

STATEMENT OF CASE

(A) NAME OF THE GEOGRAPHICAL INDICATION

Mango Malihabadi Dusseheri (*alternatively spelt Dashehari and dasheri*)

Mango Malihabadi Dusseheri originated in Malihabad Tehsil, Lucknow district, Uttar Pradesh. It is characteristic of all tehsils of Lucknow district viz Malihabad, Mal, Kakori and Bakshi ka Talab.

(B) GEOGRAPHICAL AREA OF PRODUCTION

Location : Latitude: from 26°30' N to 27 °10' N

Longitudue: from 80 °30'E to 81 °13' E

(C) DESCRIPTION OF THE GOODS

Mango Malihabadi Dusseheri is a variety of mango with fibreless flesh. The region comprising of Malihabad, Mal, Kakori and Bakshi ka Talab tehils of Lucknow district of Uttar Pradesh on the banks of Gomati river is famous for Mango Malihabadi Dusseheri. Mango Malihabadi Dusseheri has a small to medium sized fruit with elongated shape, which is yellow in color, with fibreless flesh, rich characteristic flavor and good keeping quality.

(D) PROOF OF ORGIN (HISTORICAL RECORDS)

Based upon the historical and general evidence available in the book "The Mango" authored by Gangolly *et al*, Dusseheri mango serves its name from a village called by name *Dusher* between Lucknow and Malihabad owned by the Nawab of Lucknow (Presently the village Dusher is called as Dushehari). It owes its origin to a superior chance-seedling in the garden of the Nawab. A few grafts of the variety are reported to have been presented by the Nawab to Alamgir Khan of Malihabad who planted these in his garden, which formed the chief source of it spread in later years.

It is reported in the U.P State Gazetteer that as per Census-1951, 900 acres out of the total 1200 acres in Malihabad tehsil were under mango cultivation & the town of Malihabad is famous for the *dasher* variety of mangoes.

The DNA finger printing details of Mango Malihabadi Dusseheri as reported by Central Institute of subtropical Horticulture, Lucknow has been attached.

Video photographic representation of the proof of origin is enclosed.

Proof of historical evidence

- U.P District Gazetteer, volume XXXVII, Govt of Uttar Pradesh
- The Mango” authored by Gangolly, S.R, Ranjit Singh, S.L..Katyal, Daljit Singh, Indian Council of Agricultural Research, New Delhi.
- A Tryst with mango authored by Om Prakash and Khan, Central Institute for Subtropical Horticulture, Lucknow.

(E) SPECIFICATION

Habit: Mango Malihabadi Dusseheri is a spreading and vigorous tree reaching a height of about 8-10m

Nature of bearing: biennial

Root: Tap root system: It goes up to 6-8 m with a dense mass of superficial feeder roots

Stem: Symmetrical, rounded canopy, Bark is usually dark grey-brown rather smooth, superficially cracked or inconspicuously fissured, peeling off in irregular, rather thick pieces.

Leaf: Leaves simple, exstipulate, alternately arranged, medium, spreading, oval lanceolate, tip sub-acuminate, base acute, slightly relaxed on the mid-rib up to 15-45 cm in length; margins entire- inclined to be wavy; petiole varies in length from 1 to 12 cm, always swollen at the base; Emerging leaves ecru green and matured leaves citrine in colour.

Inflorescence: Axillary or terminal Panicle

Flower: Hermaphrodite and male flowers- size: 6 to 8 mm, sub sessile, sweet smell; sepals 3-7; petals 3-7, yellowish; stamens and staminoids altogether 5; anthers pinkish. ovary is sessile, one-celled, oblique and slightly compressed in its lateral aspect

Fruit: Drupe, small to medium, oblong-oblique, base rounded to obliquely rounded, stalk inserted squarely; cavity absent; shoulders equal, ventral higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak absent ; sinus absent; apex rounded; skin medium thick, smooth, primuline yellow; flesh firm, fibreless, capucine yellow; flavour pleasant; taste sweet; juice scanty to moderately abundant.

Average Physico chemical characteristics

Fruit wt (g)	TSS (%)	Acidity (%)	β-Carotene (µg/100g pulp)	Ascorbic Acid Contents (mg/100g)	Shelf Life (Days)
192	20.2	0.250	12,150	42.30	5

Source: Biennial Research Report 2002-2003, AICRP (STF), Rehmankhera, Lucknow

Seed: Stone, medium, oblong covered with fairly dense, short soft fiber all over vein parallel and slightly to prominently raised.

(F) UNIQUENESS

- The climatic and geological conditions prevailing in Malihabad and its adjoining regions has given unique characteristic to Mango Malihabadi Dusseheri, which has given firm sustainability to characteristics of Mango Malihabadi Dusseheri for more than 300 years.
- The traditional growers attribute the unique soil of Malihabad region for the characteristics Flavour of Mango Malihabadi Dusseheri
- Pleasant flavor- Mango Malihabadi Dusseheri is known all over the world for its pleasant characteristic flavour and high sweet taste when fully ripened.
- Rich orange yellow colour- According to the book "The Mango" authored by Gangolly, the Dusseheri variety cultivated in south India failed to develop the rich orange yellow color that it acquires in Northern India when fully ripe.
- Fiber less flesh
- Good keeping quality

(G) References:

- “The Mango” authored by Gangolly, S.R, Ranjit Singh, S.L.Katyal, Daljit Singh, Indian Council of Agricultural Research, New Delhi.
- The Mango Botany cultivation and Utilisation” authored by Dr. Lal Behari Singh, World Crops Books, Interscience Publishers, Inc, New York
- U.P District Gazetteer, volume XXXVII, Govt of Uttar Pradesh
- Mango acreage and production estimation in different mango belts of Uttar Pradesh using Satellite Data by Remote Sensing Applications Centre, UP, Lucknow
- A Tryst with mango authored by Om Prakash and Khan, Central Institute for Subtropical Horticulture, Lucknow.

(H) Method of production

Soil: In the designated geographical area, Dusseheri mango can be grown in all types of loamy soil with good drainage. The optimum soil pH is 6.5 to 8.

Climate: Dusseheri mango grows well in tropical climate. The ideal temperature range for mango is 20 -30 C. Dry weather before blossoming is conducive to profuse flowering. Rain during flowering is detrimental to the crop as it interferes with pollination.

Method of Propagation: Different methods of propagation are being used in different regions growing Mango Malihabadi Dusseheri but in Malihabad and its adjoining area inarching and veneer grafting are commonly practiced.

Inarching refers to uniting the selected shoot (scion) of a desired parent tree (mother plant) with the potted or transplanted seedling (rootstock) by approach grafting. A thin slice of bark and wood, about 5 cm in length, 7.5 mm width and 2 mm deep, is removed by means from the stem of the stock as well as from the scion branch. The ends of these cuts should be round and not angular. The cut surfaces of both, *i.e.*,

stock and scion are made to coincide facing each other so that there remains no hollow space between the two.

In case of veneer grafting a downward and inward 30-40 mm long cut is made in the smooth area of the stock at a height of about 20 cm. At the base of cut, a small shorter cut is given to intersect the first so as to remove the piece of wood and bark. The scion stick is given a long slanting cut on one side and a small short cut on the other so as to match the cuts of the stock. The scion is inserted in the stock so that the cambium layers come on the longer side. The graft union is then tied with polythene strip as recommended for inarching. The desired shoots is defoliated at least one week prior to grafting so that the dormant buds in the axil of leaves become swollen.

Planting:

Pits are opened at a distance of 10X10 or 7X7 and are filled with farmyard manure, sand & topsoil and the grafted plant is planted in the center of the pit between June to September months.

The entire (50 kg) dose of farmyard manure and half dose of NPK are applied during monsoon, while the remaining dose of NPK ^{is} ~~are~~ applied at the end of monsoon.

In Malihabad and its adjoining region for a 10 year old tree, farmers apply 1.45 kg of urea, 3 kg of super phosphate and 1 kg of Muriate of potash per plant per year in two doses viz: 1st dose in June and 2nd dose in October

Micronutrients are applied through foliar spray based on the requirements.

At flowering stage, 20 ppm of NAA spray is recommended to increase the fruit retention and also 0.5% Urea (5 g/lit.) or 1% Potassium Nitrate (10g/lit.) could be sprayed to induce flowering.

Amount and frequency of irrigation is given based upon the type of soil, prevailing climatic conditions, especially rainfall and the distribution and age of the trees. In

winter, irrigation is given once in 15 days while in summer the trees are irrigated once in a week.

Overlapping, intercrossing, diseased, dried branches are removed. Pruning is done once in three years. Flowering is not allowed up to first three years. In Malihabad and its adjoining region, peak season of harvesting is July-August. Mangoes do not normally need any post-harvest treatment for local marketing.