

AYURVEDIC PHARMACY

ASAVA AND ARISTA

Definition: Asava and Arista are medicinal preparations made by soaking the drugs, either in powder form or in the form of decoction (Kasaya), in a solution of sugar or jaggery, as the case may be, for a specified period of time, during which it undergoes a process of fermentation generating alcohol, thus facilitating the extraction of the active principles contained in the drugs. The Alcohol, so generated, also serves as a preservative.

Asava

The required quantity of water, to which Jaggery or sugar as prescribed in the formula is added, is boiled and cooled. This is poured in to the fermentation pot, vessel or barrel. Fine powders of drugs, mentioned in the formula are added. The container is covered with a lid and the edges are sealed with clay-seamed cloth wound in seven consecutive layers. The rest of the process is the same as mentioned in the case of Arista, i.e. the container is kept either in a special room, in an underground cellar or in a heap of paddy, so as to ensure that for the duration of fermentation, as far as possible, a constant temperature is maintained, since varying temperature may impede or accelerate the fermentation. After the specified period, the lid is removed, and the content examined to ascertain whether the process of fermentation (*Sandhana*) has been completed. The fluid is first decanted and then strained after two or three days. When fine suspended particles settle down, it is strained and bottled.)

Methods of Preparation

Arista

The drug mentioned in the formula are coarsely (Javkut) powdered and Kasaya (decoction) is prepared. The kasaya is strained and kept in the fermentation pot, vessel or barrel. Sugar, Jaggery or Honey, as required, is dissolved, boiled and added. At the end, *Dhatkari Pusta*, if included in the formula, should be properly cleaned and added. The mouth of the pot, vessel or barrel is covered with an earthen lid and the edges sealed with clay-smear cloth wound in seven consecutive layers. The container is kept either in a special room, in an underground

cellar or in a heap of paddy, so as to ensure that for the duration of fermentation, as far as possible, a constant temperature is maintained, since varying temperature may impede or accelerate the fermentation. After the specified period, the lid is removed, and the content examined to ascertain whether the process of fermentation (*sandhana*) has been completed. The fluid is first decanted and then strained after two or three days. When fine suspended particles settle down, it is strained and bottled.

General Precautions

If the fermentation is to be carried in an earthen vessel, it should not be new. Water should be boiled first in the vessel. Absolute cleanliness is required during the process. Each time the inner surface of the fermentation vessel should be fumigated with *Pipali Churna* and smeared with ghee before the liquids poured into it. In large scale manufacturing, wooden vats, porcelain jars or metal vessels are used in place of earthen vessels.

Characteristics

The filtered ASAVA or ARISTA should be clear without froth at the top. It should not become soar (*cukra*). The preparation has the characteristics aromatic alcoholic odour.

Preservation

ASAVA and ARISTA can be kept indefinitely. They should be kept in well-stopped bottles or jars.

Standardization of Aristas

Determination of pH (Asavas, Aristas, Avleha)

The pH of an aqueous liquid may be defined as the negative logarithm of Hydrogen ion concentration. The pH value of a liquid is determined potentiometrically by means of a glass electrode and a suitable pH meter.

Method

Operate the pH meter and electrode system according to the manufacturer's instructions. Standardize the pH meter and electrode, if necessary, with M/20 Potassium hydrogen phthalate (pH 4.00) when measuring an alkaline solution. Preparation of test solution; Asavas, Aristas, Arks and dravakas: The sample may be used as such, filtered through a dry filter, if necessary.

Avleha

A 10% w/v suspension in water thoroughly mixed is centrifuged and the supernatant liquid is used.

Specific Gravity

(Aristas, Asavas): The specific gravity of a liquid is the weight of the given volume of the liquid at the specific temperature compared with weight of an equal volume of water at the same temperature, all weighting being taken in air.

Procedure

A pycnometer of 25 ml capacity is cleaned, dried and weighted. It is filled up to the mark with water and the required temperature and weight. The pycnometer is next filled up to the mark with sample, filtered if necessary at the same temperature and weighted. The specific gravity is determined by dividing the weight of the sample expressed in grams by the weight of the water, expressed in grams.

Determination of Alcohol Content: (Asavas and Aristas)

Method 1: (In the absence of volatile oils): Measure 100 ml of the preparation in the graduated flask at 20° C (the flask may be immersed in the ice water contained in Dewa vessel, the temperature being maintained at 20°C by adding water or ice). Transfer to a flask of 500 to 800 ml capacity, wash the graduated flask with 50 ml of water, add the washing to the contents of the large flask, and add a little pumice powder. Neutralize if necessary, with sodium hydroxide solution. (This may be conveniently done by titrating an aliquot of the sample, after dilution, with N/10 sodium hydroxide using phenolphthalein solution indicator, calculating the volume necessary to neutralize 100 ml and adding this amount of sodium hydroxide to the sample in the flask). Connect the flask to a condenser by means of a suitable still head at distil at least 90 ml into a 100 ml with water at the same temperature. Determine the specific gravity at 20°C.

Method 2: (in the presence of volatile oils): Measure 100 ml of the preparation in the graduated flask at 20° C. Transfer to a separator, wash the graduated flask with 25 ml of water, add the washing to the contents of the separator, and add sufficient powdered sodium chloride to saturate the liquid. Add about 100 ml of light petroleum (boiling point 40° to 60° C), and shake vigorously for two to three minutes. Allow the mixture to stand for fifteen to thirty minutes and run the lower layer into a distillation flask. Wash the light petroleum in the separator by shaking vigorously with about 25 ml of sodium chloride solution; allow standing, and running the wash liquor into the first brine solution. Make the mixed solution just alkaline with N/10 sodium hydroxide using solid phenolphthalein as indicator, add a little pumice powder and 100 ml of water distil 90 ml and determine the amount of ethyl alcohol by method 1.

Note: BP method of quadruple bulk distillation is not suitable for preparation containing low percentage of alcohol as the alcohol percentage of the quadruple will be only 1/4th that of the original preparations. Specific gravity determination of such dilute solution is likely to lead to inaccurate results.

Therefore, it is preferable to use a method e.g. A.O.A.C. method in which the same strength as the original preparations. The alcohol table given in the A.O.A.C. should be used to obtain the alcohol content.

Loss on Drying: (Aristas, Asavas, Avleha)

Method: Digest pure quartz that passes through no. 40 but not no. 60 sieve with HCl, wash acid free, dry and ignite. Preserve in Stoppard bottle. Place 25-30 of prepared sand and a short glass rod in a neckle or stainless steel dish, about 55 mm in diameter and 40 mm deep fitted with a cover. Dry thoroughly, cover dish, cool in desiccators. Pipette out a quantity of asavas/aristas to yield about 1 g. of dry matter. In the case of avleha weigh sufficient quantity of the sample to yield about 1 g. of dry matter in dish, mix with a few ml of water and transfer quantitatively to the dish containing prepared sand with the aid of water. Mix the sample thoroughly with the sand. Dry at a temperature NMT 70° C under pressure NMT 50 mm Hg.

Making real weighing at 2 hours intervals towards end of drying period until successive weighing do not differ more than 2 mg. calculate the total solids from the loss weight on drying.

Note: as drying sand as well dried sample, absorb appreciable quantity of moisture on standing over most desiccating agents, make all weighing as quickly as possible after cooling the desiccators.

The BP method of drying at 105° C is not recommended for these preparations as they contain reducing sugar, the laevulose moiety of which is decomposed at this temperature. The vacuum oven method is to be used. In this method the sample is spread on pure sand and dried in vacuum at 60-70 °C.

The filtered ASAVA or ARISTA should be clear without froth at the top. It should not become soar (cukra). The preparation has the characteristic aromatic alcoholic odour.

Standardization of Asavas

1. **Determination of pH:** (same as in the case of Aristas).
2. **Specific gravity:** (same as in the case of Aristas).
3. **Determination of alcoholic content:** (same as in the case of Aristas).
4. **Loss on drying:** (same as in the case of Aristas).

Examples of Commonly used ASAVAS and ARISTAS

1. **ASAVAS:** Ahiphenasava, Arvindasva, Kanakasava, Kapurasava, Kumaryasava, Lohasava, Madhukasava, Punarnvasava, Sarivadyasava, Vasakasava.
2. **ARISTAS:** Abhayarista, Amrtarista, Arjunarista, Ashokarista, Asvagandhadyarista, Balarista, Dasamularista, Khadirarista, Kutajarista, Rohitakarista, Sarasvatarista, Vidangarista.

Examples of ARISTA Ayurvedic Formulations

Abhayarista

S. No.	Ingredients	Botanical name (Optional)	Plant Part	Quantity used
1	Abhaya (Haritaki)	<i>Terminalia chebula</i> Retz.	Fruit, Whole plant	4.8 Kg.
2	Mrdvika	<i>Vitis Vinifera</i> Linn	Dried fruit	2.4 Kg.
3	Vidanga		Fruit	480 Kg.
4	Madhuka kusuma	<i>Glycyrrhiza glabra</i> Linn	Flower	480 Kg.
5	Water for decoction reduced to			49.152 Lt 12.228 Lt.
6	Guda			4.8 Kg
7	Svadamstra (goksura)	<i>Tribulus terrestris</i> Linn	Fruit	96 Kg.
8	Trivrtta		Root	96 Kg.
9	Dhanya	<i>Coriandrum sativum</i> Linn	Fruit	96 Kg.
10	Dhataki	<i>Woodfordia fruticosa</i> Kurtz	Flower.	96 Kg.
11	Indravaruni	<i>Citrullus colocynths</i> Schrad	Root	96 Kg.
12	Cavya	<i>Piper chaba</i> Hunter	Stem	96 Kg.
13	Madhurika (misreya)		Fruit	96 Kg.

S. No.	Ingredients	Botanical name (Optional)	Plant Part	Quantity used
14	Sunthi	<i>Baliospermum mantanum</i>	Rhizome	96 Kg.
15	Danti		Root	96 Kg.
16	Macarasa		Exudates	96 Kg.

Dosages: 12 to 24 ml.

Therapeutic Use

1. Agnimandya (Digestive impairment)
2. Varcovibandha (Constipation)
3. Arsa (Piles)
4. Udara (Diseases of abdomen)
5. Mutra vibandha (Retention of Urine)

Asokarista

S. No.	Ingredients	Botanical name (Optional)	Plant part used	Quantity Used
1.	Asoka	<i>Praksepa dravyas</i>	Stem Bark	4.8 Kg.
2	Water for decoction reduced to			49.152 Lt.
3	Guda			12.288 Lt.
4	Dhataki		Flower	9.6 Kg.
5	Ajaji		Fruit	768 g.
6	Mustaka		Rhizome	48 Kg.
7	Sunthi		Rhizome	48 Kg.
8	Darvi		Stem	48 Kg.
9	Utpala		Flower	48 Kg.
10	Haritaki		Fruit, Whole plant	48 Kg.
11	Bibhitaka		Fruit, Whole plant	48 Kg.
12	Amalaki		Fruit, Whole plant	48 Kg.
13	Amarasthi		Endosperm	48 Kg.
14	Jiraka		Fruit	48 Kg.
15	Vasa		Root	48 Kg.
16	Candana		Heart wood	48 Kg.

Dosage: 12 to 24 ml.

Therapeutic Uses

1. Asrgdra ruja (menorrhagia)
2. Yoniruja (Pain in female genital tract)
3. Svetapradara (Leucorrhoea)
4. Raktapitaa (Bleeding Disorder)
5. Arsa (Piles)

6. Mandagni (Dyspepsia)
7. Arocaka (Tastelessness)
8. Meha (Excessive flow of urine)
9. Soth (Inflammation)

Kutajarista

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Kutajamula	<i>Holarrhena antidysentrica</i> wall	Root bark	4.8 Kg.
2	Mrdvika (draksa)		Dried fruit	2.4 Kg.
3	Madhuka puspa		Flower	480 g.
4	Kasmari (gambhari)		Stem Bark	480 g.
5	Water for decoction reduced to.....			49.152 Lt.
6	Guda			12.288 Lt.
		<i>Praksepa dravyas</i>		4.8 Kg.
7	Dhataki		Flower	960 g.

Dosage: 12 to 24 ml.

Therapeutic Uses

1. Grahani (malabsorption syndrome)
2. Pravahika (dysentery)
3. Raktatisara (diarrhoea with blood)
4. Jvara (fever)

Arjunarista (Parthadyarista)

S. No.	Ingredients	Botanical name optional)	Plant part used	Quantity used
1	Partha (arjuna) tvak	<i>Terminalia arjuna</i> W&A	Stem bark	4.8 Kg.
2	Mrdvika (draksa)		Dried fruit	2.4 Kg.
3	Madhuka puspa		Flower	960 g.
4	Water for decoction reduced to.....			49.152 Lt.
5	Guda			12.288 Lt.
		<i>Praksepa dravyas</i>		4.8 Kg.
6	Dhataki		Flower	960 g.

Dosages: 12 to 24 ml.

Therapeutic Uses

1. Phupphusa roga (lung diseases)
2. Hrdroga (Heart diseases)
3. Balaksaya (Loss of strength/immunity)
4. Viryaksaya (Azoospermia)

Examples of ASAVAS Ayurvedic Formulations

Kapurasava

S. No.	Ingredients	Botanical Name (Optional)	Plant Part Used	Quantity used
1	Prasanna (alcohol)			4.8 Lt.
2	Udapatī (karpura)		Exudates	384 g
3	Ela sukma		Seed	48 Kg.
4	Ghana (musta)		Rhizome	48 Kg.
5	Srngavera (sunthi)		Rhizome	48 Kg.
6	Yamanika		Fruit	48 Kg.
7	Vellaja (marica)		Fruit	48 Kg.

Dosage: 12 to 24 ml.

Therapeutic Uses

1. Atisara (Diarrhoea)
2. Visucika (Gastro-enteritis with piercing pain)
3. Udara roga (Diseases of abdomen)
4. Kapha vikara (Disorders due to vitiation of kapha doshas)

Madhukasava

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Madhuka puspa		Flower	12.288 Kg
2	Vidanga		Fruit	6.144 Kg.
3	Citraka		Root	3.072 Kg.
4	Bhallataka		Fruit	3.072 Kg.
5	Munjistha		Stem	384 g.
6	Water for decoction reduced to....			35.854 Lt.
7	Madhu		Seed	12.288 Lt.
8	Ela		Stem	1.536 Kg.
9	Mmala (kamalaanla)		Seed	Q.S as paste
10	Aguru		Stem	Q.S as paste
11	Candana (sveta candana)		Heart wood	Q.S as paste
			Heart wood	Q.S as paste

Dosage: 12 to 24 ml.

Therapeutic Uses

1. Grahani (Digestive impairment)
2. Pittavikara (Disorders of pitta dosha)
3. Pramcha (Increased frequency and turbidity of urine)
4. Kustha (Diseases of skin)
5. Kilasa (Vitiligo)

- 6. Rakta Vikara (Disorders of blood)
- 7. Agnimandya (Digestive impairment)
- 8. Karsya (Emaciation)
- 9. Sosa (Cachexia)

Kanakasava		Botanical name (optional)	Plant part used	Quantity used
S. No.	Ingredients			
1	Kanaka (chattura)		Leaf, fruit, plant	192 kg.
2	Varsamula (vasa) tvak		Root bark	192 kg.
3	Madhuka (yastimadhu)		Root	96 kg.
4	Magadhi (pippali)		Fruit	96 kg.
5	Vyaghri (kantkari)		Whole plant	96 kg.
6	Kesara (nagakasara)		Flower	96 kg.
7	Visvabhesaja (sunthi)		Rhizome	96 kg.
8	Bharngi		Root	96 kg.
9	Talisapatra		Leaf	96 kg.
10	Dhataki		Flower	768 g.
11	Draksa		Dried fruit	960 g.
12	Water			24.576 Lt.
13	Sarkara			4.8 kg.
14	Ksaudra (madhu)			2.4 kg.

Dosage: 12 to 24 ml.

Therapeutic Uses

- 1. Kasa (Cough)
- 2. Svasa (Asthma)
- 3. Raja yaksma (Tuberculosis)
- 4. Ksata ksina (Debility due to chest injury)

AVLEHA

Definition: AVLEHA or Lehya is a semi solid preparation of drugs, prepared with the addition of jaggery, sugar or sugar-candy and boiled with prescribed drug juice or decoction.

Methods of Preparation

These preparations generally have

- 1. Kasaya or other liquids,
- 2. Jaggery, sugar or sugar candy,
- 3. Powders of pulps of certain drugs,
- 4. Ghee or oil and
- 5. Honey