

# Breaking Barriers, Bridging Continents: NRCP Intervention in Indian Pomegranate Export to USA - A Success Story



Dr. Nilesh N. Gaikwad  
Dr. Namrata A. Giri  
Dr. Rajiv A. Marathe



भा.कृ.अनु.प.-राष्ट्रीय अनार अनुसंधान केन्द्र  
ICAR-National Research Centre on Pomegranate  
Solapur - 413 255 (M.S.)



## **Editors**

Dr. Nilesh N. Gaikwad

Dr. Namrata A Giri

Dr. Rajiv A Marathe

## **Technical Support**

Mr. Yuvraj R. Shinde

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## ***Published By***

**Dr. R. A. Marathe**

Director

ICAR-National Research Centre on Pomegranate,  
Kegaon, Solapur - 413 255 (MS)

**Website:** [nrcpomegranate.icar.gov.in](http://nrcpomegranate.icar.gov.in)

**Email:** [director.nrcpom@icar.gov.in](mailto:director.nrcpom@icar.gov.in)

[nrcpomegarante@gmail.com](mailto:nrcpomegarante@gmail.com)

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# **Director's Message...**

*The India has been blessed with varied agro climatic conditions which provide a unique opportunity for export of various agricultural and horticultural commodities from India. Owing to its health benefits and nutraceutical value, pomegranate has acquired a special place in*

*horticultural export basket. The Indian pomegranate export has been growing steadily at the rate of 20% per annum. The research efforts has opened up the economical export opportunity in premium markets of USA, Europe and Australia to Indian pomegranate exporters. The Indian pomegranate exporters will now be more competitive vis-à-vis their counterparts. This will enhance Indian forex earning. The higher profits on Indian pomegranate export to the premium markets will certainly transcend to the pomegranate growers. I congratulate the team of scientist from ICAR-NRC on Pomegranate, Solapur for their efforts in development of sea protocol through static trial for export of pomegranate to USA. I also complement the lead taken on the issue by the APEDA, Min. of Commerce and Industry, GOI, and team efforts by innovative exporter INI farms, Maharashtra State Agricultural Marketing Board, Govt. of Maharashtra, Directorate of plant protection, quarantine & storage (DAC, GOI).*



**Dr. R. A. Marathe**  
(Director)

A handwritten signature in blue ink, appearing to read "R. A. Marathe".

Director,  
ICAR, NRCP,  
Solapur

## **Breaking Barriers, Bridging Continents: NRCP Intervention in Indian Pomegranate Export to USA - A Success Story**

In the fiscal period 2022-23, India's agricultural exports reached USD 53.1 billion. Some major exports include fresh fruits and processed vegetables, both registering more than 20% growth than last year. India is leading pomegranate producer in the world with 0.276 million ha area under pomegranate cultivation and production of 3.184 MMT in year 2022-23 (DoA&FW, MoA&FW, GOI). In 2023-24, 71,625 metric tonne of pomegranate worth 56.7 million rupees was exported. Only 2.27 % of the total Indian pomegranate production has been exported in year 2022-23. Thus, there is huge scope for increasing export of Indian pomegranate. India has favourable climatic conditions for the pomegranate production and capable of its export throughout the year. The major export destinations for Indian pomegranate were United Arab Emirates (UAE), Bangladesh, Nepal, Netherlands, Saudi Arabia, Sri Lanka, Thailand, Bahrain, Oman. However, an export to premium markets like Europe and USA which is meagre at present but fetches higher forex earning. This shows that besides traditional export destinations there is huge scope for the pomegranate export to newer and premium markets. The USA is the premium market for the Indian pomegranates.

The Indian pomegranate export to USA has been guided by the Operational Work Plan (OWP), jointly developed by the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), and the National Plant Protection Organization (NPPO) of India which is signed in Sep. 2006 and Addendum to Operational Work Plan for Import of Pomegranate intended for irradiation in India signed in May 2012. The pomegranate export to the USA has been halted in 2018. This has resulted in to the loss of premium export destination. APEDA has taken lead to open up this premium market for Indian pomegranates. In doing so a plan has been chalked out to start with trial air shipment followed by static trial.

### **Trial Air Shipment**

ICAR-National Research Centre on Pomegranate (NRCP), Solapur; APEDA, New Delhi, National Plant Protection Organization (NPPO), New Delhi; Maharashtra State Agriculture Marketing Board (MSAMB), Government of Maharashtra and INI Farms Pvt. Ltd. joined hands for the successful trial shipment of irradiated pomegranate fruits from India to USA.

By following the operational work plan and the addendum, the pomegranate fruits were subjected to the post-harvest treatments and irradiation at the Export Facility Centre, APMC, Vashi of MSAMB. The pomegranate fruits were procured from the ANARNET registered grower (Reg. No. MH1209178102) followed by pre-cooling, storage at INI farms pack house, transportation of fruits in reefer van to Export Facility Centre, APMC, Vashi, Mumbai. Here sorting, grading, crown cleaning with brushes and air guns, mite wash with surfactant, second wash (sodium hypochlorite 100 ppm), normal water wash, surface and crown drying, packaging in CFB boxes and irradiation (400 G) of minimum absorbed dose to pomegranate fruits were carried out before air shipment. The virtual flag off ceremony was conducted on 27.07.2023 by the Sh. Abhishek Dev, Chairman APEDA, Dr. Rajiv A. Marathe, Director, ICAR-NRC on Pomegranate, Dr. J. P. Singh National Plant Protection Advisor, and other dignitaries were also present. The consignment was received in good condition by the importer in USA.



*Inspection of fruits before air shipment and flag off of the trial air shipment*

### **Static Storage Trials:**

One of the lot from irradiated pomegranate fruits for the trial air shipment and control samples were transported to ICAR-NRCP laboratory for static storage trials. An experiment was planned and the packaged pomegranate fruits were stored at MAP (modified atmospheric packaging) and non-MAP conditions. The treatments were T1: Irradiation + MAP, T2: Irradiation + Non-MAP T3: Non-Irradiation + Non-MAP, T4: Non-Irradiation + MAP with 3 replicates and storage at  $5 \pm 1^{\circ}\text{C}$ . The storage duration was planned for 8 weeks and the observation frequency was 1 week. The physical, biochemical and sensory quality attributes of the pomegranate fruits were studied during the storage. The parameters studied included Physiological Loss in Weight (%), Aril Color ( $a^*$ ), Aril Texture (N), Aril TSS ( $^{\circ}\text{Brix}$ ), Total Phenols (mg GAE/L), Antioxidant activity (%), Total Anthocyanin (mg cyanidin/100 mL) and Sensory Quality. It has been concluded that the irradiated fruits either with MAP or Non MAP can be stored at  $5 \pm 1^{\circ}\text{C}$  up to 8 weeks and were sensorially acceptable too.



**Irradiated MAP**

**Irradiated non-MAP**

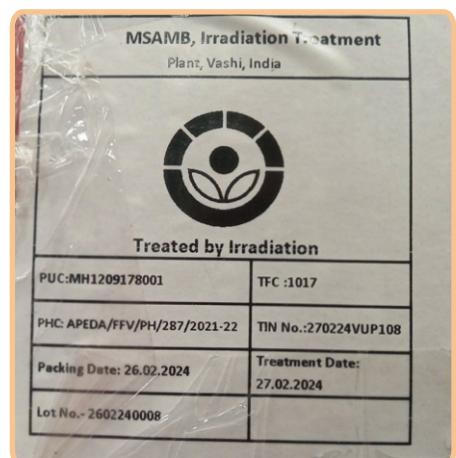
**Non-Irradiated non-MAP**

**Non-Irradiated MAP**

*Appearance of the pomegranate at the end of 8<sup>th</sup> week of the storage*

## Trial Sea Shipment

Although the trial air shipment was a great success. The costs of the air freight makes it very difficult for the Indian exporters to be competitive in US markets as the competitor countries are shipping via sea. Further, the adoption of the sea route is challenging as the ships have to voyage long distance for irradiated fruits. Based on successful storage trials of irradiated pomegranate for the 8 weeks at ICAR-NRCP, Solapur. APEDA has supported the sea shipment by the INI farms. Sea shipment of 12.60 MT of irradiated pomegranate fruits was flagged off by the Add. Secretary, Ministry of Commerce & Industries and Chairman APEDA on 28<sup>th</sup> February 2024. This sea shipment of the irradiated pomegranate fruits has reached destination in 50 days crossing more than 20000 km to USA in highly acceptable condition. This has reduced the transportation cost by approximately 1/3<sup>rd</sup> as compared to air freight. The success of this trial shipment through sea will open up the opportunity of the export not only to the premium markets of the USA but also to the other long distant markets while remaining competitive with international counterparts.



*The flag off ceremony of sea shipment on 28.02.2024 and quality of fruits received at USA through Sea shipment*

# *Media Coverage...*

A tweet from APEDA (@APEDADOC) featuring a large pomegranate and a person harvesting pomegranates.

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	Market News
<b>India starts shipping pomegranates to U.S. through sea route</b>	U.S. News
	<p>80 Fruits, part of the Agriplus Group, has shipped its first consignment of Kishmuri pomegranates to the United States through the sea-route. Travelling nearly 10,000-kms, this is the longest distance travelled by any Indian fruit in the company's history.</p> <p>Pomegranates originated through the sea route in the result of a deal that Agriplus had signed with officials of APEDA, Ministry of Commerce and Industry, Ministry of Agriculture, Govt of Maharashtra, Maharashtra State Agricultural Marketing Board, Maharashtra State Department of Agriculture (MSDA), LSUSA, MAFRA, MAFRA, Maharashtra Research Institute (MRI) and 80 Fruits. The unenclosed, direct relation from farm, representation, packaging, an efficient chain, development of sea product, quality traits for shelf-life extension and just-harvest technology, the company said.</p> <p>The consignment, consisting of 20,000 boxes of Kishmuri pomegranates was flagged off by Rajesh Agarwal, Additional Secretary, Ministry of Commerce and Industry, Dr. Chaitanya, APEDA, at MSRAFRA's Irrigation Facility Centre in Nashik (Maharashtra, India).</p> <p>India is the world's largest producer of pomegranates, with over 2.5-3.0 million tonnes of land and water cultivation. During the fiscal year 2010-11, the country exported over 60,000 tonnes of pomegranates to U.S., the Netherlands, Oman, France and others.</p> <p>The successive export of pomegranates to the U.S. opens up a new opportunity for Indian pomegranate farmers and exporters and will open doors to many other countries in the long-run through sales and marketing.</p> <p>Agriplus Agro: Additional Secretary, Ministry of Commerce, said, "This is a huge opportunity for exports for the Indian agriculture industry. India's unique agri-export conditions, combined with the availability of PPO offerings and the ability to produce around the year give us a unique advantage in the global market. Indian farmers are combining Indian farmers to the greatest extent and the self-motivation behind such farmers as global consumers will get the opportunity to enjoy Indian produce and in turn, Indian farmers will have the help of global technology. This enables us in great deal and a tremendous to the growing Indian industry".</p> <p>Additional Dr. Chaitanya, APEDA, said, "This export from India has been going steadily over the last few years. We are seeing a 25 per cent year-over-year growth in U.S. but exports and domestic share is growing at 25 per cent year-over-year and has the potential to grow further. The U.S. market is a very good market for Indian pomegranates. The U.S. market is gradually the only one of the whole world that has an open market for Indian pomegranates. This is also a very good market for Indian pomegranates which have been sold in U.S. in a very high rate of the product and preserve its quality. With the increase of time that is consumed and cost of shipment of pomegranates to the U.S. we are hopeful that it will open up many more opportunities for PPO exports".</p> <p>Packing Standard: G-200, 80 Fruits, said, "We are proud to be the pioneers in the industry to ship pomegranates to the U.S. This initiative is just of the continuous efforts of the entire 80 Fruits team that has helped put the Indian Pomegranate on the world map by making great quality Indian fruits available worldwide".</p> <p>Market forecast: Dr. Prakash Mehta, APEDA, Mumbai, said, "This is a landmark day for Indian fruit as this consignment of pomegranates commences its journey via a 10,000-kms route by sea. This initiative is also a demonstration of the government's initiative and trust between the two countries".</p> <p><a href="#">Read more information</a></p>

Ministry of Commerce & Industry

**APEDA facilitates India's first commercial trial shipment of Sangola pomegranates to the US via sea**

Posted On: 01 MAR 2024 2:18PM by PIB Mumbai

Mumbai, 1 March 2024

On 28<sup>th</sup> February, 2024, India successfully flagged off its first commercial trial shipment of Pomegranates to the US via sea under the aegis of Agricultural Processed Food Products Export Development Authority (APEDA) by Int'l Farms from IFC facility, HSARB, Vashi (Navi Mumbai). Shri Rajesh Agarwal, Additional Secretary, Ministry of Commerce & Industry and Shri. Abhishek Dev, Chairman, APEDA flagged off the Pomegranate shipment comprising of 4200 boxes (12.6 tonnes).



The ceremony was graced by dignitaries from the Maharashtra State Agricultural Marketing Board (MSAMB), Regional Plant Quarantine Station (RPQS), MoA&WIL, State Agriculture Department [Govt of Maharashtra], IFC Pomegranate, US Consulate and Int'l Farms.

Last year APEDA successfully carried out an shipment of Pomegranates with irradiation treatment static trial in association with ICAE-NRI Pomegranate Srikur as technical partner. Based on the successful result of the static trial, APEDA aimed for a successful sign off for this consignment via sea opening trade relations to potential markets for Indian Pomegranates. India, one of the largest Producers of Pomegranates in the World and is also now aiming to be amongst the top Pomegranate exporting countries in the World. India is a key player growing in the EEU, Middle East and Asian Markets.



हर कदम, हर डगर  
किसानों का हमसफर  
भारतीय कृषि अनुसंधान परिषद

*Agrisearch with a Human touch*



भा.कृ.अनु.प.-राष्ट्रीय अनार अनुसंधान केन्द्र  
ICAR-National Research Centre on Pomegranate  
NH-65, Solapur-Pune Highway, Kegaon,  
Solapur - 413 255 (M.S.)

