



Submission to a GTA Technical Committee

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NOTE

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2. as a method for submitters to check that their submission has been received.

Issue

Feedback on Proposed GTA Standards 2015/16 Season

Impact on Member Business

The current standards have several areas that are open to interpretation, particularly in relation to defective grains. Consequently, consistency is hard to maintain from company to company, site to site and indeed, sampler to sampler. As an independent testing laboratory, we have seen several cases of grain failing to meet the intended standard when transported and retested at another facility. It would appear that sometimes this is just a matter of experience and training of an individual, but other times there is a complete disagreement with how the standards should be interpreted between companies.

Many receival samplers are either only working in the grain industry for a short period of time as casual harvest labour, or might only be receiving a particular grain for a short window. The clearer Standards and pictorial guides are, the easier it is for someone to have a reference to fall back on.



Recommendation

Referring to sections of Member Update 2 of 15, where further clarification is sort:

Section 3

3.2 Visual Recognition Standards Guide

3.2.1

Where possible, it would be preferable for photos to represent a range of situations that a sampler may be presented with. i.e sound grain(s), mildly affected grains (but not defective) and variations of defective grains, with a clear indication where the cut-off is. This has previously been done by Pulse Australia for chickpeas and faba beans, and the AMA for mungbeans. The current treatment for staining in wheat and green seed in canola are also good examples.

Although it says at the start of the VRSG, it would be desirable to reiterate when pictures are the minimum level required to be classed as defective, versus those that are just examples.

Wheat

- Agree that white grain disorder depiction should be clearer, but also the 'bleached' grain could possibly be relabelled as mottled, as bleached is usually more washed out.
- Sprouted – although superseded by Falling Number assessment, it would be good to show what is meant by 'Grains that have had the germ knocked off or scalloped out due to header damage or grains with pin holes are not included in this definition'. Could also show more advanced stages of root and/or shoot growth

Sorghum

- The following assumes adoption of proposed standards.
- Field Fungi - A series of pictures is needed that depicts the range of defective grains, as well as comparisons to sound, but discoloured grains. There needs to be a more distinctive definition of what should be considered Field Fungi in all of its forms, as fungal growths not only create an obvious mass, but can also grow along the surface of the grain, thus appearing more like staining with minute streaking. It might still be useful to say an approximate percentage of the grain surface must be affected. The use of illumination and magnification is essential to help categorise.
- Pictures of sprouting need to be unambiguous that that is the minimum required to be defective. Multiple pictures should be used to show what level is acceptable and what is defective, particularly where it might be difficult to recognise if the root has been knocked off.
- Storage mould – clarify if that picture is the minimum to be considered storage mould. If it is less than the minimum, is it then called Field Fungi or sound? Definition should discuss the differences between Field Fungi and Storage Mould.
- No picture of frost damage is included. If it is still in the standards, then it needs to have a picture and compare to sound grain and screenings.

Canola

- Picture with definition of what constitutes 'immature seed' vs mature seed, i.e. size, shape, colour.

Desi Chickpeas

- Picture of sound grain next to bin burnt & heat damaged for comparison.
- Include genetic black photo/description somewhere (make sure pictures in poor colour section don't look like genetic black)



- Clarify that Poor Colour Seed Coat is included in stained/weather damaged, whereas Poor Colour Kernel has a separate tolerance.
- Tiger striping – clarify if, and at what level, larger patches of black should be called Poor Colour Seed Coat. If, not defective, then include more photos to show larger patches.
- Speckling – speckling photo could be more obvious, or have another showing intense speckling (or patches of intense speckling).
- Caking – clarify whether this includes all types of caking, i.e. from pod material, dust, grain dust, mould, sap
- Ascochyta – reiterate next to photo whether Sound (<20%) /Stained & Weathered (>20%)/Ascochyta (on kernel)

Maize

- Addition of picture of Star Burst from top of kernel to show star pattern
- Clarify if the picture of Storage Mould is the minimum level of infection needed to be defective

Lentils

- Clarify if all pictures of ascochyta are considered defective or not.

Field Peas

- Include photo of wrinkled full size grain to show the degree of wrinkling necessary to be defective (wrinkles not dimples)

Faba Beans

- Poor Colour
 - o clarify that Poor Colour Seed Coat is included in stained/weather damaged, whereas Poor Colour Kernel has a separate tolerance.
 - o State in definition that Pea Seed Borne Mosaic Virus is classified as Poor Colour
 - o What about Chocolate Spot damage?
 - o Does not appear to be a photo of grey seed due to staining by pod lining, as indicated in Standards explanation for Faba Beans/Poor Colour. Can this be confused with caking definition?
- Ascochyta - clarify that >20% lesion included in poor colour tolerance and that any damage to kernel is defective (photo to show this).
- Insect damage – include photos of other types of insect damage, especially where stung and not chewed – i.e mirids. Indicate that blackening may occur around damage.
- Frost damage – include photo and description of ‘freezer burn’, where fully formed grains are exposed to late frosts and only part of the seed coat is damaged. Is the damage to be classified as defective only when >20% on one side or is any damage defective.

Angustifolius Lupins

- Clarify difference between Phomopsis and Poor Colour, given different tolerance level

3.2.3 Other commodities for inclusion in VRSG

Albus Lupins – similar treatment to Angustifolius Lupins, particularly showing weather damage and staining

Sunflower and Safflower – as per defectives listed in AOF Standards

- Broken or split – hulls, kernels or parts thereof
- Heat damaged / bin burnt
- Mouldy
- Sprouted
- Damaged – diseased, frost damaged, green, immature, insect damaged and weather stained



Soybeans

- Broken or split
- Damaged – diseased, frost damaged, immature, insect damaged, weed stained
 - Weather stained
- Green
- Sprouted

Section 5

5.1 Rejected Change: Contaminants in VRSG – All Commodities

We believe that example photos of some contaminants would make assessment easier for samplers. Sorghum ergot and cereal smut are already included, but it would be useful to have a picture/description of rarer contaminants, such as:

- Cereal ergot
- Ryegrass ergot
- Earcockle
- Sclerotinia

There is limited value in stating that a contaminant has a tolerance, if the sampler doesn't know what it is they are looking at (and can't readily find out).

These sorts of pictures may be better suited to the weed seed contaminants book or an online guide, but would be of use for the numerous independent grain handlers that do not have access to the internal training resources of the big grain companies.

Section 7

Revised Sorghum Standards for 2015/16

7.1 Grades

Reduction to 2 grades will help simplify the system, provided that the buyers are confident that these grades will meet their expectations – e.g. export to China with brewing quality. It will be even more crucial to clarify Standard definitions if there is a large price differential between grades.

7.2 Total Admixture, Foreign Material, Screenings and Trash

7.2.1 Trash

Our experience has also found that trash has been relatively low in the last few years. Deleting this category and including in Foreign Material will help to simplify testing.

7.2.2 Foreign Material

The use of 'non-sorghum material' should be clarified. Sorghum is both the plant and the grain. Where the standards are referring to everything other than sorghum grain, it should be stated as such.

Foreign Material has been low, but the definition will now change to include trash. Nonetheless, going by past years, growers should be able to achieve a 2% or 4% tolerance.

The wording in the new standard of 'Other than already specified' should be clarified



7.2.3 Screenings

The reduced limit to 10% or 20% should be achievable for the samples that we see.

We don't want to see an introduction of the USDA type triangular screen. The current Standards use the existing wheat screen that most receival sites already have. This method is easy to remember, as it is just like wheat, and there is limited room for confusion. Another benefit of using the same screen is the cost outlay. Not only would samplers need to have another screen (or two), but many growers who like to test on farm would have the cost imposition of purchasing the sanctioned equipment.

7.3 Total Defectives

These changes are acceptable, providing that the buyers, particularly for human consumption, are satisfied that these Standards meet their needs.

An hierarchical method for classifying a grain with more than one defect, should be clarified to avoid confusion i.e Storage mould>Bin Burnt>Field Fungi>Sprouted>all other defective types

7.3.1 Stained

If staining is to be removed as a defective, there needs to be a distinct description of what is considered Field Fungi, versus the now acceptable staining. This is due to the similarities in some forms of fungi their discolouration of the pericarp.

Illumination and magnification are essential for proper sorghum defective analysis and should be promoted as such in the standard.

7.3.2 Sprouted

If accepted by industry, then clear photographs and definition will be required to ensure consistency. Should state 'where root and/or shoot is visible'.

Is there an effect on Falling Number to do with baking with sorghum flour, which is increasing in popularity?

7.3.3 Field Fungi

The change in tolerance is acceptable, provided that the VRSG and definitions are clarified to ensure consistent testing.

7.3.4 Other defects

Acceptable

7.3.5 Heat damage & bin burnt

Acceptable

7.3.6 Storage Mould

Acceptable, but clarification should be provided to differentiate between storage mould and field fungi

7.3.7 Musty, Moulded and Rotted

Acceptable, as per storage Mould

7.4 Foreign Seed Contaminants

See comment Section 8

7.5 Ergot

Relatively minor amounts seen in samples over last few years. Acceptable depended on end user acceptance.

7.6 Sand and Soil

Beneficial to combine sand and soil on a practical point. It is much easier to not have to categorise these and only separate hard consolidated stones. In practice, where soil is present, there might only be one piece larger than 5mm (hard to measure), that will invariably break up with grain movement.



Other

No mention is made of honeydew in the Standard, only in definitions and VRSG. A statement could be added to the Standard to prompt samplers to consider Honeydew problems, if present.

Section 8

Revised Weed Seed Tolerances to apply for 2015/16

Proposed tolerances will mostly be easy to implement.

Possible issues:

- Nil tolerance for Opium Poppy. This is very difficult to tell apart from other wild/field/rough poppies that would be considered SFS, so will be easy to miss.
- The following will only be a problem if there is a significant amount of seeds
- Field Bindweed is difficult to distinguish from Australian Bindweed
- Consideration for counting seeds that are normally found in pods or multiple seed units:
 - o Turnip weed (*Rapistrum rugosum*): 1 or 2 seeds per pod
 - o Marshmallow (*Malva parviflora*): ~10 seeds per pod
 - o Wild Oats (*Avena sp.*): 1-3 multiple seed units common

Wheat Standard

- Category F – for clarity, should state above screen
- Do pieces of seed pod found below the screen also get added to unmillable?

Barley Standard

- Category G – for clarity, should state above screen

Sorghum Standard

- Category G – for clarity, should state above screen
- FM to state “other than sorghum seed/grain”

Oats, Triticale, Cereal Rye and Maize

- Category F – for clarity, should state above screen

Other Issues not yet raised

Canola Standard does not consider the use of aspirators to assist in the removal of impurities. Not all facilities that receive canola have aspirators, so this should be addressed in the Standard, particularly any differences that might need to be taken into consideration when using either method.

Problems have been noticed when grain had a high amount of frost damage, as these full sized, but lightweight, grains were sucked into the impurities collector. This negates the benefit of using an aspirator and creates confusion as to whether the lightweight grains are to be put back into the ‘clean seed’ or added up with the impurities. Either way this can impact the final grade.

We recommend that the AOF Standard for canola be evaluated by processors to take into consideration the practicalities of testing frost damaged grain, with or without an aspirator. Either way, a clarification is sort in the definitions of the AOF Standard.