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Grape Reporter



ICAR-National Research Centre For Grapes

<https://nrcgrapes.icar.gov.in/>



Research activities

Released Grape varieties

Manjari Kishmish is a bud sport of the variety Kishmish Rozavis (rose coloured) and was released for raisin purpose at institute level on October 11, 2017. It is white seedless, high yielding variety (10-12 t/acre), which requires 135-140 days after fruit pruning to ripen. Berries are short elliptical, thin skinned with a diameter of 14-16 mm. The sugar content varies between 23-25° Brix with acidity 5.5-6.0 g/L. The raisin recovery ranged between 26-27%, which is 1-2% higher than Thompson Seedless leading to higher raisin production of approximately 3.0-3.5 t/acre. This variety performs better than Thompson Seedless based upon organoleptic test. This variety is gaining acceptance among grape growers of Maharashtra and Karnataka. The variety is under multi-locational evaluation under All India Coordinated Research Project on Fruits in Maharashtra, Tamil Nadu, Karnataka and Madhya Pradesh.



Success story

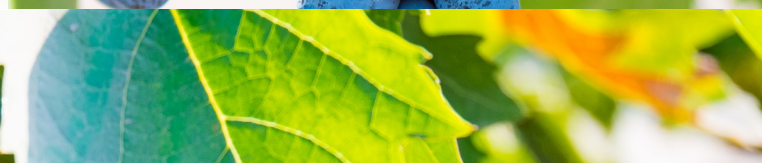
I have been growing grape at Karkamb, Taluka Pandharpur, Dist. Solapur since 1982 with



Thompson Seedless for raisin purpose. On the recommendation of ICAR-NRCG, I grafted 50 scion of Manjari Kishmish for raisin purpose in 2013-14. Based upon its performance, I expanded area under this variety to 9 acre in 2018-19. I found the variety to be regular bearer with uniform bunch size. The raisins are golden yellow with good lustre. The raisin recovery is 10 to 15 percent more than Thompson Seedless. This resulted in income realization of 15 percent more as compared to Thompson Seedless. I am grateful to ICAR-National Grape Research Centre for Grapes, Pune for evolving such a promising grape variety.

Dr . Vyavahare D. Shrirang

Manjari Shyama is a coloured table purpose grape variety developed from a cross of Black Champa and Thompson Seedless. This was released in year 2019. It is highly fruitful variety with average yield of 12-14 t/acre with no berry cracking incidence recorded due to low temperature and matures between 125-135 days after fruit pruning. It is responsive to plant growth regulators. The bunch architecture is suitable for punnet packing. Due to higher yield potential and uniform berry colour development, it promises better economic returns to the grape growers. Presently, the variety is being evaluated at multi-locations in the states of Maharashtra, Tamil Nadu, Karnataka and Madhya Pradesh under All India Coordinated Research Project on Fruits .



Manjari Naveen is a white seedless table grape variety, originated through clonal selection from Centennial Seedless and released on 14th November 2008 at institute level. It is a short duration variety which takes 110-115 days after fruit pruning for ripening. Bunches are naturally loose with bold and only one GA application of 5 ppm at parrot green stage is needed. TSS of 16-17°B is found suitable for harvesting. The berries having pleasant aroma at harvesting.

Manjari Medika is a coloured, seeded, tenturier juice purpose variety developed from cross of Pusa Navrang and Flame Seedless. This variety was released on 11th October, 2017 at institute level. It takes 115-125 days after fruit pruning for harvesting. Berries have dark red coloured juice with anthocyanins content of 5-g per kg of grapes. A juice recovery up to 72% is recorded in this variety. Presently, the variety is being evaluated at multi-locations in the states of Maharashtra, Tamil Nadu, Karnataka and Madhya Pradesh under All India Coordinated Research Project on Fruits.



Technologies released

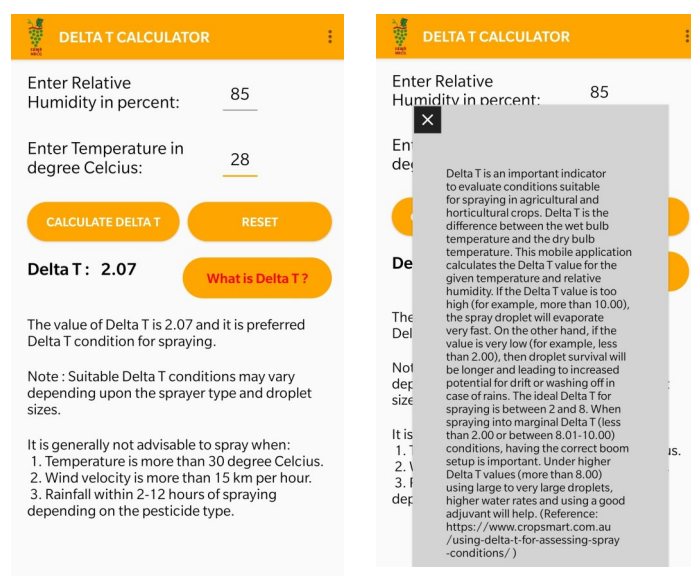
Quality maintenance of raisins during storage by coating

Manjari Kishmish raisins of uniform size, shape, colour, containing 14-16% moisture without any mechanical damage/microbial content were used for the study. Various combinations of guar gum and glycerol were used for coating of raisins. The coated raisins were air-dried and packed in polyethylene punnets with holes and stored at 25 °C ± 0.5 °C for 40 days. Quality of coated raisins were ob-

served till 40 days. Uncoated raisins showed deterioration in colour intensity and shelf life within 10 days of the initiation of the experiment. Coating of raisins with 0.25% guar gum with 40 per cent glycerol for 2 minutes has extended storage life and maintained good colour with higher antioxidant activities.

Delta T Calculator: A mobile application to help identifying suitable weather conditions for spraying

Centre has launched Delta T Calculator, an Android mobile app for farmers. Delta T is an important indicator for evaluating suitable conditions based on temperature and relative humidity for spraying in agricultural and horticultural crops. This app is available in three languages namely Hindi, English and Marathi. It can be downloaded from Google Playstore using following link: <https://play.google.com/store/apps/details?id=in.gov.icar.nrcgrapes.deltacalculator>



Grape news from world

Grape harvesting in Southern Hemisphere in pandemic of #Covid19:

OIV (International Organization of Vine and Wine) organized webinar “Harvest management during Covid-19 crisis in the Southern Hemisphere – what can we learn from it?” on 29 May, 2020 to understand problems faced and strategic opportunities in the pandemic conditions. The representatives of Australia, New Zealand, South Africa, Chile and Argentina shared their visions and experiences. Due to strict lockdown in countries, major elements of grape harvesting like flow of manpower, freight

and supply of inputs were affected. So the harvest volume was reduced and various post-harvest activities could be completed in a time-bound manner. Considering hygiene, cleaning and social distancing protocols stressed on adoption of digital tools. Identification of opportunities, opt online/e-commerce platforms, maintaining employment, development of appropriate partnership, etc. were advocated for grape and wine industry.

Wine glut threatens South African wine industry's sustainability amid COVID-19 pandemic

Due to the ban on wine sales during the national lockdown to contain the COVID-19 pandemic, the South African wine industry has been left with an unprecedented oversupply of wine. The South African wine industry is sitting with between 250 million and 300 million litres of "uncontracted wine", which is almost equal to the volume of wine sold on the local market every year, according to Vinpro

and the South African Wine Industry Information and Systems (SAWIS). This wine glut was already having a negative impact on local and international wine prices, which had fallen 7 and 4% respectively since the introduction of COVID-19 related trade restrictions.

(Source: <https://www.farmersweekly.co.za/>)

Table grape breeding company enters India

India, a known table grape producer produces 2951 thousand tons from 137 thousand ha during 2018-19 with an export earning of 233.52 million USD. Consumer preferences are controlling the demand of different varieties in specific markets. Current weather aberrations are adding to the existing high cost of cultivation for traditional varieties like Thompson Seedless and diminishing their returns in the international market. The patented varieties are self-thinning and require no/ little use of PGR,

hence the profit realisation are higher. Thus, there is a demand for patented varieties. Grapa Varieties is the first table grape breeding company to enter into India and has inked pact with Sahyadri Farms. Currently main focus is on introducing the ARRA varieties and developing suitable package of practices for quality grape production. Main objective of Grapa Varieties is to develop major line of strong, sustainable varieties that can easily replace inferior/ traditional varieties.

Centre's initiatives during pandemic

During Covid-19 pandemic, farmers suffered losses in price realization due to unavailability of labours and complete lockdown. About 9 lakhs tonnes of grapes were in vineyards of Maharashtra state, with about 4.0 to 4.5 lakhs tonnes in Nashik alone. This led to panic harvest, with the produce being

sold at prices as low as Rs. 8-15 per kg. Even the cost of production could not be realized. Further, many farmers delayed the harvest and were apprehensive about fruitfulness due to late harvest. ICAR -NRC Grapes was seized of this issue and immediately took efforts to reduce the misery of the farm-

Facilitation of grape export to EU and Russia

National Referral Laboratory (NRL) at the centre coordinated the pesticide residue testing of grape samples and facilitated their export to overseas market of EU and Russia. A total of 565 samples of grapes have been tested during the lockdown period by all nominated laboratories located in Nashik, Pune, Mumbai and Hyderabad. This facilitated export of ~113 containers of grapes (1 container = approx. 15-18 t) to the EU countries during the

lockdown period. Approximately 1695 tonnes of grapes were exported to EU. But, due to Covid-19 related restrictions, the exporters had to divert the consignments to Russia. NRL issued necessary approvals to the concerned nominated laboratories for retesting of those samples. This led to export of 5 containers (~14 tons x 5 containers = ~70 tons of grapes) to Russian market.

Facilitation of export of agricultural commodities

Intervention of NRL, helped in bringing laboratory testing of pesticide residues in agricultural commodities under essential services. This in turn facilitated testing of approximately 1753 samples of

fruits (469 grape samples + others), vegetables, cereals, pulses, peanuts, spices, processed products, and organic products for export to EU and non-EU countries.

Protocols for grape drying

To avoid panic harvest and minimize the losses, growers were advised to convert fresh grapes into raisins. Wherever infrastructure was not available, 'Drying on Vine' (DOV) method was advocated by the institute. Protocols for DOV and grape drying between two lines of vines were circulated through Whatsapp groups, NRCG website and advice on mobile. Same time a video on method of grape drying were uploaded on YouTube channel of NRCG and circulated among different Whatsapp groups.

Based on their requirement and available resources, growers modified the DOV. The success of this strategy adopted by few growers was published in the print media and encouraged other grape growers to do so to save their produce. In Nashik district alone, about a total of 3 lakhs tons grapes were utilized for raisin making. Out of that 25-30 thousand tons of grapes are being converted into raisins by adopting DOV method.



Web conference

1. Export of grapes in 2021: Instructions for uses of authorized agrochemicals as per Annexure 5 of Residue Monitoring Plan: The meeting was organized on 20th August 2020 under the chairmanship of Dr A.K. Singh, DDG (Horticulture Science). A total of 238 stake holders comprising of grape growers from Maharashtra and Karnataka, grape exporters, line departments and APEDA participated. The structure of Annexure 5 as the central theme of pesticide residue control in the food safety traceability system was explained to the participants. Scientists discussed about newly added agrochemicals in Annexure 5 and also explained the other changes in pre-harvest intervals (PHI) of respective agrochemicals.
2. Interactive meeting with representatives of Ma-

harashtra Rajya Draksha Bagaitdar Sangh (MRDBS), Karnataka Grape Growers Association and Grape Exporters' Association of India (GEAI): The meeting was held under the Chairmanship of Dr. A.K. Singh, Deputy Director General (Hort. Science) on 1st September 2020 to discuss issues/problems related to grape industry in the country. A total of 150 growers participated in the meeting.

3. Vistas of Pesticide Applications in Grapes: Bio-efficacy and Residue Perspectives: was organized under the Chairmanship of Dr. N.K. Krishna Kumar, Former DDG (HS), ICAR on 11th September 2020. Strategies for use of pesticides during fruit pruning season were discussed. About 150 growers participated in the event.

Advisory through media to mitigate the losses of table grapes

YouTube

[नाशिक क्षेत्र में अंगूर से बेदाना बनाने की सलाह](#)

News

1. कोरोना संकट: अब अंगूर किसानों को उबारने में लगा यह अनुसंधान केंद्र
2. Making Raisins on Grape Vines: Pune, Nashik Farmers Innovate to Tackle Lockdown!

Facebook Live

कोविड १९ मध्ये द्राक्ष उत्पादकां समोरील आव्हाने आणि संभावित उपाययोजना

Print media

1. कुछ दिनों तक अंगूर की तुड़ाई न करे किसान (News in Navbharat)
2. With grapes yet to be harvested, farmers could transform ripe berries into raisins (News in Times of India)
3. Experiences of grape growers benefitted from drying on vine technique of raisin making (Grape advisory in Agrowon (daily on Agriculture))
4. कोरोना संकट: अब अंगूर किसानों को उबारने में लगा यह अनुसंधान केंद्र (News in India Today)
5. A raisin to survive (New in Mid-day)

Strategies to manage vineyards during foundation pruning season

With Covid-19 restrictions in place, regular farmers' seminars and field visits were affected. The growers were under stress due to previous season set back. As the scientists of the centre were unable to physically interact at different locations, centre increased the contact and spread of information/advise through print media (Agrowon) and digital media (Facebook Live, YouTube, WhatsApp). The centre organised various Facebook Live and Door Darshan programmes to advise/equip/sensitize on various production and protection measures to be followed during foundation pruning season. The scientists of the centre also participated in Facebook Live programmes organized by different agencies.

YouTube

1. [Health benefits of eating grapes \(in Kannada\)](#)
2. [Management of vineyards under current conditions](#)
3. [Eat grapes remain healthy \(in Marathi\)](#)

Facebook Live

1. कॅनोपी मॅनेजमेंट आणि शाश्वत घडनिर्मिती
2. कॅनोपी व्यवस्थापनातून शाश्वत घडनिर्मिती
3. शाश्वत घडनिर्मिती करिता अन्नद्रव्य व पाणी व्यवस्थापन
4. खरड छाटणीनंतरचे रोग व्यवस्थापन
5. [द्राक्षबागेत पानगळीवर उपाययोजना](#)
6. [द्राक्षबागेतील तण व्यवस्थापन](#)
7. [Canopy management during cane maturity stage](#)
8. [Disease management during intermittent rains and sunshine with specific reference to anthracnose and leaf fall](#)
9. [Nutrient management before forward pruning](#)
10. [Use of PGRs to ensure fruitfulness in late pruned vineyards](#)

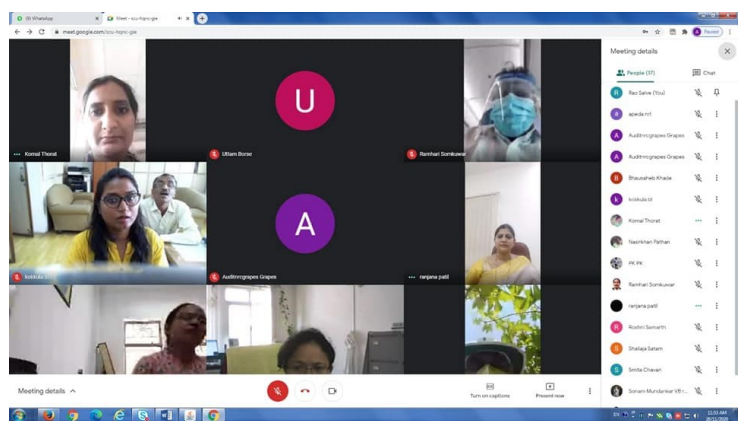
Print media

Several problems of viticulture were attended by the Centre and eighteen advisories were published through print media.

Events

Celebration of 70 years of Indian Constitution

Many events were organized to celebrate the 70 years of Indian Constitution and to create the awareness about the preamble of Indian Constitution. On 14th April, 2020, the institute staff met to recite the preamble of the constitution. Online awareness Campaign about fundamental duties among the people of villages adopted by the Institute was conducted on 6th July 2020. Villagers were made aware about all the fundamental duties in article 51A of Indian Constitution. On 29th July, 2020, Mr. Anuj Kumar Upadhyay from Directorate of Marketing and Inspection, GOI, Bengaluru delivered an online lecture on 'Legislation on Agricultural Marketing'. On 29th August, 2020, Dr. Ranjana Patil, Principal, PDEA's Law College spoke about the 'Constitution of India and National struggle for freedom' on 29th August 2020.



Independence day celebration

Centre celebrated independence day on 15th August, 2020. All the staff members participated in the celebration.



Hindi Saptah celebration

Centre celebrated the Hindi Saptah during 14 to 19th September, 2020. Various competitions were organized to celebrate the event such as essay, online quiz and debate competition.

SCSP Programme

Distribution of agro-inputs

The Director, Nodal Officer (SCSP) and few staff members visited vineyards at Ranjankhol, taluka Rahata, district Ahmednagar and Tandulwadi, district Jalna on 4th and 10th June 2020, respectively and distributed agro-inputs to 110 farmers under SCSP programme.



Training programme organized

Two training programmes were organized under SCSP programme (at Ranjankhol, taluka Rahata, district Ahmednagar on 9th August 2020 and at Tandulwadi, district Jalna on 5th September 2020). About 110 farmers benefited from the training programme.

Institute activities

Priority Setting, Monitoring and Evaluation Committee (PME) meeting

Four meetings of PME were held to finalize the flagship programme of the centre, to finalize additional budget requirement, to discuss new project proposals and finalizing the 'Prime Ministers Vision on Agricultural Research and ICAR's Preparedness-2014-2020' and to discuss activity wise targets as per Output-Outcome Framework for 2020 to 2025.

Institute Research Committee meeting

Twenty-fifth IRC meeting was held on 17th and 19th June, 2020 to monitor and discuss on on-going projects at institute. The meeting was held through online platform.

ICAR-All India Coordinated Research Project Pre-Group Discussion meetings

Nine experiment wise pre group discussion meetings (3rd, 7th, 8th, 10th, 23rd and 25th September, 2020) were held to monitor the progress of various AICRP centres working on grapes.



Training acquired

The institute continuously strives to develop the skill set of its personnel for improving their work efficiency and knowledge upgradation. Following personnel attended various training programmes:

1. Mr. B.L. Kokkula, Mr. N.S. Pathan, Mr. M.N. Ganti, Mr. P.P. Kalbhor, and Ms. Shailaja V. Satam, Technical attended online training programme on 'eOffice implementation in ICAR institutes' on 1st May 2020 conducted by ICAR-IASRI, New Delhi.
2. Mr. B.L. Kokkula, Mr. N.S. Pathan, Mr. P.P. Kalbhor, and Ms. Shailaja V. Satam, attended online session of e-office implementation training on 22nd June 2020.
3. Dr. A.K. Sharma (ABI-incharge) participated in the 'Orientation workshop and training program for ABI units' organized by ICAR-NAARM along with IP&TM Unit of ICAR on virtual mode during 17-19th August 2020.
4. Mrs. Kavita Y. Mundankar participated in the Live Online Hands on Workshop on Internet of Things (IoT) organized by Engineering Staff College of India, Hyderabad during 21st to 25th September 2020.
5. Dr. A.K. Sharma, Mrs. Kavita Y. Mundankar, Dr. Roshni R. Samarth and Dr. Ahammed Shabeer T.P. attended online workshop-cum-training on 'Intellectual Property Rights in Agricultural Research & Education in India' organized by National Agricultural Higher Education Project (NAHEP) and Intellectual Property & Technology Management (IP&TM) Unit of ICAR during 12th to 28th September, 2020.
6. Dr. D.S. Yadav attended online training programme 'Fruit-fly Surveillance and Management' organized by National Institute of Plant Health Management, Hyderabad during 21-25th September 2020.
7. Dr. D.N. Gawande participated in the online training programme on 'Analysis of Experimental Data using R' organized by ICAR-National Academy of Agricultural Research Management, Hyderabad during 5-11th August 2020.

Training organized/given

The institute also continuously strives to develop the skill set of its resource persons and farmers through knowledge upgradation. Following training programmes were conducted:

1. An online training programme 'New advancement in production and protection technologies of grapes' was organized for 40 officials of Bayer Crop Science Ltd. during 4-5th September, 2020.
2. Dr. R.G. Somkuwar, Dr. A.K. Upadhyay, Dr. K. Banerjee, Dr. A.K. Sharma, Dr. Sujoy Saha and Dr. D.S. Yadav guided growers in the online training programme on 'Production of Export Quality Raisins' jointly organized by ICAR-NRCG and APEDA on 4th September 2020 for stakeholders like farmers, raisin processors, exporters, State Dept. of Horticulture/ Agriculture, NHM etc.
3. Dr. R.G. Somkuwar, Dr. A.K. Upadhyay, Dr. Sujoy Saha, and Dr. D.S. Yadav, imparted online training for the technical field level officers and staff of the Agriculture Department of Pune Division in the training programme 'Production management and export of grapes' organized by Regional Agriculture Management Extension Training Institute (RAMETI), Pune during 15-16th September 2020.

4. Dr. R.G. Somkuwar, Dr. A.K. Upadhyay, Dr. Sujoy Saha, and Dr. D.S. Yadav, imparted online training for the technical field level officers and staff of the Agriculture Department of Pune Division in the training programme 'Production management and export of grapes' organized by Regional Agriculture Management Extension Training Institute (RAMETI), Pune during 15-16th September 2020.
5. Dr. D.S. Yadav guided grape growers on 'Sucking pest management in grapes' in the training organized by Rallis India Limited on 9th September 2020.
6. Dr. R.G. Somkuwar, Dr. A.K. Upadhyay, Dr. Ahammed Shabeer T.P., Dr. S.D. Ramteke, Dr. Sujoy Saha and Dr. D.S. Yadav guided the grape growers of Maharashtra on grape cultivation in live sessions organized by UPL Ltd. on 12, 14, 16, 18, 19 and 23rd September 2020.
7. Dr. Sujoy Saha and Dr. D.S. Yadav guided grape growers in the training programme organized on digital platform by Dhanuka Agritech Ltd. on 28th September 2020.
8. Director and scientists guided grape growers in online MRDBS Annual Seminar/Webinar 2020 in the following areas:

Dr. R.G. Somkuwar Director (Acting)	Present problems in grape vineyard and strategies to improve export
Dr. A.K. Upadhyay Pr. Scientist (Soil Science)	Nutrient management in grapes
Dr. K. Banerjee Pr. Scientist (Agril. Chemistry)	Improving export of grapes by making the residue monitoring programme more comprehensive: the approaches for 2020-21 grape season
Dr. S.D. Ramteke Pr. Scientist (Plant Physiology)	Judicious use of plant growth regulators and disorders management
Dr. A.K. Sharma Pr. Scientist (Horticulture)	Quality Raisin production under challenging conditions and marketing
Dr. Sujoy Saha Pr. Scientist (Plant Pathology)	Disease management in grapes: bio-intensive strategies
Dr. D.S. Yadav Sr. Scientist (Entomology)	Integrated pest management in grapes

Personnel

The following scientists joined at the institute.



Dr. Somnath Holkar
Scientist (Plant Pathology)
from ICAR-Indian Institute of
Sugarcane Research, Lucknow,
Uttar Pradesh



Dr. Nishant Deshmukh
Scientist (Fruit Science)
from ICAR-Research Complex for
NEH Region, Umiam,
Meghalaya



Dr. Prashant Nikumbhe
Scientist (Fruit Science)
from ICAR-Central Arid Zone
Research Institute, Jodhpur,
Rajasthan

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Director's Desk



ICAR-NRC for Grapes is instrumental in imparting knowledge among grape growers and other stakeholders for profitable grape cultivation. Grape harvest season of 2020 started normally but later period in March coincided with emergence of COVID-19 pandemic in

the country. This pandemic made unprecedented impact on the lives of people and led to downfall of the economy. About 9 lakh tonnes of grape harvesting mainly for table purpose was severely affected due to imposed restrictions. The growers became clueless and some of them sold produce for as less as Rs 7-10 per kg. ICAR-NRC Grapes adopted multiple strategies to reach the farmers. The institute facilitated the export by liaising with pesticide laboratories involved in testing and various stake holders. Approximately 1695 tonnes of grapes were exported to EU and few con-

tainers were also sent to Russia.

The centre provided support to other table grape growers by advising them to convert fresh grapes into raisins by using 'Drying on Vine' (DOV) method or grape drying between two lines of vines. Protocols were circulated through WhatsApp groups, NRCG website, YouTube video and advice on mobile.

To create awareness on grape consumption, video recordings in Marathi and Kannada languages were posted on YouTube channel of the centre. Meantime, advisories related to various agro-techniques were disseminated to the grape growers through Marathi newspaper (Agrowon), WhatsApp, series of online meetings, Facebook Live programs, webinars with grape growers' associations of Maharashtra and Karnataka, state departments and website of the Centre.

(R. G. Somkuwar)

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