

## MAKHANA SEED

Common name: Fox nut, Gorgon nut, raw makhana

Botanical name: *Euryale Ferox* Salisb.



1. Makhana seed shall be:-
  - (i). clean, wholesome and having a hard seed coat which is black in color;
  - (ii). have characteristic and aromatic flavour with sharp and sweet pleasant aroma;
  - (iii). free from rancid taste and musty odour;
  - (iv). free from obnoxious smell and fungal infestation;
  - (v). free from filth, rodent hair and excreta
2. Variety (to be filled by assayer)
3. Actual picture of the lot (to be uploaded by assayer).
4. Criteria for range designation

S. No.	Tradable parameters	Range-1	Range-2	Range-3
<b>A.</b>	<b>Primary</b>			
1.	Foreign matter (% by wt.) max	0.2	0.5	1.0
2.	Damaged and discolored seeds (% by wt.) max	2.0	3.0	5.0
3.	Insect damaged seeds (% by wt.) max	0.25	0.5	1.0
4.	Size (Diameter of seed in mm)	More than 13	8-13	Less than 8
<b>B</b>	<b>Optional (Industrial/processor)</b>			
1.	Total ash (% by wt.) max	0.5	1.0	1.5
2.	Crude fibre (% by wt.) max		1.0	
3.	Protein (% by wt.) min		7.0	

### 5. Sampling:

- (i) 5 % or minimum one container shall be randomly selected for sampling.
- (ii) 500 g shall be drawn from each selected container and shall be mixed homogenously, called as primary sample.
- (iii) 500 gm shall be drawn from primary sample called as Laboratory sample.

### 6. Definitions:

- (i). Foreign matter includes husk, straws, weed seeds, other vegetable matters of the plant, metallic pieces, sand, gravel, dirt, pebbles, stones, lumps of earth, clay, mud and animal filth etc.
- (ii). Damaged and discoloured seeds means whole or broken, obviously or internally damaged due to heat, microbes, moisture or weather or other causes.
- (iii). Insect damaged seeds mean seeds that are partially or wholly bored or damaged by insects.

**Optional parameters are voluntary and may be analysed as per buyer-seller agreement.**

## POPPED MAKHANA

Common name: Fox nut, Gorgon nut, phool makhana, roasted makhana  
Botanical name: *Euryale Ferox* Salisb.

1. Popped makhana shall be:-

- (i). clean, wholesome and of white or cream color;
- (ii). have characteristic and aromatic flavour with sharp and sweet pleasant aroma;
- (iii). free from rancid taste and musty odour;
- (iv). free from obnoxious smell and fungal infestation;
- (v). free from filth, rodent hair and excreta

2. Variety (to be filled by assayer)

3. Actual picture of the lot (to be uploaded by assayer).

4. Criteria for range designation



S. No.	Tradable parameters	Range-1	Range-2	Range-3
<b>A.</b>	<b>Primary</b>			
1.	Moisture (% by wt.) max	10.0	11.0	12.0
2.	Foreign matter (% by wt.) max	0.2	0.5	1.0
3.	Damaged and discolored (% by wt.) max	2.0	3.0	5.0
4.	Insect damaged (% by wt.) max	0.25	0.5	1.0
5.	Diameter (mm)	More than 15	10-15	Less than 10
6.	Color	Creamy white with natural reddish spot	Creamy white with more no. reddish spots	Creamy white with more no. of reddish spots
7.	Shape	Fully expanded	Fully expanded	Flattened and irregular
<b>B</b>	<b>Optional (Industrial/processor)</b>			
1.	Total ash (% by wt.) max	0.5	1.0	1.5
2.	Crude fibre (% by wt.) max		1.0	
3.	Protein (% by wt.) min		9.0	

### 5. Sampling:

- (i) 5 % or minimum one container shall be randomly selected for sampling.
- (ii) 100 g shall be drawn from each selected container and shall be mixed homogenously, called as primary sample.
- (iii) 100 gm shall be drawn from primary sample called as Laboratory sample.

### 6. Definitions:

- (i). Foreign matter includes husk, straws, weed seeds, other vegetable matters of the plant, metallic pieces, sand, gravel, dirt, pebbles, stones, lumps of earth, clay, mud and animal filth etc.
- (ii). Damaged and discoloured means roasted makhana whole or broken, obviously or internally damaged due to heat, microbes, moisture or weather or other causes.
- (iii). Insect damaged means roasted makhana that are partially or wholly bored or damaged by insects.

**Optional parameters are voluntary and may be analysed as per buyer-seller agreement.**