the grain is received by CBH.

If a Level 1 or 2 contaminant is found notify the RPOIC immediately. A Contaminated Load Sample will be collected and a Contaminated Grain Report completed.

The Quality Coordinator/Senior Specialist - Quality will also instigate a Contaminated Load Report in IBIS.

If a Level 3 contaminant is found a Contaminated Load Sample will be collected. No Contaminated Grain Report is required. Please immediately contact the Quality Coordinator/Senior Specialist – Quality, who will complete a Contaminated Load Report in IBIS.

① A strong garlic odour may indicate the presence of Phosphine, please stop sampling and inform RPOIC immediately.

CONTAMINANTS

Level 1 contaminants are those that cannot be removed and constitute a significant food safety or quality risk;

- BALL SMUT - Defective grains of **Wheat** caused by infection by the spores of the fungus *Tilletia caries*. Also called Stinking Smut or Bunt.
- CHEMICAL RESIDUES – Residues of any chemical compounds not approved for lupins, used in contravention of the labelled instructions or chemicals in excess of the MRL (detectable by any means including post-harvest testing).
- DRYACIDE TREATED GRAIN - Dryacide is a white coloured mineral compound placed on grain to prevent grain Insects. Though non-toxic, it affects the flow properties of grain.
- DYED GRAIN – Any substance which changes the colour of the grain.
- FERTILISER
- GLASS/HARD PLASTIC
- PICKLED GRAIN - Grain that has been treated to prevent disease and is recognised mainly by the colour (generally red or blue), as particles of the compound adhere to the kernel.
- RODENT BAITS
- TAINTED GRAIN - grain that has been contaminated by another substance causing it to smell. Examples are diesel, eucalyptus and grease.

Level 2 contaminants are those that constitute a food safety or processing hazard and may be able to be managed in the supply chain at a significant cost including;

- ANIMAL RESIDUE or EXCRETA -This includes all excreta, bodies and parts thereof. **This also refers to the presence of meat meal, blood meal, poultry offal meal.**
- LIVE GRAIN INSECTS - These are any Insects that feed on grain.
- PLASTIC – Pieces of softer plastic includes bags, containers, mulesing clips and ear tags etc...
- STOCK FEED or PELLETS
- OTHER OBJECTIONABLE MATERIAL – includes clumps of damp and/or mouldy grain

Level 3 contaminants are those that can be managed on farm and present a food safety or processing risk, including;

- CORIANDER - Refer to Seed Impurities of Grain Handbook.
- CROW GARLIC - Refer to Seed Impurities of Grain Handbook.
- THREE-HORNED BEDSTRAW – Declared pest. Refer Seed Impurities of Grain Handbook.
- METAL.

NO LOAD CAN BE RETENDERED IF IT CONTAINS THE CONTAMINANTS LISTED ABOVE
GRAIN CONTAINING THESE CONTAMINANTS CANNOT BE BLENDED WITH OTHER LOADS
AND DELIVERED

If a load containing these contaminants is knowingly delivered, then the grower will be charged under the provisions of the Bulk Handling Act and Regulations.

Refer to GQAM Module 3 “Contaminated loads” – for detailed instructions.

Document Assistance

GTA Visual Recognition Standards Guide
Grain Quality Assessment Manual

Varietal Grouping List
Definitions and Photos

1. OBTAIN A REPRESENTATIVE SAMPLE

Obtain a representative sample by spearing each trailer. Minimum requirements: 4 spears per trailer.

2. INFRATEC ANALYSIS

1. Scoop a subsample from the composite bucket and place into the Infratec hopper.
2. Press "Analyse" to start Infratec Analysis
3. Results are auto captured.

3. DEFECTIVE SEEDS ASSESSMENT 5 BLACK PLASTIC MEASURES

1. Scoop 5 full and level black plastic measures from the bucket and place in small sample tray.
2. Remove, group and count defective lupin seeds including discoloured, insect damaged and fully de-coated.

4. FOREIGN MATERIAL ASSESSMENT 200 GRAMS

1. Weigh out 200 grams from the bucket and place on the **lupin screen (3.0 mm x 25.4 mm)** with the bottom tray attached.
2. Shake the screen in the direction of the slots until no more material passes through.
3. Any non-lupin material remaining on top of the screen must be removed and added to the material in the bottom tray. Any sound lupin seeds that have passed through the screen should be removed and added to the clean lupins on top of the screen.
4. Weigh the material remaining in the bottom tray.

4.1 FOREIGN MATERIAL ASSESSMENT <6 GRAMS

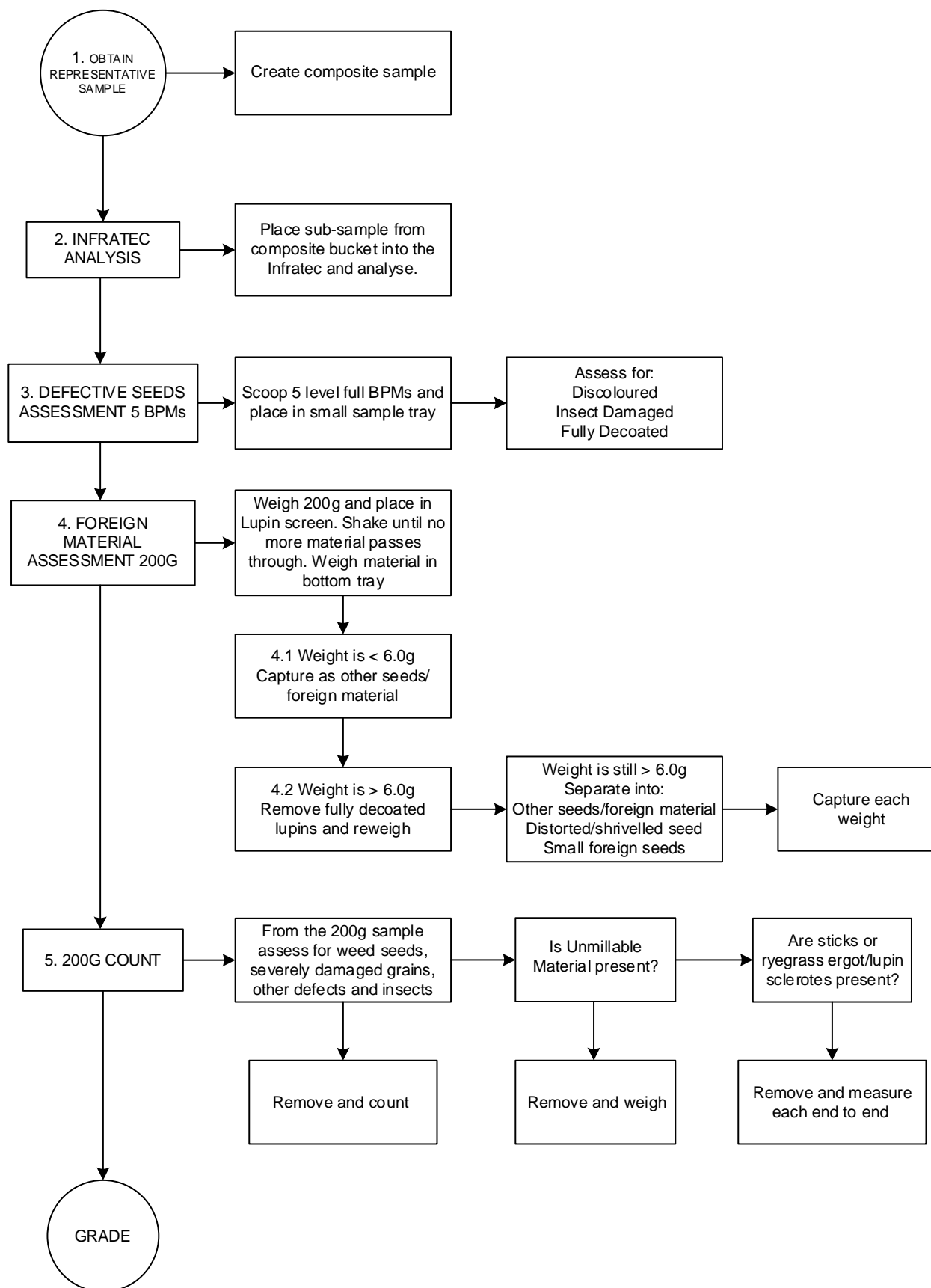
- a. If the weight is less than **6 grams** capture the weight as **other seeds/foreign material**.

4.2 FOREIGN MATERIAL ASSESSMENT >6 GRAMS

- b. If the weight is greater than **6 grams** remove the **fully de-coated lupins** and reweigh.
- c. If the weight is still over **6 grams** use the SFS screen and/or Aerovac to separate the material into the three categories listed below and weigh each category individually.
 - Other seeds/foreign material,
 - Shrivelled/distorted seed,
 - Small foreign seeds.

5. 200 GRAM COUNT

1. Remove, group and count, weigh, or measure from the 200 grams any further weed seeds, defects, insects, unmillable material and foreign material not listed above.

PROCEDURE FLOW CHART

2022/23 Lupin Receival Standards Limits

* Direct any queries regarding these Receival standards to the local CBH Quality Coordinator.

* Copies of the most up to date Receival standards can be downloaded from LoadNet®.



Date: 7/09/2022

LUP1	
2. INFRATEC ANALYSIS	
Protein (%)	No Limit
Moisture Content (maximum %)	14
Temperature	No Limit
3. DEFECTIVE SEEDS ASSESSMENT 5 BLACK PLASTIC MEASURES	
Discoloured (maximum)	18
Seeds with a yellow to dark brown colour. Blue or green tinge lupins are acceptable	
Insect Damaged (maximum)	60
Seeds with any visible insect damage i.e. holes	
Fully Decoated/ Split Lupins (maximum)	60
The seed covering has been completely removed, 2 halves are counted as 1	
4. FOREIGN MATERIAL ASSESSMENT 200 GRAMS	
4.1 FOREIGN MATERIAL ASSESSMENT <6 GRAMS	
Other Seeds/Foreign Material (maximum %)	6%
Other Seeds/Foreign Material (maximum g)	12g
All non-lupin material plus Albus lupins, lupin plant and seed material, all other grains & weed seeds	
4.2 FOREIGN MATERIAL ASSESSMENT >6 GRAMS	
Shrivelled/Distorted Seed (maximum%)	3%
Shrivelled/Distorted Seed (maximum g)	6g
Grains are smaller, severely distorted and/or shrunken. Seed coats may show discolouration.	
Small Foreign Seeds (maximum %)	2%
Small Foreign Seeds (maximum g)	4g
Ryegrass, Canary Seed, Turnip, Canola, Dock Seed, Radish Seed	
5. 200 GRAM COUNT	
Severely Damaged Grains (maximum)	1
Mould, heat damaged/burnt or other serious visual defects. Grain appears dark brown or blackened, including under the seed coat.	
Type 1 Seeds (maximum)	1
Sunflower, Safflower, Variegated Thistle	
Type 2 Seeds (maximum)	3
Saffron Thistle	
Type 3 Seeds (maximum)	8
Doublegees	
Bitter Variety Lupins (maximum)	2
Includes bitter yellow lupins, blue lupins, Borre lupins. Identifiable by darker colour	
Yellow Lupins (maximum)	30
Variety of lupins with 'soybean' appearance	
Sappy Green Grains/Sprouted Lupins (maximum)	5
Sprouted Lupins have split seed coat and emerged root	
Field Insects (maximum)	15
(Live or Dead) Grasshoppers, Woodbugs, Ladybirds, Pea/Native Weevils, Army worms.	
Whole Snail Shells (maximum)	5
(Live or Dead) Fragments acceptable	
Dead Grain Insects (maximum)	5
Fungus Beetles (maximum)	1
Live or dead	
REMOVE AND WEIGH	
Unmillable Material (maximum)	0.2g
Sand, Stones	
REMOVE AND MEASURE	
Sticks	
Maximum Length	3 cm
Maximum Diameter	1 cm
Ryegrass Ergot/Lupin Sclerotes (maximum length)	2.5cm
Purple to black fungal body with white inside, hard and fractures easily	

CO-OPERATIVE BULK HANDLING LTD**2022/23 Oats Receival Standards****Issued September 2022**

The assessment procedures and limits contained in these standards have been developed and adopted in accordance with GIWA guidelines and principles where operationally possible.

It is the Growers responsibility to ensure that ALL Oats Deliveries are of the current season, mature, of the nominated variety and free from objectionable contaminants as listed below.

THE LOAD IS NOT ACCEPTABLE IF IT DOES NOT ADHERE TO THE LIMITS AND STANDARDS REQUIRED FOR DELIVERY. UNACCEPTABLE LOADS ARE EITHER UNDERGRADE OR CONTAMINATED. UNDERGRADE LOADS ARE THOSE THAT DO NOT ADHERE TO THE LIMITS CONTAINED IN THIS DOCUMENT (UNDERGRADE LOAD PROCEDURES MUST BE FOLLOWED SEE GRAIN QUALITY ASSESSMENT MANUAL MODULE 3).

CONTAMINATED LOADS ARE LOADS WHICH CONTAIN ANY OF THE FOLLOWING CONTAMINANTS FOUND ANYWHERE THROUGHOUT THE SAMPLING PROCESS INCLUDING IN THE TRUCK, BUCKET, DURING ASSESSMENT, DURING DISCHARGE OR POST DELIVERY IF THE IDENTITY CAN BE PRESERVED.

CBH reserves the right to reject any delivery that contains any commercially unacceptable contaminant or has any inherent vice or feature that would affect the ability of CBH to outturn the grain at the grade in respect of which the grain is received by CBH.

If a Level 1 or 2 contaminant is found notify the RPOIC immediately, a Contaminated Load Sample will be collected and a Contaminated Grain Report completed.

The Quality Coordinator/Senior Specialist - Quality will also instigate a Contaminated Load Report in IBIS.

If a Level 3 contaminant is found a Contaminated Load Sample will be collected. No Contaminated Grain Report is required. Please immediately contact the Quality Coordinator/Senior Specialist – Quality, who will complete a Contaminated Load Report in IBIS.

① A strong garlic odour may indicate the presence of Phosphine, please stop sampling and inform RPOIC immediately.

CONTAMINANTS

Level 1 contaminants are those that cannot be removed and constitute a significant food safety or quality risk including;

- BALL SMUT - Defective grains of **wheat** caused by infection by the spores of the fungus *Tilletia caries*. Also called stinking smut or bunt.
- CHEMICAL RESIDUES – Chemicals not registered for oats (entire load). Nil tolerance of any residues of any chemical compound not registered for Oats, or used in contravention of the labelled instructions, or in excess of the registered MRL.
- DRYACIDE TREATED GRAIN - Dryacide is a white coloured mineral compound placed on grain to prevent grain Insects. Though non-toxic, it affects the flow properties of grain.
- DYED GRAIN – Any substance which changes the colour of the grain.
- FERTILISER
- GLASS/HARD PLASTIC
- PICKLED GRAIN - Grain that has been treated to prevent disease and is recognised mainly by the colour (generally red or blue), as particles of the compound adhere to the kernel.
- RODENT BAIT
- TAINTED GRAIN - grain that has been contaminated by another substance causing it to smell. Examples are diesel, eucalyptus and grease.

Level 2 contaminants are those that constitute a food safety or processing hazard and may be able to be managed in the supply chain at a significant cost including;

- ANIMAL RESIDUE or EXCRETA - This includes all excreta, bodies and parts thereof. **This also refers to the presence of meat meal, blood meal and/or poultry offal meal.**
- LIVE GRAIN INSECTS - These are any Insect that feed on Grain.
- MUSTY GRAINS – Grain that has been in storage and has a disagreeable smell.
- PLASTIC – pieces of softer plastic including bags, containers, mulesing clips and ear tags etc
- STOCK FEED or PELLETS
- OTHER OBJECTIONABLE MATERIAL – includes clumps of damp and/or mouldy grain

Level 3 contaminants are those that can be managed on farm and present a food safety or processing risk, including;

- CORIANDER - Refer to Seed Impurities of Grain Handbook.
- CROW GARLIC - Refer to Seed Impurities of Grain Handbook.
- THREE-HORNED BEDSTRAW – Declared pest. Refer Seed Impurities of Grain Handbook.
- METAL
- INSECT DAMAGE – Grain that has been damaged by insects.

NO LOAD CAN BE RETENDERED IF IT CONTAINS THE CONTAMINANTS LISTED ABOVE

GRAIN CONTAINING THESE CONTAMINANTS CANNOT BE BLENDED WITH OTHER LOADS AND DELIVERED

If a load containing these contaminants is knowingly delivered, then the grower will be charged under the provisions of the Bulk Handling Act and Regulations.

Refer to GQAM Module 3 “Contaminated loads” – for detailed instructions.

Document Assistance

GTA Visual Recognition Standards Guide
Grain Quality Assessment Manual

Varietal Grouping List
Definitions and Photos

1. OBTAIN A REPRESENTATIVE SAMPLE

Obtain a representative sample by spearing each trailer. Minimum requirements: 4 spears per trailer.

2. INFRATEC ANALYSIS

1. Scoop a subsample from the composite bucket and place into the Infratec hopper.
2. Press "Analyse" to start Infratec Analysis
3. Results are auto captured.

3. HECTOLITRE WEIGHT

1. Ensure the chondrometer set is verified and on a level, stable surface.
2. Fill the small sample tray with grain from the bucket. Pour the grain from the small sample tray into the chondrometer at a steady, constant rate. Visually check the grain for obvious contaminants and impurities while pouring the grain.
3. Once the entire chondrometer is full, place one hand over the filler tube. Slide the cutter bar into the slot and push it through the grain with **a single firm stroke**, taking care not to shake or jar the **chondrometer**. Return the excess grain from the small sample tray into the bucket.

① If the chondrometer is jarred or shaken whilst in use it must be emptied and refilled again.

4. Leaving the cutter bar pressed in and holding the chondrometer bucket and filler tube as one, remove the filler tube and the surplus grain from above the cutter bar (similar to breaking an egg). This should be done over the large tray or the composite bucket.
5. Return the chondrometer bucket to an upright position then withdraw the cutter. Return the excess grain from the large sample tray into the bucket.
6. Transfer grain in chondrometer bucket to balance bowl.
7. Capture the hectolitre weight by selecting the corresponding auto-capture button.

4. FOREIGN MATERIAL ASSESSMENT

1. Empty the grain from the balance bowl onto the large sample tray.
2. Spread the grain over the entire tray and remove, group, count or weigh the foreign materials.

① ALL RESULTS MUST BE EXACT AND NOT ESTIMATED

5. SCREENINGS

1. Fit the **Wheat screen (2.0 mm by 12.7mm)** onto the bottom tray and fit to the Agtator. Ensure the coloured strip is centred to align the slots of the screen in the appropriate direction.
2. Pour the half litre from the large sample tray onto the top of the screen on the Agtator. Set the Agtator to **20** shakes and firmly press the green button to begin.

① BPM Assessments can be conducted while Agtator is screening.

3. Once the Agtator is finished, separate the screen from the bottom tray and place the wheat screen in an upright position onto the large sample tray. Pour the contents of the bottom tray into the balance bowl and weigh.
4. Capture the weight of the screenings by selecting the corresponding auto-capture button.

6. BLACK PLASTIC MEASURE ASSESSMENTS (FROM BUCKET)**6.1 ASSESSMENT USING TWO BLACK PLASTIC MEASURES**

1. Scoop **TWO** level black plastic measure from the composite bucket and empty onto the small sample tray.
2. Remove and count any visually defected kernels.
3. Remove, group and count specified weed seeds and groats.

6.2 ASSESSMENT USING FIVE BLACK PLASTIC MEASURES

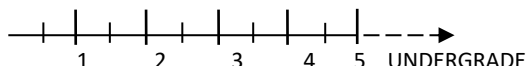
1. Add an additional **THREE** level black plastic measures from the composite bucket to the small sample tray to assess a total of **FIVE** black plastic measures.
2. Remove and count spear grass.
3. Remove and weigh any radish pods present.
4. Return grain to bucket.

① Remember to capture Screenings**7. ASSESSMENT AFTER CAPTURING SCREENINGS****7.1 SMUT AND DEAD GRAIN INSECTS**

1. Empty the screenings from the balance bowl into the small sample tray, remove and count smut and dead grain insects. Include any smut affected grains or dead grain insects remaining above the screen.

7.2 RYEGRASS ERGOT

1. Remove any ryegrass ergot, lay all the pieces found end to end and measure the length in cm.

**7.3 SMALL FOREIGN SEEDS ASSESSMENT**

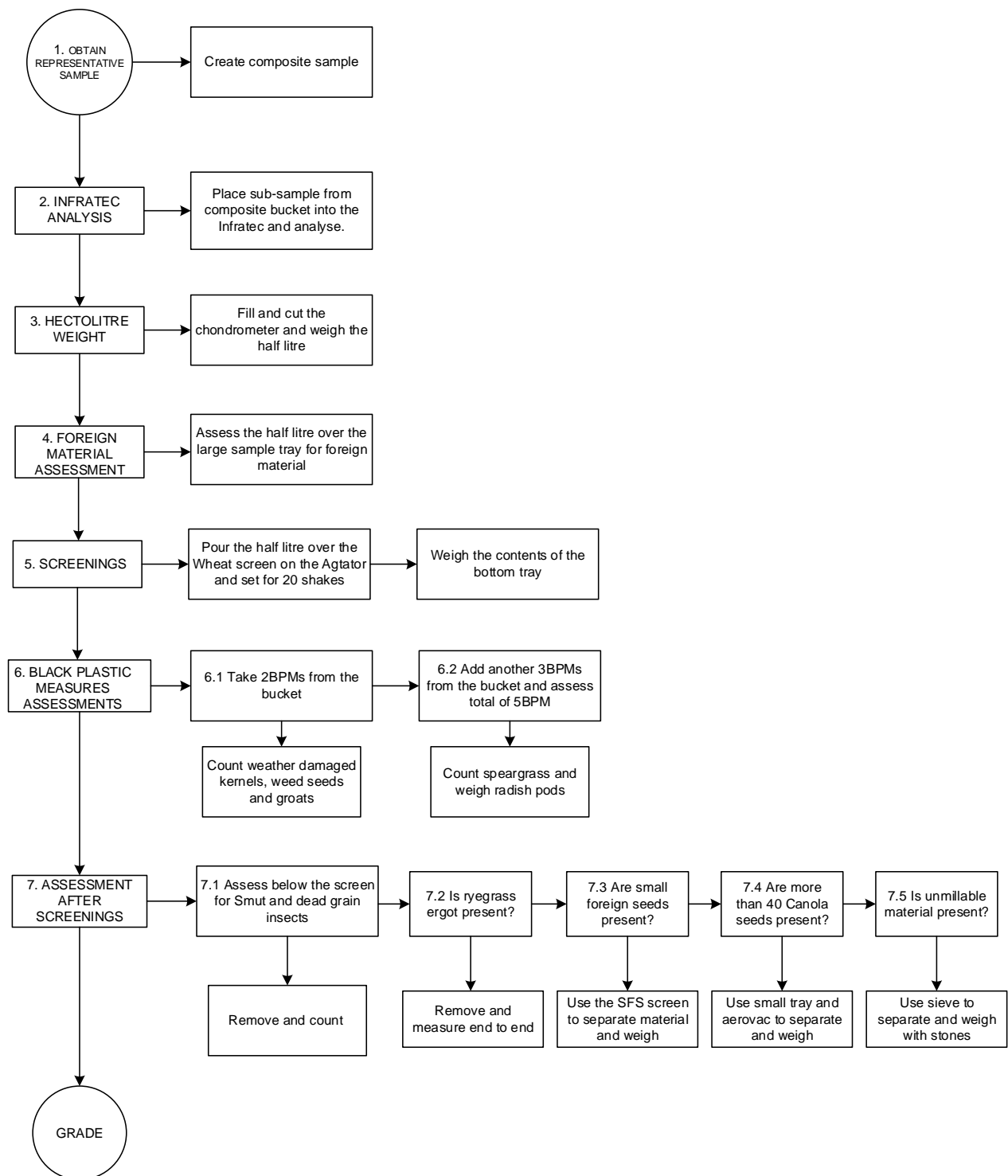
1. If SFS are present, pour the screenings over a **SFS** or insect screen and shake screen until no more material falls through.
2. Separate the small foreign seeds from all other material in the bottom tray, transfer to the balance bowl and auto-capture the result.
3. If more than 40 canola seeds are present, proceed to step **7.4**

7.4 CANOLA

1. Empty the material from the bottom tray into a small sample tray and tilt to roll the sound canola seeds off. The remaining sample will be run through the Aerovac.
2. Ensure both trays are in place on the Aerovac and turn the machine on.
3. Empty the separated screenings into the funnel connected to the side of the Aerovac.
4. Gradually adjust the Aerovac speed regulator until the grains are appropriately separated.
5. Weigh and auto-capture all the canola found.

7.5 UNMILLABLE MATERIAL

1. Empty the screenings into a kitchen sieve held over a tray, shake the kitchen sieve until no more material passes through.
2. If there is only sand in the tray, transfer to the balance bowl, combine any stones found previously with the sand and capture weight as Unmillable Material.
3. If the sand can't be easily separated, use the Aerovac to do so.
 - a. Ensure the collection and cyclone tray are in place on the Aerovac and turn the machine on and adjust to **110**.
 - b. Slowly empty the separated material into the funnel connected to the side of the Aerovac and run the machine until no more material is passed into the upper tray.
 - c. Transfer the sand that remains in the Aerovac tray to the balance bowl. Combine any stones found previously with the sand and capture weight as Unmillable Material.

PROCEDURE FLOW CHART

2022/23 Oats Receival Standards Limits



*If you have any queries regarding these Receival standards, please contact your local CBH Quality Coordinator.

*Copies of the most up to date Receival standards can be downloaded from LoadNet®.

Date: 7/09/2022

NOTE: Not all grades are available at all sites

	OAT1	OWAN1	OAT2
2. INFRATEC ANALYSIS			
Protein (%)	No Limit	No Limit	No Limit
Moisture Content (maximum %)	12	12	12
3. HECTOLITRE WEIGHT			
Weight (minimum kg/hl)	51	51	49
Weight (minimum grams)	255	255	245
4. FOREIGN MATERIAL ASSESSMENT			
REMOVE AND COUNT			
Type 1 Seeds (maximum) Doublegees, Saffron Thistle, Variegated Thistle, Safflower, Sunflower	1	1	1
Pulses (maximum) Lupins, Field peas, Chickpeas	1	1	1
Sappy Green Oat Grains (maximum) Sappy grains are soft when pressed, may or may not be green in colour. Dry green oats are acceptable	10	10	10
Severely Damaged Grains (maximum) Mould, heat damaged/burnt or other serious visual defects. Grain appears dark brown or blackened, including under the husk.	1	1	1
Whole Snail Shells (maximum) Live or dead, Fragments acceptable	2	2	2
Field Insects (maximum) Whole bodies, live or dead, counted per category			
Grasshoppers	5	5	10
Ladybirds	5	5	10
Woodbugs	5	5	10
Pea/native weevils	5	5	10
Army worms	5	5	10
Sprouted Oats (maximum) The shoot is visibly seen growing out from the germ	Nil	Nil	Nil
REMOVE AND MEASURE			
Sticks (maximum combined length)	6 cm	6 cm	6 cm
Sticks (maximum diameter)	1 cm	1 cm	1 cm
REMOVE AND WEIGH			
Unmillable Material (maximum grams) Stones in grams (to be added to any sand found in bottom tray after screenings)	0.3 g	0.3 g	0.3 g
5. SCREENINGS			
Screenings (maximum% of 1/2L) 2.0mm x 12.7mm Wheat Screen (20 Shakes) - ALL MATERIAL IN BOTTOM TRAY IS CAPTURED AS SCREENINGS	10	10	15
6. BLACK PLASTIC MEASURE ASSESSMENTS (FROM BUCKET)			
6.1 ASSESSMENT USING 2 BLACK PLASTIC MEASURES (FROM BUCKET)			
Septoria Affected (maximum) Mottled light and dark Septoria blotches covering more than 50% of the kernel (less than 50% coverage is considered Spotted/Mould A)	15	15	15
Heavily Discoloured Oats More than 50% of surface discoloured brown to black- not including Field Fungi or mould	72	72	72
Computer Calculated Heavily Discoloured/Septoria Affected	72	72	72
Spotted/Mould Affected Grey to black spotting covering more than 10% of kernel surface and any Septoria blotches covering less than 50% of the kernel	72	72	144
Type 4 Seeds (maximum) Wild Oats, Black/Brown Oats, Saia Oats, Drake seed, and any other weed seed not mentioned	3	3	10
Type 2 Seeds (maximum) Barley, Wheat, Triticale, Cereal Rye	7	7	28
Groats (maximum) Oats with the husk removed	72	72	72
6.2 ASSESSMENT USING 5 BLACK PLASTIC MEASURES (FROM BUCKET)			
Type 3 Seeds (maximum) Speargrass	18	18	18
Radish Pods (maximum grams)	0.3 g	0.3 g	1 g
7. ASSESSMENT AFTER CAPTURING SCREENINGS			
7.1 SMUT AND DEAD GRAIN INSECTS			
Dead Grain Insects (maximum)	10	10	10
Smut (maximum) Undersized light coloured grains with dark ends and occasional dark patches, when crushed there is a slight musty smell. Any piece of smut with a length or width greater than 1mm is considered 1 piece	20	20	20
7.2 RYEGRASS ERGOT			
Ryegrass Ergot (maximum length) Purple to black fungal body with white inside, hard and fractures easily	5 cm	5 cm	5 cm
7.3 SMALL FOREIGN SEEDS ASSESSMENT			
Small Foreign Seeds (maximum) Ryegrass, Canary Seed, Turnip, Canola, Dock Seed, Radish Seed	2%	2%	2%
7.4 CANOLA			
Canola (maximum % of 1/2L)	0.5%	0.5%	0.5%
Small Foreign Seeds/Canola Combined (maximum % of 1/2L) Of which the Canola seed weight cannot exceed the Canola seed limits.	2%	2%	2%
7.5 UNMILLABLE MATERIAL			
Unmillable Material (maximum grams) Grams of Sand and Stones - includes any unmillable material removed from 1/2L	0.3 g	0.3 g	0.3 g

CO-OPERATIVE BULK HANDLING**2022/23 Wheat Receival Standards****Issued September 2022**

The assessment procedures and limits contained in these standards have been developed in accordance with GTA guidelines and principles where operationally possible.

It is the Growers responsibility to ensure that ALL Wheat Deliveries are of the current season, mature, of the nominated variety and free from objectionable contaminants as listed below.

THE LOAD IS NOT ACCEPTABLE IF IT DOES NOT ADHERE TO THE LIMITS AND STANDARDS REQUIRED FOR DELIVERY. UNACCEPTABLE LOADS ARE EITHER UNDERGRADE OR CONTAMINATED. UNDERGRADE LOADS ARE THOSE THAT DO NOT ADHERE TO THE LIMITS CONTAINED IN THIS DOCUMENT (UNDERGRADE LOAD PROCEDURES MUST BE FOLLOWED - SEE GRAIN QUALITY ASSESSMENT MANUAL Module 3).

CONTAMINATED LOADS ARE LOADS WHICH CONTAIN ANY OF THE FOLLOWING CONTAMINANTS FOUND ANYWHERE THROUGHOUT THE SAMPLING PROCESS INCLUDING IN THE TRUCK, BUCKET, DURING ASSESSMENT, DURING DISCHARGE OR POST DELIVERY IF THE IDENTITY CAN BE PRESERVED.

CBH reserves the right to reject any delivery that contains any commercially unacceptable contaminant or has any inherent vice or feature that would affect the ability of CBH to outturn the grain at the grade in respect of which the grain is received by CBH.

If a Level 1 or 2 contaminant is found notify the RPOIC immediately. A Contaminated Load Sample will be collected, and a Contaminated Grain Report completed.

The Quality Coordinator/Senior Specialist - Quality will also instigate a Contaminated Load Report in IBIS.

If a Level 3 contaminant is found a Contaminated Load Sample will be collected. No Contaminated Grain Report is required. Please immediately contact the Quality Coordinator/Senior Specialist – Quality, who will complete a Contaminated Load Report in IBIS.

① A strong garlic odour may indicate the presence of Phosphine. Please stop sampling and inform RPOIC immediately.

CONTAMINANTS

Level 1 contaminants are those that cannot be removed and constitute a significant food safety or quality risk;

- BALL SMUT - Defective grain of **wheat** caused by infection by the spores of the fungus *Tilletia caries*. Also called stinking smut or bunt.
- CHEMICAL RESIDUES – Residues of any chemical compounds not approved for wheat, used in contravention of the labelled instructions or chemicals exceeding the MRL (detectable by any means including post-harvest testing).
- DRYACIDE TREATED GRAIN - Dryacide is a white coloured mineral compound placed on grain to prevent grain Insects. Though non-toxic, it affects the flow properties of grain.
- DYED GRAIN - Any substance which changes the colour of the grain.
- FERTILISER
- GLASS/HARD PLASTICS
- PICKLED GRAIN - Grain that has been treated to prevent disease and is recognised mainly by the colour (generally red or blue), as particles of the compound adhere to the kernel.
- RODENT BAITS
- TAINTED GRAIN - This is grain that has been contaminated by another substance causing it to smell. Examples are diesel, eucalyptus and grease.

Level 2 contaminants are those that constitute a food safety or processing hazard and may be able to be managed in the supply chain at a significant cost;

- ANIMAL RESIDUE or EXCRETA - This includes all excreta, bodies and parts thereof. **This also refers to the presence of meat meal, blood meal and poultry offal meal.**
- LIVE GRAIN INSECTS - These are any Insect that feed on Grain.
- PLASTIC – Pieces of softer plastic includes bags, containers, mulesing clips and ear tags etc.
- RED WHEAT – Red wheat is very hard and dark – almost amber in colour but makes a very poor flour from a colour point of view. If any red wheat is tendered for delivery it will only be received as feed, if it meets the standards in all respects. There is a nil tolerance of red grains in all grains except FEED.
- STOCK FEED or PELLETS
- OTHER OBJECTIONABLE MATERIAL – includes clumps of damp and/or mouldy grain

Level 3 contaminants are those that can be managed on farm and present a food safety or processing risk;

- CORIANDER - Refer to Seed Impurities of Grain Handbook for visual reference.
- CROW GARLIC - Refer to Seed Impurities of Grain Handbook for visual reference.
- THREE-HORNED BEDSTRAW – Declared pest. Refer Seed Impurities of Grain Handbook.
- STICKS - defined as any piece of wood greater than 1cm in length and 0.5cm in diameter. **This also includes canola stubble greater than 1cm in diameter and 3cm in length.**
- METAL.

NO LOAD CAN BE RETENDERED IF IT CONTAINS THE CONTAMINANTS LISTED ABOVE.
GRAIN CONTAINING THESE CONTAMINANTS CANNOT BE BLENDED WITH OTHER LOADS
AND DELIVERED

If a load containing these contaminants is knowingly delivered, then the grower will be charged under the provisions of the Bulk Handling Act and Regulations.

Refer to GQAM Module 3 “Contaminated loads” – for detailed instructions.

Document Assistance

GTA Visual Recognition Standards Guide
Grain Quality Assessment Manual

Varietal Grouping List
Definitions and Photos

VARIETIES

Wheat varieties are determined by class. Refer to the Wheat Varieties Booklet for information on Wheat variety class and compatibility.

LOAD GRADING

All acceptable loads of wheat will be assigned two grades:

1. The **Load grade** – the grade/quality of the load as delivered to CBH.

This is determined by:

- The variety/varieties of the grain – declared by the Grower.
- The services available on site.
- The results of the analysis.

2. A **Storage grade** – the grade assigned to the load for storage purposes in the CBH system. Due to the use of Dynamic Binning Strategies (DBS) and Wheat Binning Strategy the Load Grade and Storage Grade are different.

① The **load grade** is the grade the grower has available to sell prior to optimisation and is calculated against the base receival standard as prescribed by industry.

Service Availability

The services available on site impact the load and storage grades assigned to loads. Where a service is not offered on site, samplers must inform the grower when a load could achieve a higher grade at a site with the service.

Loads can be Remote Sampled to other sites for delivery. Refer to the GQAM Module 3 for more information.

Milling Load grades			
Load Grade	Description	CLASS	Optimisable
H1	Hard Wheat 13.0% min. protein	HARD	YES- Out of/not into
H2	Hard Wheat 11.5% min. protein	HARD	YES
APW1	Australian Premium White Line 1	HARD, APW	YES
APW2	Australian Premium White Line 2	HARD, APW	YES
ANW1	Noodle Wheat	NOODLE	YES
APWN	Australian Premium White Noodle	NOODLE	YES- Out of/not into
ASW1	Australian Standard White Line 1	HARD, APW	YES
ASW9	Australian Standard White Line 1	HARD, APW	YES – Out of/not into

Non-Milling Load Grades			
Load Grade	Description	CLASS	Optimisable
AUH2	Utility Hard	HARD	YES–Out of/not into
ANW2	Noodle Wheat	NOODLE	YES
AGP1	General Purpose Line 1	HARD, APW	YES
AUN1	General Utility Noodle	NOODLE, SOFT	YES
AUW1	General Utility Wheat	HARD, APW	NO
FED1	Feed Wheat	ALL ABOVE	NO

1. OBTAIN A REPRESENTATIVE SAMPLE

Obtain a representative sample by spearing each trailer. Minimum requirements: 4 spears per trailer.

2. INFRATEC ANALYSIS

1. Scoop a subsample from the composite bucket and place into the Infratec hopper.
2. Press "Analyse" to start Infratec Analysis.
3. Results are auto captured.

3. HECTOLITRE WEIGHT

1. Ensure the chondrometer set is verified and on a level, stable surface.
2. Fill the small sample tray with grain from the bucket. Pour the grain from the small sample tray into the chondrometer at a steady, constant rate. Visually check the grain for obvious contaminants and impurities while pouring the grain.
3. Once the entire chondrometer is full, place one hand over the filler tube. Slide the cutter bar into the slot and push it through the grain with **a single firm stroke**, taking care not to shake or jar the **chondrometer**. Return the excess grain from the small sample tray into the bucket.

① If the chondrometer is jarred or shaken whilst in use it must be emptied and refilled again.

4. Leaving the cutter bar pressed in and holding the chondrometer bucket and filler tube as one, remove the filler tube and the surplus grain from above the cutter bar (similar to breaking an egg). This should be done over the large tray or the composite bucket.
5. Return the chondrometer bucket to an upright position then withdraw the cutter. Return the excess grain from the large sample tray into the bucket.
6. Transfer grain in chondrometer bucket to balance bowl.
7. Capture the hectolitre weight by selecting the corresponding auto-capture button.

4. FOREIGN MATERIAL ASSESSMENT- HALF LITRE

8. Empty the grain from the balance bowl onto the large sample tray.
9. Spread the grain over the entire tray and assess for foreign material, remove and count as required.

① ALL RESULTS MUST BE EXACT AND NOT ESTIMATED

5. SCREENINGS

1. Fit the **wheat screen (2.0 mm by 12.7 mm)** onto the bottom tray and fit to the Agtator. Ensure the coloured strip is centred to align the slots of the screen in the appropriate direction.
2. Pour the half litre from the large sample tray onto the top of the screen on the Agtator. Set the Agtator to 40 shakes and firmly press the green button to begin.
3. Once the Agtator is finished, separate the screen from the bottom tray and place the wheat screen in an upright position onto the large sample tray. Pour the contents of the bottom tray into the balance bowl and weigh.
4. Capture the weight of the Screenings by selecting the corresponding auto-capture button.

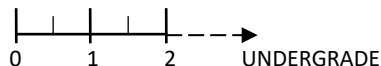
6. ASSESSMENT AFTER CAPTURING SCREENINGS

6.1 BOTTOM TRAY FOREIGN MATERIAL

1. Empty the screenings from the balance bowl into the small sample tray and assess for foreign material and insects.
2. Remove, group and count any small insects, cereal ergot, loose smut and ear cockle.
3. Proceed with the following sub-steps where required.

6.2 RYEGRASS ERGOT

1. Remove any ryegrass ergot, lay all the pieces found end to end and measure the length in 0.5cm increments.



6.3. SMALL FOREIGN SEEDS ASSESSMENT

1. If SFS are present, pour the screenings over a **SFS** or insect screen and shake screen until no more material falls through.
2. Separate the small foreign seeds from all other material in the bottom tray, transfer to the balance bowl and auto-capture the result.

6.4. SAND ANALYSIS

1. If sand is present, empty the screenings into a kitchen sieve held over a tray, shake the kitchen sieve until no more material passes through.
2. If a clear assessment can be made count each grain of sand, if not, use the Aerovac.
3. Ensure the collection and cyclone trays are in place on the Aerovac and turn the machine on and adjust to **110**.
4. Slowly empty the separated material into the funnel connected to the side of the Aerovac and run the machine until no more material is passed into the upper tray.
5. Count the remaining grains of sand that are in the Aerovac tray.

7. UNMILLABLE MATERIAL ABOVE THE SCREEN

1. Remove any whiteheads, radish pods, chaff, backbone, straw, serradella pods smaller than 5mm in diameter and milk thistle pods remaining on top of the screen.
2. Capture the weight of the Unmillable Material on the electronic balance
3. If the weight exceeds 2 grams, remove any kernels of wheat from the whiteheads and reweigh.

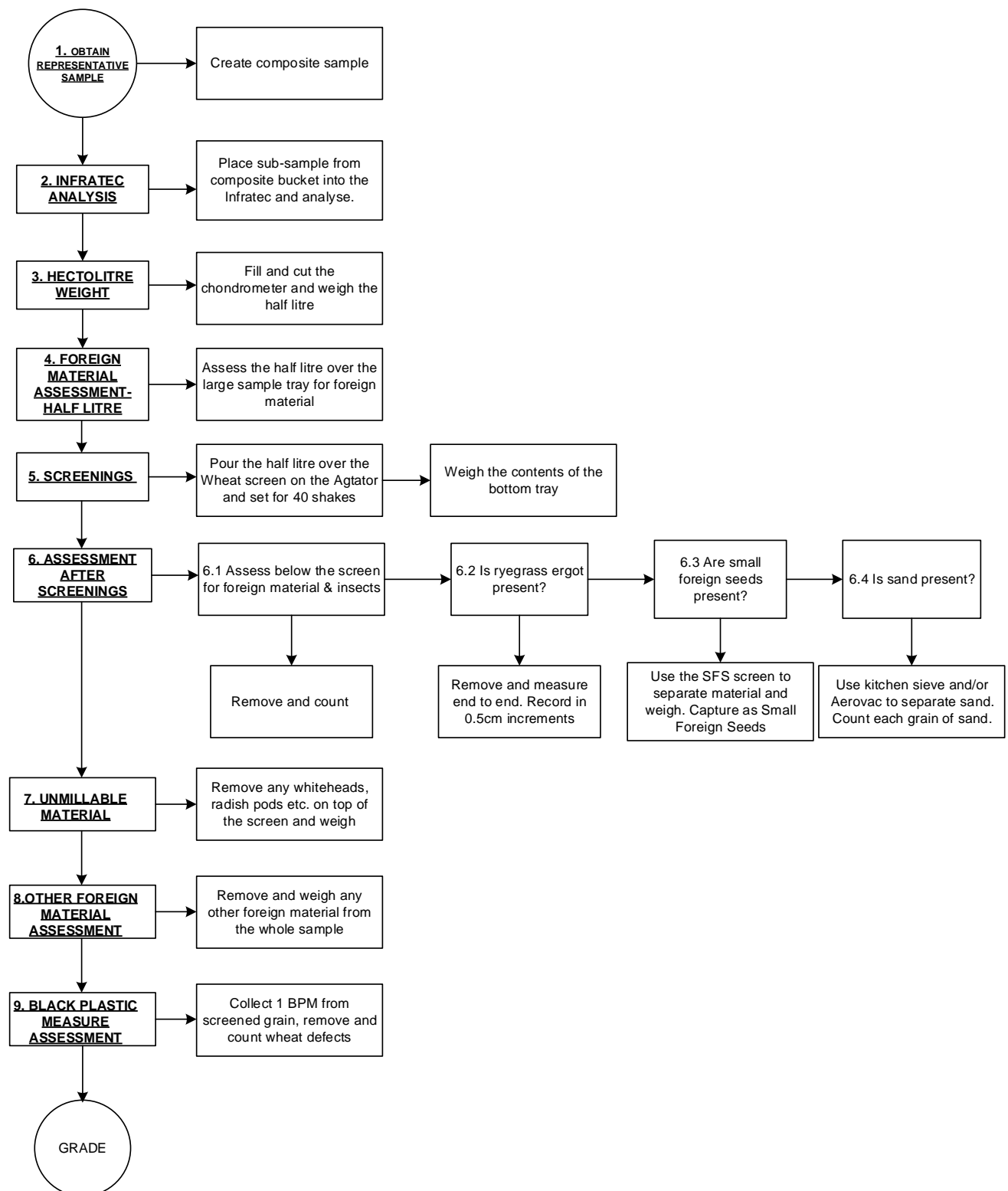
8. OTHER FOREIGN MATERIAL ASSESMENT

1. Check the screenings and the clean grain remaining on top of the screen for Other Foreign Material. This includes fine material (soil, dust and minerals), pieces of snail shells (less than half), pieces of stored grain insects (not whole), pieces of insects large or small, sticks equal to or less than 0.5cm in diameter and 1cm in length and other non-vegetative material.
2. Pick out and weigh the Other Foreign Material on the electronic balance.

9. BLACK PLASTIC MEASURE ASSESSMENT (SCREENED GRAIN)

1. Tip the contents from on top of the screen onto a large sample tray and spread the clean grain out.
2. Place a black plastic measure (BPM) in the centre of the tray and pick up small quantities of grain and deposit them in the BPM until the measure is level and full.
3. Pour the BPM into a small sample tray, remove and count any wheat grains that are visually defected.

① NOTIFY LOCAL QUALITY COORDINATOR IF SPROUTED GRAIN IS DETECTED

PROCEDURE FLOW CHART

2022/23 Wheat Receival Standards Limits



*Direct any queries regarding these Receival standards to the local CBH Quality Specialist.
* Copies of the most up to date Receival standards can be downloaded from LoadNet®.

Date: 5/10/2022

① Not all grades are available at all sites	H1	H2	APWN	APW1	APW2	ASW9	ASW1	ANW1	ANW2	AUH2	AGP1	AUN1	AUW1	FED1	SEC1
Quality Optimisation Grade subject to Rules and Limits - Yes /No (# =Optimisation out of only / not into)	YES#	YES	YES#	YES	YES	YES#	YES	YES	YES	YES#	YES	YES	NO	NO	NO
2. INFRATEC ANALYSIS															
Protein (minimum %)	13.0	11.5	10.0	10.5	10.0	9.0	No limit	9.5	No limit	11.5	No limit	No limit	10.5	No limit	No limit
Protein (maximum %)	-	-	11.5	-	-	-		11.5					-		
Moisture Content (maximum %)	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Temperature (°C maximum)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
3. HECTOLITRE WEIGHT															
Weight (kg/hl) (minimum)	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	72.0	71.0	68.0	68.0	68.0	62.0	56.0
Weight (grams) (minimum)	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	360.0	355.0	340.0	340.0	340.0	310.0	280.0
4. FOREIGN MATERIAL ASSESSMENT- HALF LITRE															
Type 1 Seeds (maximum) Doublegees, Mexican Poppy, Parthenium Weed	8	8	8	8	8	8	8	8	8	8	8	8	8	8	No limit
Type 3a Seeds (maximum) Bathurst Burr, Caltrop, Cape Tulip, Thornapple	2	2	2	2	2	2	2	2	2	2	2	2	2	2	No limit
Type 3b Seeds (maximum) Vetch (Tare), Vetch (Commercial)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	No limit
Type 3c Seeds (maximum) Heliotrope (Blue), Heliotrope (Common)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	No limit
Type 4 Seeds (maximum) Bindweed (Field), Paddy Melon, Hexham Scent (Mellilotus), Drake Seed, Skeleton Weed, Variegated Thistle, Nightshades	20	20	20	20	20	20	20	20	20	20	20	20	20	20	No limit
Type 5 Seeds (maximum) Pattersons Curse	40	40	40	40	40	40	40	40	40	40	40	40	40	40	No limit
Type 6 Seeds (maximum) Saffron Thistle	10	10	10	10	10	10	10	10	50	50	50	50	50	50	No limit
Type 7a Seeds (maximum) Chickpeas, Faba Beans, Lupins, Field Peas, Serradella Pods greater than 5mm in diameter	1	1	1	1	1	1	1	1	10	10	10	10	10	100	No limit
Type 7b Seeds (maximum) Barley, Oats, Wild Oats, Saia Oats, Triticale, Cereal Rye, Bindweed, Turnip Weed, Speargrass and any other seed not mentioned	50	50	50	50	50	50	50	50	150	150	150	150	150	400	400
Earth (maximum) Pea size pieces of earth by count	1	1	1	1	1	1	1	1	3	3	3	3	3	6	6
Stones (Grams) (maximum) A stone is defined as mineral matter larger than 2mm in length or diameter.	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Insects - Large, dead or alive - Pea Weevil (dead only)(max.) Includes Rutherglen bugs, ladybirds, grasshoppers, locusts, Sitona weevils, woodbugs and any other field insect not damaging to stored grain	3	3	3	3	3	3	3	3	3	3	3	3	3	3	50
Pea Weevil Live (maximum) Beetles approximately 5 mm in length, often brownish in colour flecked with white, black and grey patches. No snout.	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Whole Snail Shells (maximum) Snail shells greater than 1/2 a whole shell. Shell pieces less than 1/2 shell are captured as Other Foreign Material	1	1	1	1	1	1	1	1	10	1	10	10	10	10	50
Severely Damaged (maximum) Mould, heat damaged/burnt or other serious visual defects. Grain appears reddish brown, dark brown or blackened	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Field Fungi (maximum) Visible discolouration of dark grey, brown to black in colour covering more than 50% of the kernel	10	10	10	10	10	10	10	10	10	10	10	20	20	40	100
Sprouted (maximum)* Grains on which the covering of the germ is split. *Falling Numbers result will override Sprouted result	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	No Limit	No Limit
Falling Number (minimum seconds) ** **Only loads with Falling Numbers ≥300 seconds are eligible for QO	300	300	300	300	300	300	300	300	300	250	200	250	250	62	No limit
5. SCREENINGS															
Screenings (maximum % of 1/2L) 2.0mm WHEAT SCREEN (40 shakes) - ALL MATERIAL IN BOTTOM TRAY IS CAPTURED AS SCREENINGS Consists of small wheat, broken wheat, small foreign seeds, chaff, dust etc.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	25.0	25.0	15.0	No limit
6. ASSESSMENT AFTER CAPTURING SCREENINGS															
6.1 BOTTOM TRAY FOREIGN MATERIAL															
Cereal Ergot (maximum count) (all cereals except rygrass ergot) Purple-black horn-like fungal bodies, can be four times larger than a normal grain	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Loose Smut (maximum count) Blackened pieces of backbone due to fungus development	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Earcockle (maximum count) Darkened, seed like nematode galls.	10	10	10	10	10	10	10	10	15	10	15	15	15	50	50
Insects - Small dead or alive / DEAD Stored Grain Insects (maximum) Includes all species of aphid, mites	10	10	10	10	10	10	10	10	10	10	10	10	10	10	200
6.2. RYEGRASS ERGOT															
Ryegrass Ergot (maximum length) Purple to black fungal body with white inside, hard and fractures easily	2 cm	2 cm	2 cm	2 cm	2 cm	2 cm	2 cm	2 cm	2 cm	2 cm	2 cm	2 cm	2cm	2 cm	2 cm
6.3 SMALL FOREIGN SEEDS ASSESSMENT															
Small Foreign Seeds (maximum % of 1/2L) Ryegrass, Canary Seed, Turnip, Canola, Dock Seed, Radish Seed, Serradella Seed	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2	1.2	1.2	1.2	20.0
6.4. SAND ANALYSIS															
Sand (maximum count of granules) Individual grains of sand or stones <2mm	20	20	20	20	20	20	20	20	50	50	50	50	50	50	100
7. UNMILLABLE MATERIAL ABOVE THE SCREEN															
Unmillable Material (maximum % of 1/2L) Whiteheads, radish pods, chaff, backbone, straw, serradella pods smaller than 5mm in diameter, milk thistle pods, crop stubble smaller than 1cm in diameter and 3cm in length remaining on TOP of the screen	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2	2.6	2.6	2.6	15.0
8. OTHER FOREIGN MATERIAL ASSESSMENT															
Other Foreign Material (maximum % of 1/2L) Includes fine material (dust, soil & minerals), pieces of snail shells (less than 1/2), pieces of stored grain insects (not whole), pieces of insects large or small, sticks equal to or less than 0.5cm diameter and 1cm length and other non-vegetative material.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
9. BLACK PLASTIC MEASURE ASSESSMENT (SCREENED GRAIN)															
Pink Grains Only (maximum) Grains with distinct pink discolouration	10	10	10	10	10	10	10	10	25	10	25	25	25	25	25
Head Scab/White Grain Disorder (maximum) Grains appear white to light grey, may also contain pink discolouration - covers more than 50% of kernel surface	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Stained Grain Only (maximum) Distinct brown to black discolouration on the germ end or less than 50% of kernel surface	25	25	25	25	25	25	25	25	75	75	75	75	75	250	250
Sprouted (maximum)* Grains on which the covering of the germ is split. *Sprouted result is over ridden by Falling Numbers result	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	No Limit	No Limit
Dry Green, Sappy grains of wheat (maximum) Dry Green grains have a distinctively green surface and are usually dry and hard. Sappy grains are generally soft when pressed.	5	5	5	5	5	5	5	5	5	10	25	25	25	No Limit	No Limit
Insect Damaged (maximum) Grains eaten in part by grain insects and any field pest of wheat	5	5	5	5	5	5	5	5	10	5	10	10	10	20	20
Distorted wheat (maximum) Full sized kernels with little or no structure on both dorsal sides of the grain and are typically grey to blue in colour	5	5	5	5	5	5	5	5	5	10	50	50	50	No Limit	No Limit