

Fruitfulness in relation to pruning position in flame seedless grapes grafted on dog ridge rootstock

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ABSTRACT

The experiment was conducted at the experimental farm of National Research Centre for Grapes, Pune during the year 2004-2005. Four-year-old Flame Seedless vines grafted on Dog Ridge rootstock were pruned at different bud position and was compared with the straight cane at 10th bud position. From the study, it was observed that average bunches per shoot and per vine was higher when pruned at 4th bud position. Minimum average bunch weight of 133.75 g was recorded in 4th bud position pruning. Maximum yield per vine of 16.08 kg was recorded in 4th bud position pruning. The variety Flame Seedless is basically vigorous variety. The vigor needs to be controlled by use of various cultural practices. However, during fruit pruning, to achieve maximum fruitfulness and higher yield per vine, the fruit pruning at 4 to 5-bud position was found better in terms of total yield per vine.

Key words : Pruning, Grapes and Dog ridge rootstock.

Grape is one of the major important fruit crops grown in the country. The leading white seedless varieties used for table purpose are Thompson Seedless, Tas-A-Ganesh and Sonaka likewise colored Seedless varieties are Sharad Seedless and Flame Seedless. The variety Flame Seedless is crispy and also it contains less acid, which is preferred by the consumers for its good taste. In Peninsular India, double pruning and single cropping is followed (Chadha and Shikhamany, 1999). Once the crop is harvested, the vine is pruned back by leaving one bud on old cane. The new growth arising from the pruned cane is encouraged to build up the reserve and also fruitfulness in bud. The fruit bud differentiation takes place in the new shoot during 45 to 60 days after back pruning. In Thompson Seedless and its clone, yield is negatively correlated with the vigour (Satyanarayana and Shikhamany, 1986). Flame Seedless is a vigorous variety, hence to convert the vigor into productivity, the growers are following the practice of sub cane development. In this type of pruning system, there will 60-80% fruitfulness even under adverse condition (Tambe et al., 1998). The fruitfulness of the bud is decided either on sub cane or on main cane during April to September period. In sub cane system, the growers are pinching the shoot at different bud position starting from 5th leaf to 11th leaf in different parts depending on the vigor of the vine. During October, the vines are pruned for fruits at 7th bud position in case of sub cane method of cane development whereas at 10th bud position in straight cane method. However, the level of fruitfulness in different bud position varies in different

varieties. But, the information on Flame Seedless, which is a vigorous variety is scanty which leads to increase in confusion and reduction in the yield due to the error in pruning. To avoid the confusion in the growers mind, an experiment was therefore conducted to study the bud position for pruning to achieve the maximum fruitfulness in Flame Seedless grapes grafted on Dog Ridge rootstock.

MATERIALS AND METHODS

The experiment was carried out at the research and Development farm of National Research Centre for Grapes, Pune during the year 2004 – 2005. Four-year-old vines of Flame Seedless grafted on Dog Ridge rootstock spaced at 10' X 6' distance and trained on flat roof gable system of training were selected for experiment. Five vines were selected under each treatment and were replicated four times in a randomized block design. Uniform cultural practices were followed for all the vines under the experiment during back pruning and also during forward pruning. Back pruning was done during first week of April and 35 shoots were retained on each vine by thinning out remaining shoots at 4-5-leaf stage. During October, the canes were pruned at different bud position for fruits. The observations on growth parameters like average bunches/shoot, average bunches/vine, average bunch weight, average berry weight, yield per vine and quality parameters (TSS, berry length and diameters) were recorded. The data was statistically analyzed as per Panse and Sukhatme (1985).

RESULTS AND DISCUSSION

The data on growth and yield characters is presented