

DEFENCE FOOD SPECIFICATIONS-2020
SPECIFICATION NO 359 (REVISED) : FRUITS FRESH

PART- I: GENERAL SPECIFICATION

Quality

1. **General.** All fruits fresh will be fresh, ripe, sound, sweet, wholesome, mature, well formed, firm, of good even size. It will have characteristic colour, taste, aroma, shape and visual appearance, as applicable to each fruit fresh and its varieties. The fruit fresh should mature naturally on trees or under normal storage conditions. It will be practically free from insects and pests infestation (live or dead) and foreign matter and totally free from fungal or bacterial rot (skin or pulp). It will have no holes, cuts, cracks, wounds or bruises (indented or water soaked). It will have no discoloration of skin, internal break down, browning, scabs, wrinkled or water soaked skin, blemishes, physical injury, diseases or any other defects. Physiological disorders and temperature injury (heat, chill, freeze) should not be seen in it. It will also be free from signs of improper storage, handling and transportation. It will not be bland, bitter, sour in taste, dry/ dehydrated, overripe. It will also be free of any other defects that may have poor visual appeal, injurious to health or poor organoleptic quality.

2 **Cold Storage.** Fruits fresh from cold storage may be accepted provided that it possess all qualitative requirements as applicable to fruits fresh and have not undergone any physiological damage, deterioration or ripening staleness, due to low temperature treatment. Such fruit fresh shall be free from freeze burns and shall be properly thawed. Cold storage fruit fresh in any case will not be accepted during the natural availability season of that fruit fresh, including early and late maturing. These will also be free from abnormal external moisture, excluding slight condensation following removal from cold storage.

3. **Size and Weight relationship.** Fruits fresh will conform to the requirements of size/weight relationship as given in succeeding paragraphs in this specification. Fruits fresh of abnormal shape, size, weight, etc likely due to growth enhancers/hormone injections/genetic modification/etc will be rejected, even if all other aspects of this specification are being met. Abnormality will be arrived at by mutual consent, to be approved by station commander/medical officer. Good average size of fruits mentioned in Part III of this specification will be decided by the Executive Officer considering its purchase.

4. All mandatory requirements of FSSAI and other government bodies, as amended from time to time, pertaining to this specification, will be complied with.

Variety

5. **General.** The type and varieties of fruits fresh for consumption will be selected from those mentioned in this specification. Where specific varieties of a particular fruit fresh have been mentioned the same will be procured. The type (including varieties where applicable) and percentage of fruits fresh will be at the discretion of the Executive Officer in consultation with the local Medical Authorities, if necessary. The type/varieties of fruits fresh which are naturally available in a particular season will be selected as far as possible to derive maximum benefit of freshness and nutrition besides placing minimum reliance on cold storage fruits.

6. **Local Varieties.** Locally available fruits fresh and their varieties (other than those mentioned in this specification) may also be accepted, in case of troop's preference or non-availability of varieties mentioned in this specification, after general market survey. Size and number of fruits fresh to a kilogram of those selected, will be fixed by the Executive Officer considering its purchase. Such fruits fresh should not exceed 10% of total annual requirement.

7. **Imported Varieties.** Varieties of imported fruits fresh already mentioned in this specification will be acceptable. Imported fruits fresh not mentioned in this specification may also be acceptable, provided troop's preference is there for the same. Survey will be necessary for its availability, acceptability, nutritional content, financial implications, etc. Size and number of fruits fresh to a kilogram of those selected, will be fixed by the Executive Officer considering its purchase. Such fruits fresh should not exceed 5% of total annual requirement.

For and on behalf of the
President of India

(Signature of the Bidder (s))

Inspection

8. **General.** Fruits fresh will be subjected to inspection by local Supply Officer, as per parameters mentioned in this specification and contract clauses therein. After careful inspection and having found fruits fresh conforming to this specification, the same will be accepted. All fruits fresh will be supplied in suitable size containers (CFB, CFC, plastic crates, wooden boxes, baskets, paper boxes, etc other than bags), designed to protect the fruits fresh from transportation related damages and deterioration. These containers will be clean and dry, without any previous remnants/marks/contaminants, before placing the fruits fresh. Additional cushioning to protect individual fruits fresh may be provided if so reqd, by use of paper, grass, leaves, soft plastic shreds, etc. Stickers individually affixed on fruits fresh when removed, should not leave visible traces of glue nor lead to skin defects. Fruits fresh viz; Grapes, Cherry, Plums, Apricot, Peach and Strawberry will be issued in small size packs only, these will not be emptied for inspection, the inspection will be carried out after opening of upper flaps only, where a detailed check is necessary adequate number of packs may be emptied.

9. **Use of Chemicals.** No chemicals will be administered to the fruits fresh internally or externally to enhance size, colour, taste, ripening, shine, etc. Fruits fresh will not be dipped in water. Preservatives where used must be permitted ones as per FSSAI guidelines and must be within the permissible limits. Residual level of heavy metals, insecticide, pesticides, fungicides and others, for food safety requirements will be complied with as per guidelines of FSSAI or other related Government bodies.

Tolerance

10. **Seasonal Tolerance.** To account for specific regional effects or adverse seasonal impacts on the quality or early/ late seasonal variance or early/ late availability, the same may be approved by the Executive Officer considering its purchase, after ascertaining the facts and communicated in writing to all concerned.

11. **Minor Tolerance.** Without any effect on the nutritional character and palatability of fruits fresh a combined tolerance limit of upto 5% for minor tolerances on surface area, as well as number of fruits fresh, laid down in this specification will be acceptable to accommodate seasonal/crop variations, being an agricultural product.

12. **Weight/Number Tolerance.** Within a particular variety all individual fruits fresh should weigh/number 10% (+/-) of the average weight/number of the fruits fresh. Average weight/number may be obtained by measuring a fair quality of the particular variety of the fruits fresh.

13. **Major Defects.** Fruits fresh showing any major defects as mentioned in this specification will be rejected.

14. Region wise availability including early or late ripening due to natural climatic conditions may be suitably incorporated by the Executive Officer in the schedule. Fruits fresh will be of the same variety, quality, size, and degree of ripeness in one offering. Two or more varieties of a particular fruits fresh will not be mixed during the offerings. Acceptable tolerance will be applicable to all fruits fresh including local varieties.

PART-II : QUALITY PARAMETERS AND DESCRIPTION**GROUP I – MAJOR FRUITS**

(Total quantity of this group will not be less than 60% of annual requirement)

Apple (Hindi name – Seb, Botanical name – Malus Domestica)

1. **Fruit Characteristics.** Apple will be fine grained, sweet, juicy, mature and good smelling. It will be of normal bloom, glossy smooth skin, stem intact (if removed brake should be clean). Colour of apple will be characteristics of the variety, which generally ranges from creamy white, light green, golden, pink to red with small dots scattered all over. It will be of even size, shape and weight for each variety. It is generally available from August to February.
2. **Major Defects.** It will not have any sign of internal blackening/rotting or degradation of pulp. It will not be distorted or irregular in shape, sour in taste.
3. **Minor Tolerances.** Minor skin blemishes, healed injury on skin (nail, rub marks), minor superficial bruises, natural marks, slightly defect in colour, skin, shape, development, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.**
 - (a) **Red Delicious.** Fruit is large-sized, oblong-conical in shape, greenish-yellow in colour with red streaks. Flesh is creamy, juicy, aromatic and sweet in taste.
 - (b) **Starking Delicious.** Fruit colour is greenish-yellow, covered with dark red stripes all over the fruit. Flesh is creamy, juicy, aromatic, sweet in taste with excellent quality.
 - (c) **Ambri.** Indigenous variety of attractive apple with extra-ordinary keeping quality. Fruit is medium to large in size and oblong in shape. It has red streaks over a greenish-yellow colour background. The pulp is white, crisp and sweet.
 - (d) **Golden Delicious.** Fruit is medium in size, round - conical to oblong in shape. Fruit colour is greenish yellow which turns to golden-yellow on ripening. Some fruits are half flushed with pale orange. Flesh is creamy, crisp, fine textured, juicy, sweet, little acidic with good aromatic flavour.
 - (e) **Red Chief.** Fruit size is medium to large, conical in shape, dark in colour and stripes are present on blush. Fruit is uniformly coloured. Flesh is creamy yellow, firm, juicy, aromatic and sweet in taste.
 - (f) **Red Spur.** Fruit size is medium to large, conical in shape. Fruit is dark red in colour. Flesh is creamy-yellow, firm, juicy and sweet in taste.
 - (g) **Imported varieties.** Fuji, Honey Crisp, Gala, Braeburn.
 - (h) **Other Important Varieties.** Red Gold, Macintosh, Sunhari, Khuru, American.

Banana (Hindi name - Kela, Botanical name - Musa Sapientum)

1. **Fruit Characteristics.** Banana will be sweet, aromatic, firm (not soft) with starchy flesh and no foreign smell or taste. It will have normal bright bloom with colour generally ranging from green, yellow to orange. It will be slightly arched to a smooth curvature. Its butt end intact and neck end attached to a bunch. The size of Banana (measurement is over the curvature, across the back) will vary according to variety in the range of 100 - 250 mm. It will be offered in bunches and not in complete cluster(having large number of bunches together). Minimum 95% Bananas will be in bunches. It will be totally free from seeds. It is generally available round the year.

2. **Major Defects.** It will be free of cuts (through the peel into the pulp), hard lumps, excessive scattered brown spots/ flecks. It will be free from heat injury (pilling, blackening of skin), chill injury (dull greyish or blackened peel or brown under peel discoloration), freeze injury (dark water soaked areas).
3. **Minor Tolerances.** Insect damage (dry brown scab), bird/nail damage (scars), physiological disorder (reddish brown discoloration), superficial skin bruises, abrasion, rub damage, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.**
 - (a) **Dwarf Cavendish.** Leading variety of Banana. Fruit is large, curved, skin thick and greenish, flesh soft and sweet. The greenish colour of the fruit is retained to some extent even after ripening, but fruits ripening during the winter season develop yellow colour. Average bunch weighs about 20 kg.
 - (b) **Harichal.** Fruit is large, skin thick, greenish to dull yellow, sweet and delicious. Average bunch weighs about 20 kg.
 - (c) **Nendrun.** Fruit is relatively longer and thicker than most other bananas. The bunch is not compact. Average bunch weighs about 15 kg.
 - (d) **Safed Velchi.** This variety is under stray cultivation, the fruit is medium size, firm flesh and sweet. Average bunch weighs about 15 kg.
 - (e) **Poovan.** Fruit is medium to small in size, yellow skinned, firm flesh with a sub-acid taste. It has good keeping quality. Average bunch weighs about 15 kg.
 - (f) **Martman.** Fruit is medium size, similar to Poovan in appearance. Skin is thin, ivory yellow in colour, flesh firm, sweet with a pleasant aroma. Average bunch weighs about 12 kg.
 - (g) **Champa:** The bunch is cylindrical with closely packed short, stout and bottle necked fruit. At maturity, the fruits are dark green and turn to golden Yellow on ripening. Pulp is Yellowish, juicy soft, tastes a blend of sweet and acidic and a unique flavour. Size of fruit/finger varies from 12 to 14 cm in length and 3 to 4 cm in diameter. Each fruit weighs 65 to 75 gm. 12 to 14 fruits/fingers constitute one Kg.
 - (h) **Other Important Varieties.** Robusta, Chinia, Basrai, Virupakshi, Lal Banana.

Mango (Hindi name- Aam, Botanical name - Mangifera Indica)

1. **Fruit Characteristics.** Mango will be mature, ripe, firm, juicy, yield slightly to finger pressure, smooth thin skin, sweet, pleasant aroma. The colour generally ranges from light green to yellow (lemon/golden) to orange as per variety. The shape generally ranges from oval, heart shape to oblong shape. It will ripe on trees or under normal storage conditions. It will have good pulp recovery. It is generally available from March to August.
2. **Major Defects.** It will be free from temperature injury (scattered small dark- brown spotting on dull discoloured skin), physiological injury with internal breakdown (watery, translucent or spongy) and scalding due to temperature injuries. It will not be fibrous, sour, sweet-sour in taste.
3. **Minor Tolerances.** Light/dark blemishes in small spots, sunburn injury (bleaching) in small patches, marks of tree latex, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.**
 - (a) **Safeda.** Fruit has attractive apricot yellow peel, medium to large in size with good pulp recovery. The taste and flavour are excellent.

- (b) **Ratna (Neelum x Alphonso).** Fruit is medium to large size, deep yellow colour, pulp recovery is very good, pulp is orange in colour. Fruit is free from spongy tissues. The fruit taste is sweet.
- (c) **Kesar.** Fruit is rated second to Alphonso in terms of quality. Fruit is medium to large size, very good taste and sugar acid blend is excellent.
- (d) **Dahsehari.** Fruit is primrose to canary yellow with abundant light yellow dots, medium size with smooth skin. The flesh is yellow, firm, with almost no fibre and a delightful aroma and very sweet taste. Stone is thin.
- (e) **Langra.** Fruit is greenish yellow with medium to big dark green dots, ovalish-oblong in shape and medium size. The flesh is firm to soft, fibreless, lemon yellow, very sweet with strong pleasant aroma, juice moderately abundant.
- (f) **Chausa.** Fruit is canary yellow to raw sienna when fully ripe with numerous obscure medium size dots with minute specks inside them. The skin is thin and somewhat adhering to pulp. Pulp soft and juicy with scanty fine, long fibre near the stone. The fruit is very sweet with luscious, delightful aroma and excellent quality.
- (g) **Banganpalli.** Fruit is primrose-yellow, large size, obliquely oval, skin smooth, thin and shiny. The flesh is firm with juice moderate to abundant and without fibre. Very tasty and delightful.
- (h) **Bombay Green.** Fruit is medium size, has strong and pleasant flavour. Pulp is soft and sweet.
- (j) **Himsagar.** Fruit is medium size, having good quality. Flesh is firm, yellow, and fibreless with pleasant flavour.
- (k) **Alphonso.** Fruit is very popular, medium size, ovate - oblique in shape, orange yellow in colour, has attractive blush towards the basal end. Pulp is firm, fibreless with excellent orange colour.
- (l) **Neelum.** Fruit is medium size with good flavour, soft flesh yellow in colour and fibreless.
- (m) **Rasपुरi.** Fruit is medium size, dark green in colour, flesh is yellow, pulp is soft and very juicy with long fibres, very sweet to taste.
- (n) **Sindura.** Fruit is medium size, upper part as red and lower part as green. Flesh is firm, juicy, yellow, sweet with scant fibres.
- (o) **Mallika.** Fruit is light green in colour, medium to large size with good pulp recovery. Very sweet to taste. Pulp is soft and fibreless, has delightful aroma.
- (p) **Malgoba.** Fruit is large size, dark green in colour. Flesh light yellow in colour, firm, juicy and very sweet.
- (q) **Fazli.** Fruit is large size, longish-oval shaped, green-yellow in colour, deep yellow pulp, sweet to taste.

Orange (Hindi name- Santra, Botanical name - Citrus Reticulate Deliciosa)

1. **Fruit Characteristics.** Orange will be mature, ripe, juicy, fresh, bright bloom, waxed look, firm, smooth skin (not more than 5 mm thick), sweet, low acid flavour. Uniform colour is generally from light to full orange with red blush, dark red or burgundy flesh, yield to slight pressure, round to oval in shape. It has very high juice content. Minimum juice extraction will be 35% for all varieties. It is generally available from July to March.

2. **Major Defects.** It will be free of dark lesions on the fruit skin, black decay of fruit core, frost damage. No temperature injury (water soaked flesh or dark brown depressed lesions) or sunburn (pale, hard skin). Green coloured, bitter, foul, bland taste and smell are not permitted. The wedges should be intact, without leakage, no bitter/foul/bland taste and smell.

3. **Minor Tolerances.** Superficial black/grey marks, enlarged navels, stem corrugations, light/dark blemishes over small area, sun bleached yellow orange areas, slight defects in shape, colour, skin, russets, etc, not affecting quality of fruit may be accepted, if within acceptable limits. Light green area not more than 20 % or 30 % of surface is permitted during late seasoning, over and above the minor tolerances limit.

4. **Recommended Varieties.**

(a) **Nagpur.** This variety occupies premier position and is one of the finest oranges in the world. Fruit size is medium to large, smooth surface, glossy, rind thin, soft, loose segments and rind, with 10-12 segments, excellent quality.

(b) **Hamlin.** Fruit size is medium, deep greenish yellow colour changing to orange-red with full maturity, apex rounded and very slightly scarred, base smooth and rounded, rind very smooth bright thin, having 11-12 segments, flesh deep orange-yellow, juice abundant, acidity and sugars well blended, flavour excellent.

(c) **Jaffa.** Fruit size is medium to large, colour orange-yellow to orange red, globose to ellipsoid, apex rounded, base rounded, rind smooth, finely pitted, 9-12 segments, flesh yellow, fine grained, pulp melting, acidity and sweetness normal and well blended.

(d) **Malta Blood Red.** Fruit size is medium to large, round or slightly long, cadmium-yellow rind usually thin, tight and glossy, pulp streaked red early in season and full red when ripe, fine grained, melting, sweet, acidity well blended, juice abundant.

(e) **Sathgudi.** Fruit almost spherical, small to large, smooth surface, attractively orange coloured when fully mature, base and apex evenly rounded, rind thin, semi-glossy and finely pitted. Pulp uniformly straw coloured, juicy, flavour excellent, 10-12 segments.

(f) **Valencia Late.** Fruit is medium to large, round or slightly oval, deep golden orange, apex rounded, slightly flattened, scarred, base smooth, rounded, rind thin, smooth, tough, pulp orange coloured, juice abundant, melting, acidity and sweetness well blended, excellent flavour and quality.

Guava (Hindi name- Amrood, Botanical name - Psidium Guajava)

1. **Fruit Characteristics.** Guava will be thin skin, smooth/ bumpy surface, firm, ripe, sweet, mature, with good aroma. It will have thick pulp with seeds, which becomes softer towards the centre. It is generally round, oval, pear shaped as per the variety. Its colour is generally green, pale green to yellow. The pulp will be white, yellow, pink, salmon or red as per the variety. It must not yield to fair pressure. It will have typical fragrance and will be tree ripe. It is generally available from September to April.

2. **Major Defects.** It should not be acidic in taste, over ripe, under ripe, fibrous, hard to bite or chew, gummy, astringent, foul smell/ taste.

3. **Minor Tolerances.** Superficial marks, bruises, blemishes, fairly hard seeds, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.**

(a) **Allahabad Safeda.** Fruit is large, round, smooth skin, seeds numerous, bold and hard, yellow white in colour. Flesh white, firm and soft.

- (b) **Lucknow-49.** Also called as Sardar. Fruit is large, roundish/ orate shape, skin- prim rose yellow in colour, pulp white, very sweet and tasty.
- (c) **Allahabad Surkha.** Fruit is large, uniform pink skin, deep pink flesh, sweet, strong flavour with few seeds.
- (d) **Chittidar.** Fruit is large, round, smooth skin, yellow white in colour. Flesh white, firm and soft. It will have numerous red dots on skin, high sweetness, small/soft seeds.
- (e) **Other Important Varieties.** Nagpur seed less, Bangalore, Dharwar, Akara Mridula.

GROUP II - MINOR FRUITS**Pear (Hindi name - Nashpati, Botanical name- Pyrus Communis)**

1. **Fruit Characteristics.** Pear will be firm, sweet, juicy, crunchy, skin intact, evenly sized, sweet smelling with a dull bloom, stem intact and no foreign matter, with uniform rough skin and typical long pear shape with elongated, tapering neck. It is generally yellow green to dark green in colour. It is generally available from September to February.
2. **Major Defects.** It will be free of sun burns, heat damage, rots, etc. It will not have protruding areas, irregular curvatures or sutures, no internal breakdown or internal bruises.
3. **Minor Tolerances.** Skin marks/blemishes, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.**
 - (a) **Nashpati.** Firm, crunchy, sweet, granular, green colour, medium size.
 - (b) **Pears Kashmiri.** Juicy, firm, sweet, light green colour, large size, soft flesh.
 - (c) **Bagu Gosha (Bartlett).** Very juicy, easy to bite, melting in mouth, sweet, light colour, large size, excellent food quality.
 - (d) **Pears William.** Juicy, sweet, large size, green colour.
 - (e) **Pears Stone.** Firm, juicy, sweet, medium size, green colour.

Grapes (Hindi name - Angoor, Botanical name- Vitis Vinifera)

1. **Fruit Characteristics.** Grapes will be full bodied, bright, practically intact bloom, sweet, firm, crispy skin, juicy, seedless, distinctive flavour, aromatic, colour generally ranges from black to blue to green (light/dark light). Shape is generally round, oval or elongated. Up to 90% of berries must be attached to the bunch. It is generally available from January to June, some varieties are also available from November to December.
2. **Major Defects.** It will be free of pests, rotten skin, skin damages, spray deposits, water berries, etc. Detached berries from bunches will be well healed and not deteriorated.
3. **Minor Tolerances.** Differences in shape, small berries, uneven ripening/colour, bruising, sun scorching, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.**
 - (a) **Thomson Seedless (and its mutants).** It is sweet-tart, crunchy, oval-oblong shape, white in colour and seedless.
 - (b) **Sharad Seedless.** It is elongated, cylindrical, black/amber colour. Berries firmly attached to stalk, evenly spaced, intact bloom.
 - (c) **Perlette.** White in colour, sweet, juicy, seedless variety.
 - (d) **Flame Seedless.** Red in colour, sweet-tart, crunchy.
 - (e) **Other Important Varieties.** Sonaka, Pusa Seedless, Beauty Seedless.

Musk Melon (Hindi name- Kharbooja, Botanical name- Cucumis Melo).

1. **Fruit Characteristics.** Musk Melon will be firm, sweet, smooth, juicy, melting flesh, highly aromatic like Musk. Generally uniform light-green to yellow-green to yellow skin colour, with light brown netting, at times separated by narrow (2-3mm) dark green subsurface band. Slightly raised delicate netting over surface of the fruit. Small sound seed cavity with slightly soft edges. Uniformly round to slightly oval in shape. It is generally available from February to July.
2. **Major Defects.** It will be free of sun burns, heat damage, etc. It will not have protruding areas, internal breakdown or bruises. It will be free from foreign or 'off' tastes or odours. It will not be deformed or have sutures.
3. **Minor Tolerances.** Physical damages, skin marks/blemishes, soil matter attached to fruits, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.** All varieties of smooth or netted skin are permitted. The following are however recommended.
 - (a) Honey Dew.
 - (b) Crenshaw.
 - (c) Casaba.
 - (d) Galia.
 - (e) Cantaloupe.
 - (f) Santa Clause.

Papaya (Hindi name - Papita, Botanical name - Carica Papaya)

1. **Fruit Characteristics.** Papaya will be firm, full bodied, fresh, smooth, melting flesh, sweet, juicy, thin and slightly waxed skin, less number of seeds, free from foreign smell or taste. It is generally oval, elongated to slightly pear shaped, larger fruits are generally five sided. Generally greenish yellow to yellow, pink, red coloured flesh. Small green/brown skin spots over the surface. Skin smooth with moderate gloss. It is generally available round the year.
2. **Major Defects.** It will be free from rots, scars, wounds, scratches, and frost damage.
3. **Minor Tolerances.** Leak of latex, surface debris, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.** All varieties are permitted. The following are however recommended.
 - (a) Coorg Honey Dew.
 - (b) Pusa Dwarf.
 - (c) Pusa Majesty.
 - (d) Pusa Delicious.
 - (e) Honey Dew.
 - (f) Ranchi Selection.
 - (g) Washington.

Sweet Orange (Hindi name – Mosambi, Botanical name - Citrus Sinensis)

1. **Fruit Characteristics.** Sweet Orange will be large, firm, juicy, sweet citrus fruit. It is generally dark green to light green / pale green in colour and round/ oval in shape. It shall have characteristic aroma and taste. It shall have comparatively tight rinds, wedges tightly packed and difficult to remove. Minimum juice extraction will be 35% for all varieties. It is generally available from July to March.
2. **Major Defects.** It will be free of lesions on fruit skin, decay of fruit core. No frost damage,

temperature injury (water soaked flesh or dark brown depressed lesions) or sunburn (pale, hard skin). Bland taste and smell are not permitted.

3. **Minor Tolerances.** Superficial black/grey marks, enlarged navels, stem corrugations, slight defects in colour, shape, skin, hail damage, handling damage, sun bleached areas, etc, not affecting quality of fruit may be accepted, if within acceptable limits. Light green area not more than 20 - 30 % of surface is permitted during late seasoning, over and above the minor tolerances limit.

4. **Recommended Varieties.** All varieties are permitted.

Pine Apple (Hindi name - Ananas, Botanical name - Ananas Comosus)

1. **Fruit Characteristics.** Pine Apple will be sweet, firm, juicy, strong sweet aroma and taste, texture not chalky or fibrous. It will have thick, rough skin covered with hexagonal pattern of nodules. It will have thick blue-green bunch of Cactus like leaves at top with tough central core. Colour of skin is generally greenish yellow to golden yellow. Shape is generally cylindrical to pine cone. On slicing should have minimum development of translucent area. Stem and crown be trimmed to 2 cm to 10 cm respectively. It is generally available from May to September (maximum), July, December to March (minimum).

2. **Major Defects.** It should be free from diseases, insipid/cracky taste, mechanical damages, black rot, watery spots, low temp injuries and decay.

3. **Minor Tolerances.** Minor shrivelling, discoloration, non-uniform ripening, stains, surface mud debris, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Giant kew.
- (b) Queen.
- (c) Kew.
- (d) Mauritius.

GROUP III - MICRO GROUP**Sapodilla (Hindi name - Chickoo/Sapota, Botanical name – Achras Sapata)**

1. **Fruit Characteristics.** Sapodilla will be medium to large, exceptionally sweet, malty caramel flavour, smooth skin with sandy brown scruff, resembling a smooth skimmed Potato. It is generally round, oval, ellipsoidal, oblate shaped with pointed ends. Colour of flesh ranges from pale yellow to earthy brown with a grainy texture. Difficult to peel, yields to pressure. It is generally available from December to March.
2. **Major Defects.** It should be free of rawness, rots, internal breakdown, over ripening, watery spots, low temp injuries and decay.
3. **Minor Tolerances.** Superficial skin damages, discolouration, change in colour, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-
 - (a) Kalipatti.
 - (b) Cricket Ball.
 - (c) Pala.
 - (d) Kirtibarathi.
 - (e) Bhuripatti.

Kinnow (Hindi name- Kinnow, Botanical name - Hybrid of Citrus Nobilis and Citrus Delicosa)

1. **Fruits Characteristics.** Kinnow will be medium to large, golden orange colour, easy to peel, sweet, refreshing, oblate, base flat, juicy, more seeds per segment, 9-10 segments per fruit, comparatively loose rind, citrus fruit. It is generally available from December to February. Minimum juice extraction will be 40% for all varieties.
2. **Major Defects.** It will be free of lesions on fruit skin, decay of fruit core. No temperature injury (water soaked flesh or dark brown depressed lesions) or sunburn (pale, hard skin). Bland taste and smell are not permitted.
3. **Minor Tolerances.** Superficial black/grey marks, enlarged navels, stem corrugations, light/dark blemishes over small area, sun bleached areas, slight defects in shape, colour, skin, russets, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.** All varieties are permitted.

Pomegranate (Hindi name- Anaar, Botanical name - Punica Granatium).

1. **Fruit Characteristics.** Pomegranate will be plump, unblemished, rounded, shiny, feel heavy for size, firm to touch, make metallic sound when tapped, thick tough leathery skin, generally has yellow colour over laid on deep pink to rich red colour. It generally has 700-1400 arils, red, pink, white, purple in colour. Seeds surrounded by water laden pulp. Seeds are also in a white, spongy pulp, internal strip white membrane. It has tangy, sweet-sour flavour (sour due to acid tannin). It is generally available from July to September and September to February.
2. **Major Defects.** It will be free from wrinkles, dull/pale skin, cuts, bruises, shiny, tangy. No internal decay.
 1. **Minor Tolerances.** Superficial skin damages, discolouration, change in colour, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Ganesh.
- (b) Phule Arakta.
- (c) Mridula.

Apricot (Hindi name – Khurmani, Botanical name – Prunus Armeniaca)

1. **Fruit Characteristics.** Apricot will be smooth surfaced or have very short hair. It is generally oblong or round in shape. Firm but give way to palm pressure. Sweet smelling generally yellow to orange in colour (red on sides exposed to sun). It has a prominent wedge and is fairly dry. Its kernel may be sweet or bitter. It is generally available from May to June.

2. **Major Defects.** It will be free of fruit fly, frost damage, brown spots, musty feeling and presence of sulphur.

3. **Minor Tolerances.** Superficial skin damages, discolouration, change in colour, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) New Castle.
- (b) Kaishe.
- (c) Moorpark.
- (d) Turkey.
- (e) Halman.
- (f) Bati.

Cherry (Hindi name – Cherry, Botanical name - Prunus Avium)

1. **Fruit Characteristics.** Cherry will be fleshy, smooth surfaced, round to oblong to cylindrical in shape, light pink to dark red in colour, firm, sweet, juicy, stone fruit, produced in bunches, offered with stems. It is generally available from April to June.

2. **Major Defects.** It will be free of pit damage due to frost, over ripening, internal decay, surface deteriorations.

3. **Minor Tolerances.** Scab, hail, discolouration, scar tissues, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted.

Peach (Hindi name- Adoo, Botanical name-Prunus Persica)

1. **Fruit Characteristics.** Peach will be sweet, juicy, firm, not dry and woody, free of foreign smells and taints, stone fruit. Flat irregular surface donut shape with thin skin, no foreign matter. Creamy pink to red blush covering 20-80% of surface, background skin is creamy green, internal flesh is creamy white. It is generally available from May to July.

2. **Major Defects.** It will be free from sun scalding, splitting, gumming, brown rot, spots, cracks, bruises.

3. **Minor Tolerances.** Scab, hail, discolouration, green tinge, scar tissues, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended.

- (a) Red heaven.
- (b) Sun heaven.
- (c) Alton.
- (d) July Elberta.
- (e) Peshwar.
- (f) Prabhati.
- (g) Pratap.

Plum (Hindi name - Aloo Bukhara, Botanical name - Prunus Salicina)

1. **Fruit Characteristics.** Plum will be sweet and tart, in a variety of shapes, sizes, colours. It yields under pressure, ripe at room temperature, yellow red flesh, seed difficult to separate, clings to flesh, stone fruit. It is generally available from April to June.

2. **Major Defects.** It should be free from decay, breakdown (soft mushy condition), freeze injury (water soaked, glazed areas), soft, over ripe, shrivelled. No drought spot, sun scald, nail damage, leaf/limb rub mark, hail damage.

3. **Minor Tolerances.** Condition defect after packing, superficial damages, crushing, freezing, overheating, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Salicina group (Japanese).
- (b) Satluj.
- (c) Kala.
- (d) Amritsar.
- (e) Titron

Litchi (Hindi name - Leechi, Botanical name - Litchi Chinensis)

1. **Fruit Characteristics.** Litchi will be firm, pump, full bodied, sweet, juicy white flesh with a consistency similar to a grape, not tart or acidic, distinct aroma, flesh separates cleanly and easily from skin, smooth dark brown small size seed, free from foreign and offensive smell or taste. Its leathery skin is covered with small bumps, free from foreign matter. It is generally heart/ oval shaped, green to red in colour, greening not more than 40% of visible surface area. Offered with a stub of stem, in bunch. It is generally available from May to June.

2. **Major Defects.** It will be free from pericarp browning, pests, softening of aril, blunt taste, rots, bacterial, yeast, fungal, decay.

3. **Minor Tolerances.** Superficial skin damages, discolouration, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Shahi.
- (b) China.
- (c) Dehradun.
- (d) Rose scented.
- (e) Purni.
- (f) Kasba.
- (g) Bombay Green.

Water Melon (Hindi name – Tarbooja, Botanical name – Citrullus Lanatus)

1. **Fruit Characteristics.** Water Melon will be juicy, have thick rind, fleshy centre, smooth exterior (colour is generally green, yellow, white), sweet interior (colour pink, orange, yellow, red (not over ripe). It is generally round, oblong, tubular in shape. Will have light green, dark green, mixed green, stripes in the exterior. It is generally available from January to March (North India), September to October (South India).
2. **Major Defects.** It will be free of sun burns, heat damage. It will not have protruding areas, internal breakdown or bruises. It will be free from foreign or 'off' tastes or odours. It will not be deformed or have sutures.
3. **Minor Tolerances.** Physical damages, skin marks/blemishes, soil matter attached to fruits, etc, not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-
 - (a) Arka Jyoti.
 - (b) Arka Manik.
 - (c) Asahi Yamato.
 - (d) Durgapur Kesar.
 - (e) Madhu, Milan, Mohini.
 - (f) Sugar baby.

Custard Apple (Hindi name - Sitafal, Botanical name- Annona Squamos)

1. **Fruit Characteristics.** Custard Apple will be sweet, rich flavoured, pleasant, slightly granular, bit slippery, with a thick creamy white layer of custard like granular flesh beneath the skin, having moderately juicy segments. Many segments may have a seed. It is irregular, round, heart shaped, lop sided shaped deep or shallow depression at base. It is generally green-brown to light green to yellowish in colour with red highlights, varying degree of reticulations. Skin is dull, thin but tough covered in irregular smooth bumps or prominent nodules as per variety. It is generally available from August to October (North India) and September to November (South India).
2. **Major Defects.** It will be free from rots, internal breakdown, skin splitting, over ripening, press marks, water soaking.
3. **Minor Tolerances.** Superficial skin damages/bruising, discolouration, change in colour, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.** All varieties are permitted. The following green coloured (various shades) varieties are however recommended:-
 - (a) Balanger.
 - (b) Local sitafal.
 - (c) Saharanpur local.
 - (d) Washington.

Strawberry (Hindi name - Strawberry, Botanical name – Fragaria Vesca)

1. **Fruit Characteristics.** Strawberry will be sweet, juicy, aromatic, bright natural shine, reddish-pinkish colour conical shape. Calyx (cap) of fresh green colour shall be intact on the fruit. It yields under pressure, has many tiny seeds on the outside. It is generally available from February to April (in plains) and May to June (in hills).

2. **Major Defects.** It should be free from fungus, moulds, acidic taste, decay, breakdown (soft mushy condition), water soaked, soft, over ripe and shrivelled.
3. **Minor Tolerances.** Condition defect after packing, superficial damages, crushing, misshapen, white/poorly coloured, swollen, less firm, irregular surfaced, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-
- Dilpasand.
 - Bangalore.
 - Solana.
 - Royal Sovereign.
 - Tioga.
 - Torrey.

PART- III

**APPROVED VARIETIES OF FRUITS FRESH
AND THEIR QUALITATIVE ASSESSMENT**

All fruits fresh for the purpose of assessment shall be graded for size and grade which shall constitute the crux of the assessment. Maximum possible number of fruits to a kilogram are laid down below as part of this specification:-

Ser No	Fruit	Variety	No of fruits per Kg
1.	Apple	Delicious	5-7
		Other varieties	6-8
2.	Banana	Length not less than 14 cm and width not less than 2.7 cm	
3.	Mango	Deshaeri	5-7
		Other varieties	4-6
4.	Orange	All Varieties	6-7
5.	Guava	-do-	6-8
6.	Pear	-do-	6-8
7.	Grape	-do-	Bunch weight of 150/100 gm for large/small berries respectively
8.	Musk Melon	-do-	1-2
9.	Papaya	-do-	1-2
10.	Sweet Orange	-do-	5-7
11.	Pine Apple	-do-	1-2
12.	Sapodilla	-do-	8-10
13.	Kinnow	-do-	5-7
14.	Pomegranate	-do-	4-6

SPECIAL CONDITIONS FOR THE SUPPLY OF FRUITS FRESH

1. I/we agree to undertake to supply the fruits fresh at the station indicated in the schedule (IAFZ-2121) for the fruits fresh.
2. The fruits fresh supplied will be strictly in accordance with ASC specification. (Now Defence Food Specification No 359) any deterioration and or dryage of fruits that are taken by the Army in my/our responsibility for which I/We will not claim for compensation.
3. I/We agree to supply varieties in accordance with appendix attached to the schedule (IAFZ-2121).
4. I/We undersigned agree that the officer operating the contract may place demands to be met in full from non-citrus fruits enumerated in the schedule in lieu of a cut in dry rations.
5. I/We understand the officer operating the contract will when necessary specify the varieties to be tendered by me/us daily under each group and I/we agree to supply the varieties so demanded.
6. I/We understand and agree that no assistance will be given from resources available to the Armed Forces for Transportation by road/rail for fresh fruits for tendering in accordance with the terms and conditions of the contract.
7. I/We agree that as long as there is no control order under which maximum price is fixed for any or all the varieties of fruits fresh enumerated, in the schedule (IAFZ-2121) below the rates agreed in the contract. I/We shall be paid at the rates fixed in this contract. In the event of such control/order/being and put in force for any or all the varieties, I/We will be paid at the maximum controlled price in force at the time of delivery at the delivery point to the officer operating the contract.
8. I/We understand tinned fruits may be issued to troops at the entire discretion of the operating officer for any period or periods and in such cases, I/We will have no claim for compensation, particularly or otherwise for any underdrawl or dislocation caused in my/our arrangements.
9. I/We further understand that the aforesaid clause does not effect in any way me/our liability to make good extra expenses caused to the state while issuing such items of supplies necessitated by me/our default as stipulated in clause 7(b) of General Tender Form (IAFZ-2120).
10. Authorized substitutes :-

Articles Contracted for	Scales in gms	Auth Substitutes	Equivalent Scale in gms
(a)	(b)	(c)	(d)

ARMY

Fruits Fresh citrus/Non Citrus	230 gms per man per day	Fruits tinned OR Fruits dried OR Apple Juice Concentrated	90 gms 28 gms 15 ml
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NAVY

Fruits fresh citrus OR Fruits fresh non citrus	50 gms 100 gms	Fruits tinned OR Vegetables fresh OR Vegetables tinned OR Potatoes fresh	40 gms 110 gms 50 gms 75 gms
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For and on behalf of the
President of India

(Signature of the Bidder (s))

Articles Contracted for (a)	Scales in gms (b)	Auth Substitutes (c)	Equivalent Scale in gms (d)
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AIR FORCE

Fruits fresh citrus/ non citrus	230 gms	Vegetables tinned OR Potatoes fresh	40 gms 60 gms
		Vegetables fresh Fruits tinned	90 gms 30 gms

NDA KHADAKWASLA

Fruits fresh citrus OR Fruits fresh non citrus	110 gms 230 gms	Fruits dried Fruits tinned	28 gms 85 gms
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HOSPITAL ISSUE ONLY

	<u>Diets</u>	<u>Scales</u>	<u>Remarks</u>
Citrus or Non citrus	F	230 gms	Undiluted citrus juice OR Ascorbic acid dissolved in lime juice cordial.
Fruits fresh Variety	C O TB	230 gms 230 gms 230 gms	May be substituted by tinned of equivalent weight. Citrus and Non citrus fresh may be drawn in the ratio of 50:50 when recommended by medical authorities.

OFFICERS

Fruits fresh citrus/ Fruits fresh non citrus	230 gms	Fruits tinned OR Fruits fresh dried OR Apple juice concentrate	90 gms 28 gms 30 ml
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I/We agree that substitutes as for contracted articles hereto above provide for may be purchased, procured on supplied from existing Government stocks at army/our risk and expense in accordance with the provisions of clause 7(b) IAFZ-2120.

SPECIAL CONDITIONS FOR SUPPLY OF GRAPES

1. Refer Defence Food Specification No 359 (Revised).
2. Maximum permissible number of fruits to a kilogram and a minimum weight of smallest units is laid down below for guidance:-

Ser No	Varieties of fruits fresh : Common Name (Hindi Name)	Botanical Name	Maximum number to a kilogram	Minimum weight of single fruit in gram
(a)	Grape (Angoor) (with good sugar contents) (Flame (Red Seedless), Perlette (white seedless), Sharad Seedless (a mutant of kishmish Chorni) and Thomson Seedless)	Vitis vinifera	360 Nos	3 grams (70 percent of single grapes should not be less than three grams).

SPECIAL CONDITIONS FOR SUPPLY OF STRAW BERRY

Straw Berry will be wholesome and not less than two centimeters in size.

For and on behalf of the
President of India

(Signature of the Bidder (s))