



MACHINE DRESSED MUNGBEAN STANDARDS

NO. 1 GRADE

Machine dressed mungbean standards certificate to be issued only by AMA-accredited laboratories.

APPEARANCE

Equal to or better in appearance when compared to the AMA mungbean type sample and the photographic charts and parameters. The AMA mungbean type sample has a brighter appearance than the Processing grade and colour is to be more uniform.

PURITY 99%

Inert / Foreign Material $\leq 1\%$. Including:

- Splits $\leq 1.0\%$
- Soil/stone $\leq 0.1\%$
- Other seeds $\leq 0.2\%$

All other seeds to be reported.

SIZE GRADING

98% to be retained above or between screens using 'ten shakes' sieving method.

AMA large green mungbean type	98% of seed > 3.25 mm slotted screen
AMA small green mungbean type	98% of seed > 2.00 mm slotted screen and < 3.25 mm slotted screen
AMA black mungbean type	98% of seed > 3.00 mm slotted screen
AMA large green dull mungbean type	98% of seed > 3.25 mm slotted screen

MOISTURE

12%.

DEFECT TYPE* (refer to photographic chart)

Pod scale*	3%
Seed coat*	1%
Stained*	1%
Wrinkled*	4%

OBJECTIONABLE MATERIAL OR MOULD

Nil tolerance.





MACHINE DRESSED MUNGBEAN STANDARDS

PROCESSING GRADE

Machine dressed mungbean standards certificate to be issued only by AMA-accredited laboratories.

APPEARANCE

Equal to or better in appearance when compared to the AMA Mungbean Type Sample and the photographic charts and parameters.

PURITY 99%

Inert / Foreign Material $\leq 1\%$. Including:

- Splits $\leq 1.0\%$
- Soil/stone $\leq 0.1\%$
- Other seeds $\leq 0.3\%$

All other seeds to be reported.

SIZE GRADING

98% to be retained above or between screens using 'ten shakes' sieving method.

AMA large green mungbean type

98% of seed > 3.25 mm slotted screen

AMA small green mungbean type

98% of seed > 2.00 mm slotted screen and < 3.25 mm slotted screen

AMA black mungbean type

98% of seed > 3.00 mm slotted screen

AMA large green dull mungbean type

98% of seed > 3.25 mm slotted screen

MOISTURE

12%.

DEFECT TYPE* (refer to photographic chart)

Pod scale* 12%

Seed coat* 2%

Stained* 2%

Wrinkled* 12%

OBJECTIONABLE MATERIAL OR MOULD

Nil tolerance.





MACHINE DRESSED MUNGBEAN STANDARDS

MANUFACTURING GRADE

Machine dressed mungbean standards certificate to be issued only by AMA-accredited laboratories.

APPEARANCE

Equal to or better in appearance when compared to the AMA Mungbean Type Sample and the photographic charts and parameters.

PURITY 98%

Inert / Foreign Material $\leq 2\%$. Including:

- Splits $\leq 2.0\%$
- Soil/stone $\leq 0.1\%$
- Other seeds $\leq 0.5\%$

All other seeds to be reported.

SIZE GRADING

98% to be retained above or between screens using 'ten shakes' sieving method.

AMA large green mungbean type

98% of seed > 3.25 mm slotted screen

AMA small green mungbean type

98% of seed > 2.00 mm slotted screen and < 3.25 mm slotted screen

AMA black mungbean type

98% of seed > 3.00 mm slotted screen

AMA large green dull mungbean type

98% of seed > 3.25 mm slotted screen

MOISTURE

12%.

DEFECT TYPE* (refer to photographic chart)

Pod scale* Not applicable

Seed coat* Not applicable

Stained* Not applicable

Wrinkled* Not applicable

OBJECTIONABLE MATERIAL OR MOULD

Nil tolerance.





MACHINE DRESSED MUNGBEAN STANDARDS

M2 GRADE

Machine dressed mungbean standards certificate to be issued only by AMA-accredited laboratories.

APPEARANCE

Equal to or better in appearance when compared to the AMA Mungbean Type Sample and the photographic charts and parameters.

PURITY 95%

Inert / Foreign Material $\leq 5\%$. Including:

- Splits $\leq 5.0\%$
- Soil/stone $\leq 0.1\%$
- Other seeds $\leq 0.5\%$

All other seeds to be reported.

SIZE GRADING

98% to be retained above or between screens using 'ten shakes' sieving method.

AMA large green mungbean type

98% of seed > 3.25 mm slotted screen

AMA small green mungbean type

98% of seed > 2.00 mm slotted screen and < 3.25 mm slotted screen

AMA black mungbean type

98% of seed > 3.00 mm slotted screen

AMA large green dull mungbean type

98% of seed > 3.25 mm slotted screen

MOISTURE

12%.

DEFECT TYPE* (refer to photographic chart)

Pod scale* Not applicable

Seed coat* Not applicable

Stained* Not applicable

Wrinkled* Not applicable

OBJECTIONABLE MATERIAL OR MOULD

Nil tolerance.





MACHINE DRESSED MUNGBEAN STANDARDS

EXPLANATION OF AMA MACHINE DRESSED MUNGBEAN STANDARDS

1. MACHINE DRESSED

All mungbeans covered by these Standards are to be Machine Dressed (MD). Machine Dressed mungbeans are defined as Farmer Dressed mungbeans that have received further post-harvest seed cleaning. It is a requirement that this further seed cleaning utilises both air and-screen grading as well as gravity-grading equipment to substantially remove undesirable material.

2. SAMPLING

For testing purposes, seed lines are to be represented by samples responsibly collected in accordance with a recognised sampling procedure such as those prescribed by Australian government regulatory authorities.

3. APPEARANCE

Based on visual assessment against the standard sample at the time of testing. Appearance is determined on uniformity of colour, shades of colour, insect damage, lustre, brightness of colour, condition of skin coat and any other characteristics that effect appearance. In conjunction with appearance test a photographic chart and parameters are to be used to determine overall grade.

4. PURE SEED

Pure Seed consists of all seeds of the species (*Vigna radiata* or *V. mungo*) whether shrivelled, insect damaged or diseased. Other cultivars of the species, would not be removed as contaminants for *Vigna radiata* or *V. mungo*.

5. SIZE GRADING

98% must be above or between the screens as pertinent. The actual percentage and relevant AMA Mungbean Type will be recorded on the certificate.

6. MOISTURE

Mungbean moisture level determined using methodology that is internationally recognised.

7. DEFECT TYPE

Photographic charts are to be used in conjunction with appearance and parameter tests to determine overall grade. The five defect types; pod scale, seed coat damage, stained, wrinkled and dimples are identified using photographic charts to determine sound and defective seeds.

8. OBJECTIONABLE MATERIAL

Refers to any objectionable foreign material that may or may not be otherwise stated in these Standards which has the ability to degrade the hygiene of the pulse, become a food safety issue of concern or has a commercially unacceptable or objectionable odour*. This includes but is not limited to the following:

- Animal excreta
- Rodents, either alive or dead
- Crushed insect bodies or parts that adhere to the grain causing clumping of the grain that may or may not cause an odour
- Live stored grain insects
- Any chemical not registered for use on mungbeans, in excess of legal tolerances or chemicals in excess of the MRL
- Pickling compounds/seed dressings or any fungicide added to the pulse as a seed dressing
- Any tainting agents and or other contaminants imparting an odour not normally associated with mungbeans
- Toxic and/or noxious weed seeds which are prohibited by State laws against inclusion in stockfeed
- Ergot of any commodity except Ryegrass Ergot (for which a tolerance may apply)
- Any other commercially unacceptable contaminant such as glass, metal, fertiliser, concrete or other contaminants greater than the tolerance or specifications as allowed in the Standards
- As many of these parameters such as chemicals are not able to be assessed on site prior to delivery of the pulse, it is the responsibility of the grower or deliverer of the pulse to ensure compliance with any regulations or Standards. It is recommended that a declaration be obtained by the Storage Provider regarding the chemical status of the pulse tendered for delivery



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EXPLANATION OF AMA MACHINE DRESSED MUNGBEAN STANDARDS

8. OBJECTIONABLE MATERIAL CONT...

*Objectionable odour. In the context of these Standards is a commercially objectionable odour and/or an odour not normally associated with mungbeans. The objectionable odour may be caused by various means which may or may not be discernible in the sample being assessed. A nil tolerance applies.

9. GERMINATION

In accordance with ISTA rules. Hard seed to be reported. Hard seeds not to be counted (excluded) as germinable seed.

10. OVER-SOAKS

Percentage of mungbeans that absorb moisture after being submerged in water at 32°C for one hour.

11. CHARCOAL ROT

Presence of Charcoal Rot tested at 28°C for four days, to be recorded on the Certificate of Analysis.

12. MICROBIOLOGICAL STANDARDS

In accordance with Food Standards Australia and New Zealand (FSANZ) – Seed Sprouts (Standard 4.2.6). Pathogen test results are to be recorded on Certificate of Analysis. a. Salmonella spp. = Nil/25g b. Escherichia coli $\leq$ 20cfu/g c. Listeria monocytogenes $\leq$ 100cfu/g.

13. MAXIMUM RESIDUE LIMITS

Maximum Residue Limits (MRLs) are the maximum amount of a chemical residue or its metabolite that is legally permitted on or in an agricultural commodity. The Australian Pesticides and Veterinary Medicines Authority (APVMA) sets Australian MRLs. These MRLs are set at levels which are not likely to be exceeded if the agricultural or veterinary chemicals are used in accordance with approved label instructions and can be found on the ComLaw website www.legislation.gov.au/Series/F2023L01350.

Australian MRLs may differ significantly from those prescribed by foreign countries and the International Codex Alimentarius Commission. Consequently, grain exporters must be aware of MRLs of importing countries and which countries accept Codex MRLs. Foreign country MRLs may be accessed directly from foreign government websites or the NRS grains database at www.agriculture.gov.au/agriculture-land/farm-food-drought/food/nrs/databases.

In addition to observing all harvest withholding periods and re-treatment intervals, growers must ensure they fully and accurately complete a Grower Commodity Declaration form covering every consignment of grain to provide information to exporters on the rates and timings of any crop protection products. Declaration forms are available at www.mungbean.org.au.

14. RIGHT TO REJECT

The purchaser has the right to reject product if it poses a bio or food safety hazard.

Lowest grade of any one of the above tests will be the overall grade given.

Disclaimer: Recommendations have been made from information available to date and considered reliable, and will be updated as further information comes to hand. Readers who act on this information do so at their own risk. No liability or responsibility is accepted for any actions or outcomes arising from use of the material contained in this publication. Reproduction of this brochure in any edited form must be approved by Australian Mungbean Association.

ENQUIRIES

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