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**CODE OF HYGIENIC PRACTICE
FOR MUNGBEANS**

November 2014

Contents

SECTION I –	SCOPE	3
SECTION II –	HYGIENE REQUIREMENTS ON THE FARM AND DURING TRANSPORT TO THE REGISTERED ESTABLISHMENT	3
SECTION III –	DESIGN AND FACILITIES OF A MUNGBEAN GRADING ESTABLISHMENT	4
SECTION IV –	HYGIENIC REQUIREMENTS FOR THE MUNGBEAN GRADING ESTABLISHMENT	5
SECTION V –	HYGIENIC PROCESSING REQUIREMENTS IN THE MUNGBEAN GRADING ESTABLISHMENT	7
SECTION VI –	STORAGE AND TRANSPORT OF THE END-PRODUCT ...	8
SECTION VII –	REFERENCE SAMPLING OF FINISHED PRODUCT	8

CODE OF HYGIENIC PRACTICE FOR WHOLE MUNGBEANS

SECTION I – SCOPE

- 1.1** This Code describes general hygienic practices for use in the handling (including growing and harvesting, preparation, processing, packaging, storage, transport and distribution) of whole mungbeans for human consumption in order to ensure a clean, safe, and wholesome product. The Australian Mungbean Association promotes this CODE OF HYGIENIC PRACTICE, as a minimum standard our industry should be complying too. This Code in no way diminishes a company's or individual's responsibility to meet all legislative requirements under Local, State, Federal or International Laws, including, but not limited to, those covered under the Export Control (Plant and Plant Products) Orders which are regulated by Department of Agriculture (formerly AQIS).

SECTION II – HYGIENE REQUIREMENTS ON THE FARM AND DURING TRANSPORT TO THE MUNGBEAN GRADING ESTABLISHMENT

2.1 Protection of Crops from Contamination by Wastes

Crops should be protected from contamination by human, animal, domestic, industrial and agricultural wastes, which could cause microbial contamination. Any use of these products prior to or during production must be noted on the Commodity Vendor Declaration forms.

2.2 Commodity Vendor Declaration Forms (Grower Declarations)

The Seed Seller shall ensure that the farmer/grower/intermediate storage operator is advised of their responsibilities under the Code and that such responsibilities are acknowledged by the completion of a Commodity Vendor Declaration Form. These are available at www.mungbean.org.au

2.3 Pest and Disease Control of Crops

Control measures involving treatments with chemical, physical or biological agents, should only be undertaken by personnel who are licensed or trained to do so &/or understand the potential hazards to health. Special care should be taken in regard to those hazards that may arise from residues in the Grain being sold.

2.4 Harvesting and Storage on the Farm and Transport to the Mungbean Grading Establishment

2.4.1 Techniques

Methods and procedures associated with harvesting, storage on the farm and transport to the registered establishment should be hygienic and such as not to allow any microbial or other contamination of the product. Particular care should be taken to prevent cross-contamination from animals (birds, rodents and other pests), stockfeed, other animal products (meat meal, etc), and ingress by water.

2.4.2 Equipment and containers

Equipment and containers used for harvesting, storage and transport should be so constructed to allow easy and thorough cleaning. They should be kept

clean arid, and where necessary, disinfected. All details of cleaning & storage should be noted on the Commodity Vendor Declaration Form.

2.4.3 Removal of visually unfit raw materials

Product that is visually found to be unfit for human consumption should be segregated at harvesting and/or upon delivery to the registered establishment. If it cannot be made fit by further processing, it should be disposed of in a way that avoids contaminating any product for human consumption.

2.4.4 Protection against contamination and damage

During storage on the farm and subsequent transport to the registered establishment the product should be protected from insects and pests and microbial contamination. Care should also be taken to avoid damage to the product as this predisposes it to microbial spoilage.

2.5 Intermediate Storage

2.5.1 If mungbeans are to be placed in storage, before arriving at the registered establishment, the storage must be such that contamination cannot occur.

2.5.2 The Association recommends the use of verticle sealable silos with good aeration to assist in the exclusion of pests and insects and the maintenance of the grain quality.

SECTION III – DESIGN AND FACILITIES OF THE MUNGBEAN PROCESSING ESTABLISHMENT

3.1 Location

The establishments should be located in areas that are, as far as practicable, free from objectionable smoke, dust or other contaminants and are not subject to flooding.

3.2 Roadways and Areas used by Wheeled Traffic

Roadways and traffic areas in the immediate vicinity of the registered establishment should have a durable surface suitable for wheeled traffic and should have adequate drainage.

3.3 Buildings and Facilities

3.3.1 Buildings and facilities should:

- (a) be of sound construction and maintained in good repair;
- (b) provide adequate working space to allow for satisfactory performance of all operations;
- (c) permit easy and adequate cleaning and facilitate proper supervision of good hygiene
- (d) prevent, as far as practicable, the entry and harbouring of all pests and environmental contaminants such as smoke, dust, etc.;
- (e) provide adequate separation, by walls, location or other effective means, between those operations which may cause cross-contamination;
- (f) be designed to facilitate hygienic operations by means of a regulated flow in the process from the arrival of the raw material at the premises to the finished product; and
- (g) provide for clean and hygienic storage conditions for the final product.

- 3.3.2 In processing areas:
- (a) Floors should be of waterproof, washable materials and should be easy to clean and disinfect.
 - (b) Walls and ceilings should be designed, constructed and finished as to minimise the accumulation of dirt and should be easy to clean.
 - (c) Windows should be so constructed as to avoid accumulation of dirt and those which open should be close fitting.
 - (d) Doors should have smooth, non-absorbent surfaces and be close fitting to prevent entry of pests and dust.
 - (e) The use of Glass should be avoided where possible, to minimise the risk for breakage &/or contamination of the product.

3.3.3 The use of material which cannot be adequately cleaned and disinfected, such as wood, should be avoided unless its use would not be a source of contamination.

3.4 Sanitary Facilities

3.4.1 Waste disposal

Adequate facilities should be provided for the disposal of waste material from all areas. Inside any processing or storage areas, waste material collection bins should be provided and appropriately sited and be of sufficient capacity. Outside the factory building, waste collection centres should be provided and maintained in a clean and tidy condition.

3.4.2 Toilets and staff facilities

Hand washing facilities with a suitable hand-cleaning preparation and with suitable hygienic means of drying hands should be provided adjacent to toilets.

3.4.3 Cleaning and disinfection equipment

Adequate facilities for cleaning of plant and equipment should be provided. This equipment, such as industrial vacuum cleaners should be capable of being easily cleaned in a manner that will not cause contamination.

3.4.4 Lighting

Adequate natural or artificial lighting should be provided. Light bulbs and fixtures suspended over products in any stage of processing should be of a safety type and protected to prevent contamination in case of breakage.

3.4.5 Ventilation

Adequate ventilation should be provided to prevent excessive heat and dust and to remove contaminated air.

SECTION IV – HYGIENIC REQUIREMENTS FOR THE MUNGBEAN PROCESSING ESTABLISHMENT

4.1 Maintenance

- 4.1.1 The buildings, equipment, utensils and other facilities, including drains, should be maintained in good repair. As far as practicable, buildings should be kept free from dust.
- 4.1.2 Obsolete equipment should be removed from the registered establishment surrounds or, if considered to be of some future use, should be stored in a

manner, which does not detract from the general appearance of the registered establishment, or encourage harbourage of pests.

4.2 Cleaning and Sanitation.

- 4.2.1 To prevent contamination of products for human consumption, all equipment and utensils should be cleaned regularly.
- 4.2.2 Either immediately after cessation of work each day, or at such other times as may be appropriate, floors and auxiliary structures in processing areas should be thoroughly cleaned (by vacuuming, sweeping etc).
- 4.2.3 Toilets and staff facilities should be kept clean at all times.
- 4.2.4 Roadways and yards in the immediate vicinity of the premises should be kept clean and tidy to prevent harbourage of pests.

4.3 Hygiene Control Program.

- 4.3.1 A permanent cleaning schedule should be drawn up to ensure that all areas are appropriately cleaned and that critical areas and equipment are designated for special attention. All cleaning personnel should be well trained in cleaning techniques.
- 4.3.2 The cleaning schedule shall be verified by the maintenance of records which detail the procedure undertaken.

4.4 Reusable Grading Waste

Reusable grading waste should be stored so as to avoid contamination of the processed mung beans.

4.5 Storage and Disposal of Grading Waste

Grading Waste should be handled so as to avoid contamination of the processed mungbeans or processing areas and should be removed from these areas as quickly as possible. Immediately after disposal of grading waste, bins used for storage and any equipment, which has come into contact with the offal, should be cleaned and, where necessary, disinfected. All grading waste storage areas should also be kept clean and tidy.

4.6 Pest Control

- 4.6.1 There should be an effective and continuous program for the control of pests. The pest control program is to be verified by the maintenance of records, which detail the procedures undertaken. Buildings and surroundings should be regularly examined for evidence of infestation.
- 4.6.2 Should pests gain entrance to the Mungbean Processing establishments then eradication measures should be instituted immediately. Treatments with chemical, physical or biological agents should be undertaken only by personnel who understand the potential hazards to health resulting from such agents, including those hazards which may arise from residues retained in the product.
- 4.6.3 Pesticides should be used only if other precautionary measures are not effective. Before using pesticides, care should be taken to safeguard all Mungbeans, equipment and utensils from contamination.

4.7 Hygiene Training

Managers should ensure adequate and continuing training of staff in hygienic practices so that they understand the precautions necessary to prevent

contamination of products for human consumption.

4.8 Communicable Diseases

No person who is suffering from diarrhoea or any infectious disease, infected wounds, skin infections or sores should work in any area where product is being processed or packed.

4.9 Injuries

Any person who has a cut or wound should not continue to handle products for human consumption until the injury is completely protected by a waterproof covering which is firmly secured. Adequate first-aid facilities should be provided for this purpose.

4.10 Washing of Hands

Every person, while on duty in a processing area, should wash their hands before commencing, immediately after using the toilet, after handling contaminated material and whenever else necessary.

4.11 Personal Cleanliness

Every person engaged in a processing area should maintain a high degree of personal cleanliness and should wear suitable clothing and footwear. All such clothing should be cleanable and should be kept clean.

4.12 Personal Behaviour

In processing areas there should be no eating, smoking or unhygienic practices (such as spitting), which could contaminate the product.

4.13 Visitors

Precautions should be taken to prevent visitors to processing areas from contaminating the product. All establishments should have in place an induction process to meet requirements from Local, State and Federal Governments.

SECTION V – HYGIENIC PROCESSING REQUIREMENTS IN THE MUNGBEAN PROCESSING ESTABLISHMENT

5.1 Raw Material Requirements

5.1.1 No product should be accepted at the Mungbean Processing establishment if it is identified as containing microbial contamination or other substances which cannot be reduced to acceptable levels by normal plant procedures of sorting and/or preparation.

5.1.2 Raw materials and ingredients stored on the premises should be maintained under conditions that will prevent spoilage, protect against contamination and minimise deterioration.

5.2 Prevention of Cross-Contamination

5.2.1 Effective measures should be taken to prevent contamination of products by direct or indirect contact with products at an earlier stage of processing.

5.2.2 All equipment that has been in contact with raw or contaminated materials should be thoroughly cleaned and, where necessary, disinfected prior to being used in contact with end-products.

5.2.3 All steps in the production process, including packaging, should be performed without unnecessary delay under conditions, which prevent the possibility of contamination.

5.3 Packaging

- 5.3.1 All packaging materials should be new and stored in a clean and hygienic manner.
- 5.3.2 Bulk storage containers (eg. bins, hoppers, silo's) in the Mungbean Processing establishment should not be used for any purpose that may lead to contamination of the product. Where practicable, containers should be inspected immediately before use to ensure that they are clean and dry.
- 5.3.3 Shipping containers should meet the requirements for the Australian Government Department of Agriculture approved containers as specified in the *Export Control (Plants and Plant Products) Orders*.

5.4 Lot Identification

Each package shall be permanently marked with the producing registered establishment number and an export line/lot number to enable full traceability of the product.

5.5 Processing and Production Records

Permanent records kept in relation to this Code should be kept for each lot for a minimum period of two years.

SECTION VI – STORAGE AND TRANSPORT OF THE END-PRODUCT

- 6.1 The end product should be stored and transported under conditions that preclude contamination and prevent deterioration of the product.

SECTION VII – REFERENCE SAMPLING OF FINISHED PRODUCT

- 7.1 A one kilogram representative sample of each lot of finished product shall be held and stored by the registered establishment for a period of 12 months.

Full information regarding to the legislative requirements for all facets of Mungbean production, preparation, storage and sale should be sourced from your Local, State & Federal Government Websites or their local offices. Information can also be sourced from the AMA Website:

www.mungbean.org.au