



# GRAPE-NEWS

A Publication of National Research Centre for Grapes, Pune



Vol. 12(2), October 2008 - March 2009

## Director's Desk



Food safety and standards are important parameters in deciding the overall quality of fruit and its processed food products including fresh grapes and processed grape products viz. juice, wine and raisins. At global level, fresh table grape production accounts for only less than 6 per cent of total grape produce. However, the wine production accounts for almost 90 per cent of total grape produce and rest is used for juice and raisin purpose. For all these products, standards fixed by individual country or those fixed by Codex or OIV have to be complied by different countries based on the purpose and place of grape and its processed product business. In India, for fresh grapes, we follow the AGMARK standards formulated by DACA, MoA, which specifies various quality parameters. Same standards are also followed for export of grapes in EU countries. The standards formulated by PFA, FPO and BIS are available for processed products viz. juice, wine and raisin. However, only PFA standard for juice and raisin are of mandatory nature, while BIS standards for wine are not mandatory. All these standards, therefore, require a change keeping in view the condition of local and export demand and accordingly the food safety and standards

have to be formulated. Further, multiplicity of standards of PFA / FPO / BIS for such products have to be removed and ensure that it serves the purpose of supply of safe and quality products within country and also in export market. Investigation carried out by this institution in case of table grapes, raisin and wines have made the following observations :

Table grapes produced locally for both domestic and export market to EU countries by and large comply the different grades of AGMARK standards and are also within the maximum limits of residues of pesticides and heavy metals. Raisin samples by and large comply to not only PFA standards but also the Codex standards except stem and pedicel pieces number found to be more in unit quantity fixed under this standards. Indian wines also qualify the BIS parameters in all respect and also the Occratoxin specified under OIV standards of European Union. Grape growers have to therefore, take a note of these observations and improve and sustain their business in future from food safety and standards point of view.

  
(P. G. ADSULE)

## Research Activities

### Influence of water quality on the bioefficacy of glyphosate in management of *Cynodon dactylone* (J Sharma and PB Taware)

Glyphosate (Roundup) provided only marginal control of *Cynodon dactylone* locally known as Haryalii, one of the most obnoxious weed, in many vineyards. Hard water used in vineyards for spray was felt to be responsible for the

partial bioefficacy of herbicide. A field experiment was therefore, conducted to study the influence of water quality on glyphosate efficacy in managing the menace of this weed. Water from four different sources varying in their



Fig.1. *Cynodone dactylone* control by roundup sprayed from LHS to RHS @ 7.5ml/liter, @ 5ml in open well water (EC=1.95 dS/m) and @ 5 ml/l (LHS) in bore well water (EC=1.10 dS/m) at flowering stage

salinity levels (electrical conductivity) was used for preparing glyphosate solution and sprayed on *Cynodone dactylone* at 12-13 leaf stage (flowering stage). Use of less saline water improved the phytotoxicity of the glyphosate. Glyphosate @ 5ml/l prepared using open well water (EC=1.95 dS/m) and sprayed with flat fan nozzle suppressed the growth only temporarily and the weeds regenerated after 30 days. However, when low salinity bore well water (EC=1.10 dS/m) or tap water (EC=0.14 dS/m) was used to spray at the same concentration, control for longer duration was observed and no regeneration of the weed plants was recorded even after 100 days after the spray, which was comparable to spray of glyphosate @ 7.5 ml/l in open well water. Water quality thus resulted in

efficient weed control at lower dose. Farmers are, therefore, advised to test the quality of spray water to use this herbicide against *Cynodon dactylone*.

Besides water quality, age of weed also affects weedicide efficiency. The phytotoxicity of the glyphosate was improved markedly when sprayed at young and succulent stage of weed (at 7-8 leaf stage). At this stage, spray of Roundup @ 5ml/l prepared using high salinity water and @ 3 ml/l prepared in tap water (EC=0.14) or distilled water offered control of the weed till 90 days. Use of low salinity water reduced the dose by 1.5 to 1.67 times depending on the plant age. Further studies will be conducted during the coming rainy season.

## Transfer of Technology

### Participation in Grape Growers' Seminars

- A group meeting of grape growers was organized jointly by the Centre and the local Grape Growers Association at Walva, district Sangli on 29<sup>th</sup> January 2009. Dr. P. G. Adsule, Dr. S. D. Sawant, Dr. R. G. Somkuwar and Dr. S. D. Ramteke participated in the group meeting. Dr. S. D. Sawant educated the grape growers about the pesticides to be used for the best management of downy mildew disease in grapes. Dr. R. G. Somkuwar delivered lecture on 'Cultural practices to be followed for the production of Sharad Seedless grapes'. The team visited grape vineyards in nearby area. Dr. S. D. Ramteke observed abnormal swelling of knot. The growers were advised not to put vines under stress situation and apply biostimulant to enhance the supply of metabolites towards the berries.

### Field Visits

- Dr. R. G. Somkuwar, Dr. A. K. Sharma and Dr. N. S. Kulkarni visited Satana area of Nasik district on 4<sup>th</sup> November 2008 to survey downy mildew incidence. Almost all the vineyards of the region had suffered with downy mildew. In some cases leafless conditions were also observed. The early pruned vineyards were the most severely affected. After assessing the situation, the growers of the regions were given appropriate advice for saving the vines and back pruning at the earliest.
- Dr. P. G. Adsule visited the table and wine grape vineyards in Kolhapur and Sangli districts and discussed

about the level of incidence of diseases in table and wine grape varieties during 28-29<sup>th</sup> December 2008.

- Dr. P. G. Adsule Dr. G. S. Karibasappa, Dr. S. D. Sawant, Dr. R. G. Somkuwar and Dr. Anuradha Upadhyay visited nursery of M/s Chateau Indage Pvt. Ltd. at Bota, Narayangaon on 12<sup>th</sup> February 2009 to discuss the strategies for monitoring genetic purity and virus indexing of planting material.
- Dr. P. G. Adsule Dr. G. S. Karibasappa, Dr. S. D. Sawant, Dr. R.G. Somkuwar, Dr. A.K. Upadhyay and Dr. A.K. Sharma visited M/s. Grovers Vineyards on 20<sup>th</sup> March 2009 and held discussion with their Vice-Chairman about various contract vineyard farms for supply of wine grapes to the winery and their problems. On 21<sup>st</sup> March 2009, the team visited Indian Institute of Horticultural Research (IIHR), Bangalore and held discussion with the Head of Divisions, particularly, Plant Pathology, Entomology, PHT, Horticulture and Biotechnology. During this visit the team reviewed experimental vineyard farms of M/s Grovers Vineyards and IIHR to know the germplasm collection and the performance of Red Globe and other varieties planted in 2003 under the APEDA sponsored project.
- Dr. P. G. Adsule and Dr. G. S. Karibasappa visited M/s Bafna Farms to observe the performance of Manjri Naveen, Thompson Seedless and Fantasy Seedless. The in situ grafting success, growth and performance of these cultivars on 110R rootstock was also observed.

## Honours / Recognitions / Awards

Dr. K. Banerjee has been recognized as Member, American Chemical Society and also as Guest Editor for a Special Edition of the Journal of AOAC International on

"New Methods for Single and Multiresidue Analysis of Pesticides".

## Participation in Scientific Seminars / Symposia / Workshops / Meetings

Dr. P. G. Adsule and Dr. G. S. Karibasappa participated in 3<sup>rd</sup> Horticultural Congress organized by HSI on 6-9<sup>th</sup> November 2008 held at OUAT, Bhubaneswar, Orissa and presented a lead paper on wine industry in India.

Dr. R. G. Somkuwar attended Review Meeting of Mega Seed Project at New Delhi on 5<sup>th</sup> January 2009. The meeting was chaired by Dr. Mangala Rai, Director General,

ICAR. During the meeting, the progress of the Seed project being implemented at the centre was reviewed.

Dr. P. G. Adsule, Dr. R. G. Somkuwar and Dr. A. K. Sharma participated in Maha Wine 2009-3<sup>rd</sup> International Conference and Expo on Grapes and Wines organized by CII at Pune during 16-17<sup>th</sup> January 2009 and presented a lead paper on Indian wine industry.

## Human Resource Development

### Deputation Abroad

Dr. K. Banerjee was deputed to Manchester, UK for participation in the European Food Testing Summit during 15-18<sup>th</sup> October 2008.

Dr. P. G. Adsule, Dr. R. G. Somkuwar undertook study visit to research organizations of France dealing with viticulture and enology (INRA, ENTAV, IFV, ICV), nurseries,

winery units, machinery fabricators and Vinitech exhibition during 2-13<sup>th</sup> December 2008.

### Training Organized

A 5 days NHB sponsored training programme on 'Transfer of technology for production of export quality grapes' was organized during 16-20<sup>th</sup> December 2008. Twenty-five participants were benefited by the programme.

## Meetings Held

### Meeting of Wine Makers

A meeting of personnel from wineries and wine grape farmers was held at the Centre on 17<sup>th</sup> February 2009 to assess the introduced wine varieties and hybrids/clones developed by the Centre. Based on the analysis report prepared by the Centre's National Referral Laboratory for pesticide residue monitoring, the status of Indian wines available in domestic market against the domestic quality standards (BIS) and International wine standards (OIV) was also deliberated. Director, P. G. Adsule chaired the meeting.

After deliberations and in field assessment, several varieties/ crosses were short listed for wine making. Among varieties Athens (A41-3), Sirius (A5-1), Tempranillo (A24-1), Pearl-of-Csaba (B10-3), Black Prince (A38-1) and Garganega (A43-1) and Crosses AH4-1-5 (Chardonnay x Arkavati), AH 4-33-34 (Chardonnay x Arkavati), AH 3-7 (for dual purpose as juice/wine), A 48-2 (Pusa Navrang x Chardonnay), AH3-27 (Chardonnay x Pusa Navrang), AH 3-26 (Chardonnay x Pusa Navrang) were selected.

### Institute Research Committee (IRC)

The 13<sup>th</sup> mid-term IRC meeting was held during 12-13<sup>th</sup> January 2009 under the chairmanship of Dr. P.G. Adsule, Director. The progress of the research projects along with the action taken report on the recommendations of previous IRC and RAC was presented by the project leaders. New project proposals were also presented.

### IMC Meeting

IMC Meetings were held on 17<sup>th</sup> December 2008 and 25<sup>th</sup> February 2009.

### RAC Meeting

The Research Advisory Committee meeting was held on 12-13<sup>th</sup> March 2009 under the chairmanship of Dr. K.L. Chadha, Ex. Deputy Director General (Hort.), ICAR, New Delhi. The other members present were Dr. Y.R. Chanana, Emeritus Scientist, PAU, Ludhiana; Dr. Dharam Vir Singh, Emeritus Scientist, IARI, New Delhi; Dr. M.D. Awasthi, Ex-Head, Division of Soil Science & Agril. Chemistry, IIHR, Bangalore; Dr. P.G. Adsule, Director, NRC for Grapes, Pune and Dr. Indu S. Sawant, Member Secretary.

The Committee also interacted with Mr. Sopan Kanchan, Chairman, Grape Growers' Federation of India; Dr. J. M. Khilari, President, Maharashtra State Grape Growers' Association (MRDBS); Mr. B.M. Kokare, President, Karnataka State Grape Growers' Association; and Mr. Jaideep Kale, Technical Coordinator for Wine Industry of MIDC, Pune and got appraised on the current scenario and the research support required by the wine and raisin grape industry in view of the problems faced in the last year,

The Committee also visited the grape drying units facilities at Junoni and interacted with the raisin manufacturers and wine makers. The Committee considered the views of the industry while reviewing the research programmes of the Centre.

## Publications

### Research Papers

Argade N. C., Tamhankar S. A., Karibasappa G. S., Patil S. G. and Rao V. S. 2009. DNA profiling and assessment of genetic relationship among important seedless grape (*Vitis vinifera*) varieties in India using ISSR markers. *J. Plant Biochemistry and Biotechnology*. Vol. 18(1) : 45-51.

Patil Sangram H., Banerjee Kaushik, Dasgupta Soma, Savant Rahul and Adsule Pandurang G. (2008). Multiresidue analysis of 83 pesticides and 12 dioxin-like polychlorinated biphenyls in wine by gas chromatography - time of flight mass spectrometry. *Journal of Chromatography A* 1216 : 2307-2319.

Somkuwar R. G., Satisha J. and Ramteke S. D. 2009. Propagation success in relation to time of grafting in

Tas-A-Ganesh grapes. *J. Mah. Agril. Uni.*, 34(1) : 113-114.

Somkuwar R. G and Adsule P. G. 2009. Comparative performance of grafted Thompson Seedless grapes with own rooted vines - A case study. *J. Mah. Agril. Uni.*, 34(1) : 114-116.

### Technical Folders and Bulletins

1. Management of flea beetle and chafer beetles on grapes. Sept 2008. Kulkarni N.S., Mani M, Banerjee Kaushik and Adsule P.G. Extension Folder No. 22 (English) and Folder No. 23 (Marathi).
2. Management of caterpillars on grapevine. Dec. 2008. Kulkarni N.S., Mani M, Banerjee Kaushik and Adsule P.G. Extension Folder No. 24 (English) and Folder No.25 (Marathi).

## Other Activities

Director, NRC for Grapes was assigned the duty of 'Nodal Officer' for organizing Foundation Stone Laying Ceremony of National Institute of Abiotic Stress Management, Baramati, Pune. The director and staff of the Centre made all out efforts arrangements for the successful

organization of the programme on 21<sup>st</sup> February 2009. The Director General has issued an appreciation letter to the Director and the team of officials of this institute for this function.

## Celebrations

### Vigilance Week

Vigilance Week was observed from 3-7<sup>th</sup> November 2008 with the pledge by the staff on 3<sup>rd</sup> November 2008.

### Republic Day

The Centre celebrated Republic Day on 26<sup>th</sup> January

with joy and splendour. Dr. P. G. Adsule, Director, hoisted the flag. In his address, he highlighted the good work done by the Centre for improving grape sector in India and stressed upon the need to intensify our efforts to further strengthen it. Staff and their children sang patriotic song and sweets were distributed.

## Visitors

The representative of Ritche Nursery Ltd., France Sh. Barner and Mrs. Claire visited the nursery of the Centre on 22<sup>nd</sup> February 2009. The Ritche nursery of France follows the standard procedure of nucleus, foundation and certified plants for the production of grafted vines and has separate mother blocks for each identified rootstock as well as scion variety. The visitors were shown the nursery of the centre

and the mother block of Dog Ridge, 110 - R and Salt Creek. They opined that the shoot length of rootstock and scion obtained in France may not be achievable under tropical condition of India. Mr. Barner demonstrated the technique of harvesting rootstock cuttings of uniform size and length. They appreciated the work being carried out at the centre.

Published by : **Dr. P. G. Adsule**, Director

Tel. : 020-2691-4245 / 5573 / 5574 Fax : 26914246, nrcgrape.mah@nic.in, nrcgrapes@gmail.com <http://nrcgrapes.mah.nic.in>

Compiled & Edited by : **Dr. Anuradha Upadhyay** and **Dr. P. G. Adsule**

Printed at : Flamingo Business Systems, Tel. : 020-24214636, Email : flaminbs@vsnl.com, flamingo.b.s@gmail.com