

Pradhan Mantri VanDhan Yojana

Promoting Tribal Enterprise through
Value Addition, Branding and Marketing of Forest Produces



Quality Specifications for selected MFPs (Fair Average Quality Grade)

Tribal Cooperative Marketing Federation of India Limited (TRIFED)
Ministry of Tribal Affairs, Government of India
New Delhi

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1. SPECIFICATION OF TAMARIND WITH SEED

A) General Characteristic:

1. Tamarind (with seed) shall be obtained from *Tamarindus indica* L. after removal of outer covering from the mature and ripe fruits.

2. General Requirements:-

- i) Tamarind (with seed) shall be mature and ripe and have characteristic taste.
- ii) The color shall be pale yellow to brown.
- iii) Tamarind (with seeds) shall be free from rancid taste and musty odor.
- iv) Tamarind (with seed) shall be free from external moisture or any other deleterious substance.

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance
1.	Moisture content percent by (Max)	22.00
2.	Foreign matter (Organic and Inorganic percent by weight (Max)	5.00
3.	Damaged pods percent by mass or dry basis (Max)	3.00

Definition:

- i) Organic extraneous matter consists of vegetable matters of the plants other than the Tamarind pods and its seeds.
- ii) Inorganic extraneous matter consists of sand, stones, pebbles, lumps of earth, clay, mud etc.
- iii) Damaged pods means insect damaged pods and those which are devoid of pulp.

2. SPECIFICATION OF TAMARIND SEEDLESS

A. General Characteristic

- i) The Tamarind pulp shall have been obtained from the mature fruits of the *Tamarindus indica* by removing first the rind and then the fibrous skeleton enclosing the pulp and the seeds.
- ii) The color of the pulp shall be light brown to dark black or mixture of light red to tinged brown and black colors or vice versa.

- iii) The pulp shall have the characteristic taste and flavor and shall be free from any obnoxious odor.
- iv) The pulp shall be free from added moisture, insect infestation or live insects, mould, rodent contamination and deleterious substances.

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance
1.	Moisture content percent by (Max)	25.00
2.	Foreign matter (Organic and Inorganic percent by weight (Max)	12.00
3.	Seed content percent by weight (Max)	20.00

Definition:

- i) Organic matter will consist of other parts of fruits such as fiber and rind.
- ii) Inorganic matter means stones, dust, dirt and any other foreign material of inorganic nature.

3. SPECIFICATION OF MAHUA SEED:

A. General Characteristic:

Mahuwa seed shall be the cotyledons obtained after decorticating the seed from the fruit borne on the tree *Madhuca indica*, *Madhuca longifolia*, *Madhuca latifolia*..

Minimum requirement:-

- i. Mahuwa seed shall be wholesome, free from obnoxious smell, deleterious substances and other impurities.

- ii. Mahuwa seed shall have uniform shape, size and color (Yellow to Almond color).

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance
1.	Moisture content percent by (Max)	12.00
2.	Foreign matter percent by weight (Max)	6.00
3.	Damaged and broken seed percent by weight (Max)	15.00
4.	Oil percent by weight (Min.)	38.00

Definitions:

- i) Foreign matter: shall include dust stones, lumps of earth or leaves, and any other edible or non edible seeds.
- ii) Damaged seeds: shall be the seeds which are damaged mechanically or by mould or those showing internal discoloration or seeds materially affecting the quality.
- iii) Broken: shall include those seeds which are less than three – fourth but more than one-fourth of a whole seed.

4. SPECIFICATION OF SAL SEED

A. General Characteristic:

- i) Sal seed shall be dried ripe seed of *Shorea robusta*, family Dipterocarpacea.
- ii) Sal seeds shall have uniform size shape and color (light green to yellow);
- iii) Sal seed shall be wholesome, free from insect infestation, obnoxious smell, deleterious substance and other impurities.

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance
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1.	Moisture content percent by (Max)	10.00
2.	Foreign matter percent by weight (Max)	4.00
3.	Split and broken seed percent by weight (Max)	15.00
4.	Oil percent by weight (Min.)	10.00

Definition:

- i) Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.
- ii) Split and broken seeds: splits shall be the seeds which are broken in two parts length-wise Broken seeds shall be those which are smaller than splits.

5. **SPECIFICATION OF KARANJ SEEDS:**

A. General Characteristic:

1. Karanj seed shall be obtained from clean, healthy and mature pods or beans of the plant *Pongamia pinnata* of family Leguminosae.
2. The Karanj Seeds shall be wholesome, mature, clean, dried and of characteristic size, shape, odor and color (brown).
3. It shall be free from insect infestation, artificial coloring matter, obnoxious flavor, rancidity and mustiness.

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance
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1.	Moisture percent by (Max)	11.00
2.	Extraneous matter (Organic and Inorganic) percent by weight (Max)	5.00
3.	Broken seeds percent by weight (Max)	15.00
4.	Oil percent by weight (Min.)	20.00

Definition:

- i) Organic matter consists of leaves, twigs, stems, organic matters other than the karanj seeds.
- ii) Inorganic matter consists of metallic pieces, sand, gravel, dirt, pebbles, stones, lumps of earth, clay and mud, animal filth.
- iii) Insect infected seed means seeds which are wholly or partially bored or eaten by weevils.

6. SPECIFICATION OF CHIRONJI GUTHLI:

A. General Characteristic:

- i) Chironjee (seed) shall be obtained from Buchanania lanzan of family Anacardiaceae.
- ii) Chironjee shall be free from insectos infestation.
- iii) The Chironjee Seeds shall wholesome mature, clean & dried.
- iv) The Chironjee shall have characteristic size, shape & color (Gray to black).

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance
1.	Moisture percent by (Max)	14.00
2.	Foreign matter (Organic)	5.00

	and Inorganic) percent by weight (Max)	
3.	Broken and damaged seeds percent by weight (Max)	4.00
4.	Percentage of seed floating on water (Max)	10.00

7. SPECIFICATION OF MYROBALAN:

A. General Characteristic:

- i) Myrobalan shall be obtained from the plant *Terminalia chebulla* of family Combretaceae.
- ii) It shall be sound and solid nuts free from insect infestation.
- iii) Myrobalan shall have characteristic shape, size & colour (yellow to brown/black) of the species found in the area.

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance
1.	Moisture percent by (Max)	11.00
2.	Extraneous matter (Organic and Inorganic) percent by weight (Max)	5.00

Definition:

Extraneous matter: this comprised dust, dirt, crushed matter, seeds and other foreign matter.

8. SPECIFICATION OF GUM KARAYA:

A. General Characteristic:

- i) Gum Karya (crystal) is a vegetable gum produced as exudates by tree of the genus *Sterculia urens*.
- ii) Shall be reasonably dried.
- iii) It shall be free from fungus, insect infestation, rodent excreta etc.

B) Special Characteristic:

S.No.	Color	Moisture % by weight (Max)	Bark and foreign matter % by
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			weight
1.	White with slight grey and yellow cast	10.00	1.50
2.	Pale yellow to light tan and brown	10.00	3.00
3.	Brown to black and mixed.	10.00	10.00

Definition:

- i) Foreign matter shall include bark, leaves, dust, dirt, stone pieces or any other organic and inorganic matter other than Gum Karaya.

9. SPECIFICATION OF HONEY

A. General Characteristic:

- i) Honey shall be obtained from well ripened honey combs.
- ii) Honey shall be of sweet taste & characteristic aroma.
- iii) Of uniform color throughout and may vary from light to dark brown.
- iv) It shall be free from visible mould, inorganic or organic matters such as insect, debris, brood or grains of sand dirt, pieces of beeswax, the fragments of bees and other insects and free from any other extraneous matter, microorganism.
- v) It should be free from any adulterants like molasses, corn syrup etc.

B) Special Characteristic of Honey:

S.No.	Parameter	Maximum limits of tolerance
1.	Specific gravity (Min)	1.35
2.	Moisture percent by (Max)	25.00
3.	pH	3.2-4.5
4.	Fiechos test	Negative

10. SPECIFICATION OF NEEM SEED

A. General Characteristic:

- i) Neem seed shall be dried ripe seed of *Azadirachta indica* family Meliaceae.
- ii) Neem seed shall be sound, clean, well dried, uniform in color, shape and size, free from insect infestation, live insect, dead insects, insect fragmentation, mould, mites, larvae and added coloring matter

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1.	Moisture content percent by (Max)	8.00
2.	Slightly damaged seeds weight (Max)	8.00
3.	Split and broken seed percent by weight (Max)	5.00
4.	Shriveled and immature (Max)	5.00
5.	Impurities (Max)	6.00
	Oil percent by weight (Min.)	22 .00

Definition:

- i) Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.
- ii) Split and broken seeds: splits shall be the seeds which are broken in two parts length-wise Broken seeds shall be those which are smaller than splits.

11. SPECIFICATION OF KUSUM SEED

A. General Characteristic:

- i) Kusum seed shall be dried ripe seed of *Schleichera oleosa* family Sapindaceae.
- ii) Kusum seed shall be sound, clean, well dried, uniform in color, shape and size, free from insect infestation, live insect, dead insects, insect fragmentation, mould, mites, larvae and added coloring matter

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1.	Moisture content percent by (Max)	6.00

2.	Shriveled and immature & Damaged seeds (Max)	4.00
3.	Oil percent by weight (Min.)	38 .00

12. SPECIFICATION OF GUGGL

A. General Characteristic:

- i) Guggul (crystal) consist of exudates of *Commiphora wightii*.
- ii) Shall be reasonably dried.
- iii) It shall be free from fungus, insect infestation, rodent excreta etc.

B) Special Characteristic:

S.No.	Color	Maximum limits of tolerance in %
1.	Foreign Matter (Max)	4.00
2.	Total Ash (Max)	5.00

Definition:

- i) Foreign matter shall include bark, leaves, dust, dirt, stone pieces or any other organic and inorganic matter other than Gum Karaya.

13. SPECIFICATION OF BAHEDA

A. General Characteristic:

- i) Baheda is fruit of *Terminalia bellirica* family Combretaceae.
- ii) Baheda shall be sound, clean, well dried, uniform in color, shape and size, free from insect infestation, live insect, dead insects, insect fragmentation, mould, mites, larvae and added coloring matter

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1.	Foreign Matter (Max)	2.00
2.	Total Ash (Max)	7.00
3.	Acid Insoluble Ash (Max)	1.00

Definition:

- i) Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

14. SPECIFICATION OF PUWAD SEEDS

A. General Characteristic:

- ii) Puwad seeds is fruit of *Cassia tora* or *Senna tora* family Fabaceae.
- iii) Puwad seeds shall be wholesome, mature, clean and dried.
- iv) mature, clean & dried.
- v) Puwad seeds shall be of characteristic size, shape and color, free from living and dead insect, insect fragments, mites, larvae. free from fungus infestation, mould growth.
- vi) free from added artificial coloring matter free from rodent hari and excreta, free from the seeds and *Argemone maxicana* (linn) and other toxic weeds free from rancidity and mustiness, free from objectionable taste and flavour.
- vii) The odour and flavour of the seeds when grind and moistened shall be free.

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1	Moisture (Max)	10.00
2	Organic extraneous matter (Max)	3.00
3	Inorganic extraneous matter (Max)	2.00
4	Broken seeds (Max)	5.00
5	Insect infected seeds (Max)	5.00
6	Total Ash (Max)	9.00

Definition:

- iii) Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

15. SPECIFICATION OF SHEEKAKAI

A. General Characteristic:

- i. Sheekakai is fruit of *Acacia concinna* family Fabaceae.
- ii. Sheekakai should be sound, clean well dried, uniform in color, shape and size.

- iii. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1	Moisture (Max)	14.00
2	Organic extraneous matter (Max)	3.00
3	Inorganic extraneous matter (Max)	1.00
4	Damaged and insect bored pods (Max)	10.00
5	Loose seeds Max	2.00

Definition:

- a. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

16. SPECIFICATION OF SHATAVARI (ROOT)

A. General Characteristic:

- i) Shatavari is root of *Asparagus racemosus* family Asparagaceae.
 ii) It should be clean well dried.
 iii) Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1	Foreign matter (Max)	1.00
2	Total Ash (Max)	8.00

Definition:

- iv) Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

17. SPECIFICATION OF BAEL

A. General Characteristic:

- i) Bael is fruit of *Aegle marmelos* family Rutaceae.
- ii) It should be clean well dried.
- iii) Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1	Foreign matter (Max)	1.00
2	Total Ash (Max)	4.00

Definition:

- iv) Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

18. SPECIFICATION OF KALMEGH (DRIED LEAVES)

A. General Characteristic:

- i) Kalmegh is leaves of *Andrographis paniculata* family Acanthaceae.
- ii) Leaves should be clean well dried
- iii) Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1	Moisture (Max)	11.00
2	Total Ash (Max)	10.00

19. SPECIFICATION OF MADHUNASHINI/GUDMAR (ROOT)

A. General Characteristic:

- i) Madhunashini/ Gudmar is root of *Aegle marmelos* family Rutaceae.
- ii) Root should be clean well dried
- iii) Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	0.60

Definition:

- a. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

20. SPECIFICATION OF NAGARMOTHA (RHIZOME)

A. General Characteristic:

- i) Nagarmotha is root of *Cyperus scariosus* family Cyperaceae.
- ii) Root should be clean well dried
- iii) Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Maximum limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	8.00

Definition:

- a. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

21. SPECIFICATION OF GILOE /AMRUTA/GUDUCHI

A. General Characteristic:

- i. Giloe is root of *Tinospora cordifolia* family Menispermaceae
- ii. Stem should be clean well dried.
- iii. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	16.00

3	Acid Insoluble Ash (Max)	3.00
4	Alcohol soluble extractive (Min)	3.00
5	Water soluble extractive (Min)	11.00
	For Fresh Drug	
	Foreign Matter	Nil
	Moisture content	75 %

Definition:

- i. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

22. SPECIFICATION OF CHIRAYITA

A. General Characteristic:

- I. Giloe is root of Swertia chirata (Roxb.ex Flem) family Gentianaceae
- II. Plant should be clean well dried.
- III. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	6.00
3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	10.00
5	Water soluble extractive (Min)	10.00

Definition:

- j. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

23. SPECIFICATION OF KAUNCH SEEDS

A. General Characteristic:

- I. Kaunch is seeds of *mucuna prurita* wertia *chirata* family Fabaceae
- II. Kaunch Seeds should be mature, dried and clean.
- III. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	1.00
2	Total Ash (Max)	5.00
3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	2.00
5	Water soluble extractive (Min)	23.00
6	Fixed oil (Min)	3.00

Definition:

- k. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

24. SPECIFICATION OF KSHIRNI

A. General Characteristic:

- I. Kshirni is root of *Hemidesmus indicus* family Asclepiadaceae.
- II. Kshirni root should be dried and clean.
- III. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	4.00
3	Acid Insoluble Ash (Max)	0.50
4	Alcohol soluble extractive (Min)	15.00
5	Water soluble extractive (Min)	13.00

Definition:

1. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

25. SPECIFICATION OF MARKING NUT

A. General Characteristic:

- i. Marking nut is Mature fruit of *Semecarpus Anacardium* family Anacardiaceae.
- ii. Marking nut should be mature, dried and clean.
- iii. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	1.00
2	Total Ash (Max)	4.00
3	Acid Insoluble Ash (Max)	0.50
4	Alcohol soluble extractive (Min)	11.00
5	Water soluble extractive (Min)	5.00

- Ripe mature fruits with an oil content of not less than 30 %.

Definition:

- m. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

26 . SPECIFICATION OF NUX VOMICA

A. General Characteristic:

- i. *Nux vomica* is dried seeds of *Strychnos nux vomica* Linn family Loganiaceae
- ii. *Nux vomica* seeds should be mature, dried and clean.

- iii. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	1.00
2	Total Ash (Max)	2.00
3	Acid Insoluble Ash (Max)	0.20
4	Alcohol soluble extractive (Min)	4.00
5	Water soluble extractive (Min)	12.00
6	Assay (Min)	1.2 % Stychnine

Definition:

- n. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

27 . SPECIFICATION OF SONAPATHA/SYONAK PODS

A. General Characteristic:

- i. Sonapatha is dried roots of *Oroxylum indicum* Vent family **Bignoniaceae**
- ii. Sonapatha roots should be mature, dried and clean.
- iii. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	1.00
2	Total Ash (Max)	5.00
3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	20.00
5	Water soluble extractive (Min)	42.00

Definition:

- o. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

28 . SPECIFICATION OF VAYBIDING/VAVDING

A. General Characteristic:

- i. Vaybiding is dried seeds *Embelia ribes* family *Myrsinaceae*
- ii. Vaybiding seeds should be mature, dried and clean.
- iii. Free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	6.00
3	Acid Insoluble Ash (Max)	1.50
4	Alcohol soluble extractive (Min)	10.00
5	Water soluble extractive (Min)	9.00

Definition:

- p. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

29 . SPECIFICATION OF AMLA

A. General Characteristic:

- i. Amla is fruit of *Phyllanthus emblica Gaertn* family *Euphorbiaceae*
- ii. It shall be, (a) sound and clean; (b) free from any visible foreign matter; (c) free from insect infestation, live insect , dead insects, insect fragments, larvae, rodent hair and excreta; (d) free from fermentation, rancid taste and musty odours; (e) free from extraneous matter, added colouring matter and other harmful matter; (f) free from any fungal or bacterial contamination.
- iii. The taste and smell of Amla dried shall be characteristic of the commodity.

- iv. It shall comply with restrictions in regard to Metallic contaminants (rule57), Crop contaminants (rule 57-A), Naturally occurring toxic substances (rule 57-B), Insecticide and Pesticides (rule 65) and other food safety parameters and other provisions prescribed under the Prevention of Food Adulteration Rules, 1955.
- v. Amla dried shall comply with residue levels of Heavy metal, insecticide or pesticide residue and other food safety parameters as laid down by the Codex Alimentarius Commission for exports
- vi. The condition of the Amla dried shall be such as to enable them, (i) to withstand transport and handling and (ii) to arrive in satisfactory condition at the place of destination.

B) Special Characteristic & Grade designation of Amla dried

S.No.	Parameter	Limits of tolerance in %		
		Special	Standard	General
1	Moisture (Max)	10.00	11.00	12.00
2	Loose seeds (On dry basis) (Max)	2.0	4.0	6.0
3	Organic extraneous material (on dry basis) (Max)	0.5	1.0	2.0
4	Inorganic extraneous material (on dry basis) (Max)	0.5	0.5	1.0
5	Damage & Insect bored (on dry basis) (Max)	1.0	2.0	3.0
	Vitamin C (Ascorbic acid) content , mg/100gm)(on dry basis) (Min)	150	100	80.0

Definition:

REF: Directorate of Marketing and Inspection.

30 . SPECIFICATION OF APANG PLANT

A. General Characteristic:

- iv. Apang is dried whole part of *Achyranthes aspera* family *Amaranthaceae*
- v. It should be dried and clean.
- vi. It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	17.00

3	Acid Insoluble Ash (Max)	5.00
4	Alcohol soluble extractive (Min)	2.00
5	Water soluble extractive (Min)	12.00

Definition:

- q. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

31 . SPECIFICATION OF ARJUNA

A. General Characteristic:

- i)* Arjuna is stem bark of *Terminalia arjuna* family **Combretaceae**
- ii)* It should be dried and clean.
- iii)* It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	25.00
3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	20.00
5	Water soluble extractive (Min)	20.00

Definition:

- r. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

32 . SPECIFICATION OF BHAVA

A. General Characteristic:

- i.* Bhava is seeds of *Cassia fistula* family **Caesalpiaceae**
- ii.* It should be dried and clean.

- iii. It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	6.00
3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	15.00
5	Water soluble extractive (Min)	46.00

Definition:

- s. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

33 . SPECIFICATION OF DHAVA PHOOL (DRIED FLOWER)

A. General Characteristic:

- I. Dhava is dried flower of *Woodfordia fruticosa* (L) Kurz family *Lythraceae*
 II. It should be dried and clean.
 III. It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	10.00
3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	7.00
5	Water soluble extractive (Min)	28.00

Definition:

- t. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

34 . SPECIFICATION OF JAMUN (DRIED SEEDS)

A. General Characteristic:

- I. Jamun is dried seeds of *Syzygium cumini* family *Myrtaceae*
- II. It should be dried and clean.
- III. It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	1.00
2	Total Ash (Max)	5.00
3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	6.00
5	Water soluble extractive (Min)	15.00

Definition:

- u. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

35 . SPECIFICATION OF KALIHARI(DRIED TUBERS)

A. General Characteristic:

- I. Kalihari is dried tubers of *Gloriosa superba* family *Liliaceae*
- II. It should be dried and clean.
- III. It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	6.00

3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	5.00
5	Water soluble extractive (Min)	15.00

Definition:

- v. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

36 . SPECIFICATION OF BAN TULSI (DRIED)

A. General Characteristic:

- I. Ban Tulsi is dried leaves of *Ocimum tenuiflorum* family Lamiaceae
- II. It should be dried and clean.
- III. It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Loss on drying (Max)	12.00
3	Total Ash (Max)	19.00
4	Acid Insoluble Ash (Max)	3.00
5	Alcohol soluble extractive (Min)	6.00
6	Water soluble extractive (Min)	13.00

Definition:

- w. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

37 . SPECIFICATION OF KUTAJ (DRIED BARK)

A. General Characteristic:

- I.** Kutaj is stem bark of *Holarrhena antidysenterica* (Roth) family Apocynaceae
- II.** It should be dried and clean.
- III.** It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	7.00
3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	18.00
5	Water soluble extractive (Min)	10.00

Definition:

- x. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

38 . SPECIFICATION OF TEJPATTA (DRIED)

A. General Characteristic:

- I.** Tejpatta is dried leaves of *Cinnamomum tamala* family Lauraceae
- II.** It should be dried and clean.
- III.** It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	5.00

3	Acid Insoluble Ash (Max)	1.00
4	Alcohol soluble extractive (Min)	6.00
5	Water soluble extractive (Min)	9.00
6	Volatile oil (Min)	1.00

Definition:

- y. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

39 . SPECIFICATION OF CHANOTHI SEEDS

A. General Characteristic:

- I. Chanothi is dried seeds of *Abrus precatorius* family Laguminosae
- II. It should be dried and clean.
- III. It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	3.00
3	Acid Insoluble Ash (Max)	0.50
4	Alcohol soluble extractive (Min)	3.00
5	Water soluble extractive (Min)	15.00

Definition:

- z. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

40 . SPECIFICATION OF MAHUWA FLOWER

A. General Characteristic:

- I. Mahuwa is flower of *Madhuca indica* family Sapotaceae
- II. It should be dried and clean.

- III.** It should be free from insect infestations, live insect, dead insects, insect fragments, mould, mites, larvae and added coloring matter, free from fermented and musty odours, free from fungal growth

B) Special Characteristic:

S.No.	Parameter	Limits of tolerance in %
1	Foreign matter (Max)	2.00
2	Total Ash (Max)	5.00
3	Acid Insoluble Ash (Max)	0.50
4	Alcohol soluble extractive (Min)	25.00
5	Water soluble extractive (Min)	70.00
6	Moisture (Max)	10.00

Definition:

- aa. Foreign matter: shall include dust, stones, lumps of earth, leaves, and any other edible or non edible seed.

REF: AYURVEDIC PHARMACOPOEIA

41 . SPECIFICATION OF BAKUL (Dried Bark)

A. General Characteristic:

Bakul is the dried bark of *Mimusops elengi* of family Sapotaceae.

Mimusops elengi is considered as a sacred plant among Hindus and its fragrant flowers are celebrated in the Puranas and even placed amongst the flowers of the Hindu paradise

Mimusops elengi is a small to large evergreen tree, grows up to 15 meter high. Generally characterized by a short, dark and very rough trunk and wide spreading, the ends of which tend to rise and forms a thick globular head to the tree.

The fresh bark is grayish black, channeled, occurs in pieces of 15 - 25 cm long and 10 -15 cm broad. Externally rough due to the presence of vertical lenticels, cracks and longitudinal fissures. The dried bark is black, curved, thin, fibrous and longitudinally striated fracture along with.

2. Special characteristics

S.N	Parameters	Maximum limit of tolerance
	Bark Powder	
1	Foreign organic matter (% w/w)	0.33 ±0.28

2	Moisture content(LOD) (% w/w)	03.86 ±0.72
	Ash Values	
3	Total ash (% w/w)	5.16 ±0.28
4	Acid insoluble ash (% w/w)	0.16±0.28
5	Water soluble ash (% w/w)	2.46±0.05
6	Sulphated ash (% w/w)	2.70 ±0.34
	Extractive values	
7	Water soluble extractive value (% w/w)	05.00 ±0.50
8	Alcohol soluble extractive value (% w/w)	07.10±0.76

Values are expressed as mean ± SEM

Reference:

<https://pdfs.semanticscholar.org/d277/b94c19f6e2017da13a3c7acc62a3383c9f9c.pdf>
https://www.researchgate.net/profile/Rakesh_Shivatare/publication/306393393_Pharmacognostic_Standards_for_Mimusops_elengi_Linn_-_A_Review/links/57bc6d7708ae52593355c782/Pharmacognostic-Standards-for-Mimusops-elengi-Linn-A-Review.pdf?origin=publication_detail

<https://indiabiodiversity.org/species/show/15876>

42 . SPECIFICATION OF SOAP NUT (Dried)

A) General characteristics

The soap nut comes from the *Sapindus emarginatus* of sapindaceae family. The trees produce the small black berry, approximately one inch (2-2.5 cm) in diameter, that are deseeded and the shell is dried prior to use.

Sapindus emarginatus is a medium to large size deciduous tree growing up to 18 m tall, with a 1.5 m trunk girth. Bark is grey, shiny, covered with rough falling scales. Leaves are pinnate, 12-30 cm long. Leaflets are 2-3 pairs, lance-shaped, elliptic or oblong, long pointed or with a notched tip, dull above. Flowers are white, polygamous, male flowers, numerous, a few bisexual, both found in the same rusty-velvety panicles. Bisexual flowers provide ample pollen and nectar to bees. Fruits are fleshy, 2-3 partially united, seeds pea-size, enclosed in a blackish, hard endocarp.

The dried fruit rind is the most valuable part as it contains saponin, which is rich in detergent properties. Fruits collected were processed and the rind was used for saponin extraction.

Reference:

<http://www.sustainablebabysteps.com/soap-nuts.html>

<https://pdfs.semanticscholar.org/5f9a/c8e380c6148cdd10868f5034a01404069f5f.pdf>

<https://www.jchps.com/specialissues/Special%20issue2/jchps%20si2%2018%20Anandalakshmi%20R%20104-107.pdf>

<https://www.flowersofindia.net/catalog/slides/Notched%20Leaf%20Soapnut.html>

43 . SPECIFICATION OF LAC

A) General characteristics

It is the resinous secretion of the parasite insect *Kerria lacca* on several species of trees in Asian countries such as India, Thailand and China. The physico chemical properties of Lac are variable depending on the insect strain, host trees and refining methods used for its purification. After harvesting, the so-called “stick lac” is chopped and separated from wood and resin. A washing step extracts the water-soluble dye, laccaic acid, yielding the raw material “seed lac.” The prefix seed refers to its pellet shape of the extract. Seedlac which still contains 3–5% impurities is processed into shellac by heat treatment or solvent extraction.

B) Special characteristics

Seed lac: Flow-14-49 mm, Life-15-36 min, Impurities-3-5%

Test Parameters	Commercial Sample of Shellac standard
Flow in mm	7
Life in minutes	3
Colour	1.2
Impurity %	0.4
Moisture %	1.085
Wax %	0.25
Acid Value	82.6

Reference:

http://www.fao.org/fileadmin/user_upload/jecfa_additives/docs/Monograph1/Additive-384.pdf

<https://d-nb.info/1029698821/34>

http://dissolutiontech.com/DTresour/200905Articles/DT200905_A04.pdf

<http://oar.icrisat.org/4901/1/Pigeonpea%20an%20excellent%20host%20for%20lac%20production.pdf>

<https://naip.icar.gov.in/download/c2-204401.pdf>

http://www.phytojournal.com/vol2Issue3/Issue_sep_2013/3.1.pdf

<https://pdfs.semanticscholar.org/d277/b94c19f6e2017da13a3c7acc62a3383c9f9c.pdf>

44 . SPECIFICATION OF NONI /AAL (Dried Fruits)

A) General characteristics

Noni or Indian Mulberry, the fruit of the *Morinda Citrifolia* tree, is actually a species of Rubiaceae family.

The Noni plant is a small evergreen tree found growing in open coastal regions at sea level and in forest areas up to about 1300 feet above sea level. The plant is often found growing along lava flows. It's identifiable by its straight trunk, large, bright green and elliptical leaves, white tubular flowers, and its distinctive, ovoid, "grenade-like" yellow fruit. The fruit can grow in size up to 12 cm or more and has a lumpy surface covered by polygonal-shaped sections. The seeds, which are triangular shaped and reddish brown, have an air sac attached at one end, which makes the seeds buoyant. This could explain, in part, the wide distribution of the plant throughout the Polynesian islands. The mature Noni fruit has a foul taste and odour.

B) Special characteristics

Depending on the post-harvest technology programme adopted, the fruits may be harvested at different stages of development and continue to mature. Most processors buy noni harvested at the "hard white" stage for juice production, as the fruits become soft too quickly once this stage is reached.

Reference:

<https://food.ndtv.com/opinions/the-big-benefits-of-the-little-noni-juice-753159>

https://www.researchgate.net/publication/245220912_Noni_Morinda_citrifolia_L_-_A_hope_in_a_bottle

<https://innovareacademics.in/journal/ijpps/Vol2Issue4/756.pdf>

<http://www.electrochemsci.org/papers/vol13/130908983.pdf>

http://www.fao.org/tempref/codex/Meetings/CCNASWP/ccnaswp13/na13_06e.pdf

https://www.doc-developpement-durable.org/file/Arbres-Fruitiers/FICHES_ARBRES/Morinda%20citrifolia-noni/The%20noni%20fruit_A%20review%20of%20agricultural%20research.pdf

<http://ijpsr.com/bft-article/pharmacological-overview-of-freeze-dried-andaman-noni-morinda-citrifolia-l-against-cancer-and-neurological-disorder/?view=fulltext>

<https://www.agrifutures.com.au/wp-content/uploads/publications/07-132.pdf>

http://www.fao.org/tempref/codex/Meetings/CCNASWP/ccnaswp13/na13_06e.pdf

45 . SPECIFICATION OF SUGANDHMANTRI ROOTS/TUBERS

A) General characteristics

Sugandh mantra is the roots/tubers of *Homalomena aromatica Schott* belongs to Araceae family. This rhizomatous perennial herb is native to India. Sugandh Mantri oil is commonly known as Gandhi roots, fragrant swamp mallow, Pavonia or Fragrant Pavonia. The herb has heart shaped leaves and bears spherical fruits. Oil of Sugandh Mantri is extracted by means of Steam distillation of dried roots.

The plant is shade loving with short, stout and tough stem, slow growing with an average height to 0.40-0.80 m, heart-shaped dark green cordate-sagittate shaped coraceous leaves with long petiole. Its aromatic rhizomes contain an essential oil used for blending most of the oriental perfumes. On steam distillation the rhizome yields a yellow coloured essential oil from 2.0 to 2.8% on dry weight basis and the residue is used in incense making.

Reference:

<http://kanglaonline.com/2010/09/sugandhmantri-homalomena-aromatica-schott/>

<http://www.kabindustries.com/sugandh-mantri>

<https://www.indiaessentialoils.com/sugandh-mantri-oil.html>

46 . SPECIFICATION OF MAKOI (Dried fruits)

A) General characteristics

DESCRIPTION

Makoi is dried fruits of *Solanum nigrum* commonly known as “Black night shade” belongs to solanaceae family.

The raw material consist of the dried and full grown berries of *Solanum nigrum*. The fruit is a berry, 6mm in diameter, obtuse, usually purplish-black but sometimes red, yellow or black; smooth shining . Reddish- brown coloured fruits are used for edible purpose. *S. nigrum* is an important ingredient in traditional Indian medicines. Infusions are used in dysentery, stomach complaints, and fever.

B) Special characteristics

S N	Parameter	Maximum limits of tolerance
1	Foreign matter	Not more than 2 per cent
2	Total Ash	Not more than 16 per cent
3	Acid-insoluble ash	Not more than 7 per cent
4	Alcohol-soluble extractive	Not less than 4 per cent
5	Water-soluble extractive	Not less than 15 per cent

Reference:

<http://www.ayurveda.hu/api/API-Vol-2.pdf>

<https://pdfs.semanticscholar.org/5769/99e52e8abaedb0fee6af5cadeaea09929968.pdf>

https://www.researchgate.net/publication/322797670_A_REVIEW_ON_SOLANUM_NIGRUM

https://www.researchgate.net/publication/305807419_Micrometric_study_and_physicochemical_evaluation_of_Solanum_nigrum_Linn_leaves

<https://www.longdom.org/open-access/study-the-sensory-attributes-and-shelf-life-of-developed-digestive-pills-frommakoi-solanum-nigrum-2157-7110-1000622.pdf>

47 . SPECIFICATION OF HILL BROOM GRASS

A) General characteristics

Hill Broom Grass is the dried panicles of plant *Thysanolaena maxima* belongs to Poaceae family.

It is a tall reed-like tufted on-invasive and very vigorous perennial grass with leaves bearing resemblance to those of bamboo. It is a non-timber species forming a large and dense clumps producing numerous upright or arching stems (up to 10 mm thick) that are unbranched and have joints at regular intervals. These stems bear large alternatively arranged leaves. Culms are solid, smooth and rounded and grow up to a height of 4 m. The long lance shaped leaves are relatively broad (25-60 cm long and 3-7 cm wide) with pointed tips and entire margins. They consist of a sheath at the base, which encloses the stem, and a spreading leaf blade. The inflorescence that is about 30 to 90 cm long resembles a foxtail. It thrives in low to medium elevations but grows faster in higher elevations.

B) Special characteristics

S N	Parameter (%)	Maximum limits of tolerance*
1	Digestibility	57.9
2	Total Ash	10.7 – 11.8
3	Ether extract	4.2 –6.7
4	N-free extract	39.3 – 44.6
5	Crude protein	15.1 – 18.2
6	Crude fiber	29.5 – 31.0
7	Cellulose	30.3 – 37.8
8	Hemicellulose	29.6 – 34.4
9	Lignin	4.6- 9.1

Bhuchar(2002)*

The quality of broom depends upon the time of harvesting. Shorter inflorescences, generally collected in the early stages of inflorescence development, are considered the best quality.

The product is classified under three categories:

- (a) Class-(I) or best quality: those types in which the flowers have not yet opened and are collected in the months of January and February.
- (b) Class-(II) or medium quality: those types that are cut immediately after flowering and are collected in the months of (late) February and March.
- (c) Class-(III) or inferior quality: those types that have remained in the culms for longer periods and are collected in the months of April and May.

Reference:

<https://pdfs.semanticscholar.org/c52e/f7afde4ec8f312dd358f50f4e03ffdc36dc7.pdf>

https://www.academia.edu/34312537/Tiger_grass_Thysanolaena_maxima_Roxb._O._Kuntze_A_review_of_its_biology_and_uses

<https://en.wikipedia.org/wiki/Thysanolaena>

48 . SPECIFICATION OF KOKUM (Dry)

A) General characteristics

Kokum is the dried fruits of plant *Garcinia indica* which is belong to Clusiaceae family.

It is an evergreen, monoecious tree. The tree can grow as high as 18 meters. On maturity the trees attain a pyramid shape. The fruit is an orange size purple color berry with fleshy endocarp. The fruit of the plant contain five to eight large seeds which account for 20-23% of the fruit's weight. The kernels account for 61 percent of the weight of the seed, while the oil content of the kernel accounts for about 44%. The seeds are compressed and embedded in an acidic pulp.

Kokum is collected from the wild, grown in home gardens and cultivated at a limited scale as a rainfed crop, usually mixed with other fruit trees. Fruit kokum, rind and seed have many applications such as culinary, foods, fruit drinks, pharmaceuticals and industrial.

B) Special characteristics

S. N	Parameter	Maximum limits of tolerance (%w/w)
1	Moisture content	8.8
	Ash value:	
2	Total ash	17.5
3	Water Soluble ash	1.5
4	Acid Insoluble ash	0.5
5	Sulphated ash	14.3
	Extractive value:	
6	Water soluble	60
7	Alcohol soluble	75

Reference:

<http://www.phcogfirst.com/sites/default/files/Phytopharmacopoeial%20specifications%20of%20Garcinia%20indica.pdf>

http://jakraya.com/journal/pdf/6-jfirtArticle_1.pdf

49 . SPECIFICATION OF SAL (*Shorea robusta*)

A) General characteristics

It is the dried leaves collected from the tree species *Shorea robusta*.

Sal leaf is one of the most important NTFP collected and processed. Sal leaves are used to manufacture leave plates and cups for domestic and commercial uses.

B) Special characteristics

Middle aged leaves are suitable for making the plates, neither the tender nor the hard leaves are suitable for plate making.

Reference:

<https://www.vasundharaodisha.org/Research%20Reports/Sal%20leaf%20plate%20trade.pdf>
