

Nomenclature of Dogridge A and Dogridge B rootstocks changed

In Maharashtra, use of rootstocks for raising vineyards for commercial grape production has increased considerably during last 15 years. Dogridge is the most commonly used rootstock. During field surveys by the scientists of this Centre, variation in leaf morphology and performance of grafted varieties was observed. Detailed enquiries with growers traced two sources for supposedly same rootstock and this led to the different names given to two types of variants i.e. Dogridge A (brought from USA by late Sh. Vasantrao Arve, a progressive grower of Bargaon in Tasgaon Taluk of Sangli District) and Dogridge B (taken from grape germplasm collection of IHR, Bangalore). To ascertain the identity of two variants, several experiments on leaf morphology, ampelometric analysis, performance of

scion varieties, nutrient uptake pattern and molecular analysis using microsatellite markers were taken up at this Centre. Results from all these experiments clearly differentiate these two rootstocks. Cluster analysis based on ampelometric as well as SSR data show that Dogridge-B groups with other *Vitis champinii* rootstocks while Dogridge-A groups with rootstocks of *Vitis berlandieri* × *V. rupestris* parentage with 80% similarity. These evidences necessitated the change in nomenclature of these two rootstocks. It has been decided that henceforth, earlier named Dogridge B will be referred only as Dogridge and Dogridge A will be referred as Rootstock B2-56, named so based on its accession number at National Active Germplasm site for Grape at this Centre.

Dr. P.G. Adsule appointed as regular Director of the Centre



Dr. P.G. Adsule, working as a Principal Scientist and Director (Acting) since 26th July 2002, was appointed as regular Director of this Centre with effect from 26th April 2005.

Dr. P.G. Adsule had his graduation in Agriculture from Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra and Post Graduate and Doctorate degree from Indian Agricultural Research Institute, New Delhi. He had brilliant record of first in college and second in the University apart from the recipient of Gold Medal from the I.A.R.I., New Delhi. He has received Post Doctoral research training from the University of Florida in USA. He has long experience working in various capacities in ICAR and Govt. of India organizations since 1976 at places like Delhi, Lucknow,

Bangalore, Hyderabad, Chennai and Goa. His earlier important assignments were as; Regional Deputy Director (Food industry) at Small Industries Service Institute, Chennai; Director, Post-harvest Technology Institute, Pune and Director (Acting) of ICAR Research Complex, Goa. A Fellow of Association of Food Scientists and Technologists, Mysore, Dr. Adsule has published a large number of research and technical papers, books, book chapters, bulletins, profiles and popular articles.

Development of an excellent infrastructure in terms of buildings, equipments, tools, furniture, farm development at this Centre during last 3 years goes to his credit apart from commissioning of the APEDA-NRL facility under the ICAR system for monitoring of pesticide residues in exportable grapes. Excellent work under this programme has brought wide accolade from all quarters of grape industry and the Centre was awarded by Ministry of Commerce.

Transfer Of Technology

The scientists of the Centre participated in the Charchasatra organized by Maharashtra Grape Growers' Association at Sangli, Solapur and Nasik. Dr. S.D. Sawant, Dr. R.G. Somkuwar, Dr. J. Sharma and Dr. N.S. Kulkarni participated in Charchasatra at Sangli and Solapur on 29th April and 6th May respectively, whereas Dr. R.G. Somkuwar and Dr. N.S. Kulkarni in Nasik on 9-10th May 2005. Scientists

also visited vineyards during these programmes. Each programme was attended by approximately 1000 growers. Some of the important advices given to the farmers during Charchasatra are:

- i. Application of hydrogen cyanamide even for grafted vines so as to force the vine to sprout.
- ii. Retention of only uniform size canes at the time of framework development can help in uniform

bud sprout.

iii. Cordon development to be gradual.

iv. Due importance should be given to cultural operations like removal of bark from the trunk, cordon and soil management etc. to reduce the incidence of mealy bugs during April to September period.

v. Rest for the vineyards is necessary after April pruning for bloom differently for own rooted and grafted vines.

vi. Irrigation schedule was given to the growers for the period of bud fruitfulness i.e. 40 to 60 days after pruning.

vii. Making sub cane is required when the vineyards has enough irrigation water for the vigorous varieties and under shortage of water.

viii. Under late pruned vineyards, the dose and concentration of growth regulators should be increased depending on the delay of pruning and the weather condition prevailing at the time of fruit bud differentiation.

☆ Dr. R. G. Somkuwar along with Dr. S. D. Ramteke and Mr. H. Raj, Coordinator of SBI PU Grapes, Pune visited Manerajuri, Tasgaon on 2nd April 2005.

☆ Dr. J. Satisha visited demonstration block of APEDA sponsored trial at Nimbkar Agricultural Research Institute, Phaltan and educated them about the importance of right time of back pruning and operations to be followed after back pruning on 20th June, 2005.

☆ Dr. G.S. Karibasappa visited T.N.A.U., Coimbatore and Theni in Tamil Nadu during 17-20th June 2005. During his visit he discussed the problems of grape growers of Coimbatore district and suggested the use of rootstocks and improved table grape cultivars.

☆ Dr. S.D. Sawant, Dr. R.G. Somkuwar, Dr. A.K. Upadhyay, Dr. S.D. Ramteke and Dr. N.S. Kulkarni participated in a annual seminar organized by Abhinav Grape Growers' Association, Junnar on 15th May 2005 and guided the grape growers.

Infrastructure Development

Rooftop Water Harvesting

The uncertainty and less availability of rains and depletion of ground over a period of time had necessitated the purchase of tankers for office use during last two years. The daily requirement of water for laboratories and office ranges from 4000-6000 l/day. Taking this into account, roof top water harvesting system was developed. The total roof top area of the laboratory-cum-administrative building is 12100 sq. ft. The water so harvested is stored in underground sump and pumped to the tanks for meeting the day to day needs of the laboratories and office. The EC of the rainwater is 0.2 dS/m. The cost of installing the system was Rs. 90,000/-.



Honours / Recognition / Awards

Dr. S.D. Ramteke was selected for 'Abhinav Gaurav 2005'. This award is given to the scientist for his technical guidance to the grape growers of Abhinav Grape Growers' Cooperative Society, Junnar.

Human Resource Development

Dr. J. Satisha participated in a training programme on 'Development of high end resource material (Multimedia) for effective teaching and learning' organized by NAARM, Hyderabad during 28th April - 18th May 2005.

Participation in Seminars / Symposia / Workshops / Meetings

Dr. P.G. Adsule, Dr. S.D. Sawant, Dr. A.K. Upadhyay, Dr. K. Banerjee and Dr. N.S. Kulkarni participated in a seminar on 'Food Safety: Labelling and Traceability' organized by APEDA and CITA on 25th May 2005 at Vashi, New Mumbai.

Dr. P.G. Adsule, Dr. G.S. Karibasappa, Dr. S.D.

Sawant and Dr. A.K. Upadhyay participated in a National Seminar on "Viticulture in Non-traditional Marginal and Degraded Soils" held on 25-26th May at Punjab Agricultural University, Ludhiana. Dr. Adsule gave special address in the Inaugural function and also chaired the first technical session.

Publications

Research Abstracts in Seminars

Satisha, J. and Prakash, G.S. 2005. Water stress and rootstocks : I. Influences gas exchange parameters and water relations of grafted grapevine (Abstract). In National Seminar on Viticulture in Non-traditional Marginal and Degraded Soils held on 25-26th May at Punjab Agricultural University, Ludhiana. Pp. 79.

Prakash, G.S. and Satisha, J. 2005. Water stress and rootstocks : II. Influences hormonal status of grafted grapevines (Abstract). In National Seminar on Viticulture in Non-Traditional Marginal and Degraded Soils held on 25-26th May at Punjab Agricultural University, Ludhiana. Pp. 80.

Wine Scenario - India

- ☆ Presently total wine production in India is 62.14 lakhs litres. Out of which 54.15 lakhs litres wine is produced in Maharashtra.
- ☆ India currently imports 72000 wine cases per year.
- ☆ Wine from India is exported to France, Italy, Germany, USA, New York, UK, Singapore. Approximately 1.0 lakh litres of wine is exported from India.
- ☆ In India, Mumbai is the largest wine market followed by Delhi, Bangalore and Goa.
- ☆ Per capita consumption of wine is 4.5 ml.

(Contributed by: Kavita Mundankar)

Activities of National Referral Laboratory

National Referral Laboratory under the aegis of NRC Grapes, monitored pesticide residue in exportable grapes in the season during the year 2005.

A total of 4430 samples were analysed by seven nominated laboratories in this season. Out of these, internal alerts were issued for 649 samples as a result of the detection of one or more pesticides at a level higher than the MRL. However, 98 alerts were subsequently withdrawn on the basis of the re-analysis report. Out of the 551 effective alerts, highest number of alerts was accounted for Maharashtra (519) followed by Andhra Pradesh (30) and Karnataka (2), Nasik district in Maharashtra accounted for the maximum number of 375 alerts.

In all, there were 26 pesticides, for which MRL exceedances were observed. Most of the alerts pertained to the insecticides, with dimethoate being the compound with highest alerts (139) issued, followed by methomyl (134) and thiamethoxam (103). Among the fungicides highest alerts were issued for carbendazim with 112 cases. No banned chemical was detected in any of the samples.

On critical perusal of the results of the residue monitoring in last season of 2004-05, it is evident that the percentage of failed samples has reduced significantly from 23.69% in 2003-04 to 12.43% in 2004-05, in spite of the fact that the area of coverage and number of farms registered doubled in this year. This clearly indicates the success of the residue monitoring program.

Besides issuing alerts, the farmers were advised on the remedial measures to reduce the MRL. Stringent monitoring of exportable grape, resulted in acceptance of most of the consignment in the International market.

NRL also collected 5% of the export samples from nominated laboratories, different pack-houses of the grape-growing states and analysed for the pesticide residues. In all the samples, the residues were found to be below the prescribed MRLs.

Inspection of Nominated Laboratories

Dr. A.K. Upadhyay and Dr. K. Banerjee inspected M/s SGS Laboratory, Chennai and M/s Insecticide and Residue Testing Laboratory, Pune under Residue

Monitoring Plan of APEDA-NRL Scheme on 7-8th and 28th April 2005 respectively.

Dr. K. Banerjee and Dr. J. Sharma inspected M/s Vimta Labs Ltd., Hyderabad in April 2005.

Dr. S.D. Sawant and Dr K. Banerjee inspected M/s Reliable Laboratories, Thane in April 2005.

Sample Collection for Residue Analysis

Dr. N.S. Kulkarni collected samples of grapes from Solapur and Bijapur during 4th - 5th April 2005.

Dr. R. G. Somkuwar, Dr. J. Satisha, and Mr. Shrikant Kulkarni, SRF collected samples from different pack houses at Ranga Reddy district of Hyderabad during 4-6th April 2005. These samples were analysed using GC-MS/MS and LC-MS/MS for presence of pesticide residues.

Effective canopy management practices control pest and disease incidence

Grape is grown for table, raisin, wine and juice purpose. The quality yield in grapes depends on various cultural practices followed through out the year. Faulty cultural practices like reduced irrigation and fertilizers at the time of bunch development, exposure of the bunch to the direct sunlight, pest and disease incidence, etc affect the yield and quality considerably. Bunches affected with pest and disease are unfit for marketing and consumption. Although grape suffers from a number of pests and diseases during the various stages of berry growth and development, the important disease of concern is powdery and downy mildew. Canopy management plays an important role in achieving the quality yield in grapes.

After back pruning, about 70 to 80 shoots sprout on each vine. If all the shoots are allowed to grow there will be competition for nutrients, water and sunlight. The lower leaf will fall down for want of sunlight weakening the shoot. The heavy crowding of shoots creates the high humidity in the canopy allowing the atmosphere suitable for the multiplication of the disease organism. During the period of July-August, dry weather with mild

temperature in the canopy creates the conditions congenial for the multiplication of powdery mildew. However, during August-September, high rainfall coupled with high humidity in the canopy helps to building up of microclimate congenial for the multiplication of disease like downy mildew. Canopy management practices like shoot thinning, use of growth retardants, training of shoots helps in proper aeration and harvest of maximum sunlight by avoiding shoots crowding. Retention of appropriate number of shoots based on the spacing available to each vine and thinning the excess number can help in better utilization of the nutrients and irrigation water supplied. This will help in good aeration and maximum sunlight in the canopy for developing the healthy canes per unit area. This type of canopy does not allow the development of microclimate for incidence of disease. The higher proportion of quality yield can always be harvested from per unit area from the vineyards managed carefully during back pruning.

(Contributed by: Dr R.G. Somkuwar, Senior Scientist)

Director's Desk

April June is a period of foundation pruning and bud breaking and development. In the previous quarter, the Centre monitored the pesticide residues in export of table grapes under APEDA sponsored National Referral Laboratory and results revealed that failure of table grape samples on account of pesticide residues above MRL was brought down considerably to 12.4% from 23.69% in the last year. There were no official complaints in the importing countries on account of pesticide residues. Further, the export quantity of table grapes reached a figure of 30,000 MT, highest ever compared to previous years. During this period, scientists surveyed the vineyards at different locations in Maharashtra and Andhra Pradesh and guided the grape

growers on various facets of viticulture. Further, they also inspected the nominated laboratories under the pesticide residue monitoring plan to see their compliance under the APEDA-NRL pesticide residue monitoring plan. Scientists and undersigned participated in the seminars in different states organized by State Grape Growers' Associations, wherein problems faced by the growers during this season and strategies to overcome them in coming season were discussed.



(P.G. ADSULE)