

Effect of cane pruning on Thompson seedless and Sharad seedless varieties of grape under Buldana district

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ABSTRACT

Bud burst was maximum at terminal and first lateral bud position regardless of pruning severity levels and these buds were mostly fruitful. In Thompson seedless 7th leaf (P₃) cane pruning treatment gave maximum bunches and higher yield, whereas in Sharad seedless 6th leaf (P₂) cane pruning treatment gave maximum bunches (32 bunches in Thompson seedless and 36.20 bunches per vine in Sharad seedless) and high yield (8.4 kg in Thompson and 8.6 kg in Sharad seedless) than rest of the treatments. Significantly the maximum berry weight, berry size and berry volume were obtained from 7th leaf (P₃) treatment in Thompson seedless variety and 6th leaf (P₂) treatment in Sharad seedless variety. Maximum TSS : acid ratio and low acidity, high reducing sugar were obtained from treatment 7th leaf (P₃) in Thompson seedless, whereas treatment 6th leaf (P₂) in Sharad seedless variety.

Key words : Cane pruning, Thompson seedless, Sharad seedless, Grape

Most of the fruit crops unlike grape which are evergreen seldom require pruning. Pruning in grape is carried out to regulate the crop. In South India, pruning is done twice in year, once in summer and again in winter. Some times due to delay in marketing of the produce, proper rest period of 2-3 weeks do not get to the grapevines and thus become unfruitful after October pruning and this creates the problems to the cultivators. To overcome this situation new practice of pruning was developed in Maharashtra, which is known as sub-cane pruning. In this pruning system, there will be 60 to 80 per cent fruitfulness under even adverse condition.

Sometimes growers pruned their vine yard late in April pruning to get the more price to their grapes and due to which possibility of development of reproductive primordia is negligible. Here levels of abscisic acid increase and internodal distance is lesser. Thus there is 60-90 per cent possibility of development of reproductive primordia (Anon., 2005). Though, this practice of grape pruning is popular in Maharashtra but the research information on this technique to get maximum fruitfulness during adverse climate condition is meagre.

MATERIALS AND METHODS

Four year old healthy vines having uniform growth and vigour of varieties Thompson seedless and Sharad seedless were selected for the experiment. These vines were trained on extended 'y' trellises. The experiment was laid in analysis of variance technique with four replications. Trees were planted with spacing 240 x 120 cm.

The treatment details studied in the experiment were

Cane pruning (April pruning), P₁ - Main cane pruning at 5th leaf, P₂ - Main cane pruning at 6th leaf, P₃ - Main cane pruning at 7th leaf, P₄ - Main cane pruning at 8th leaf, P₅ - Main cane pruning at 9th leaf and P₆ - Unpruned (Control)
(Note : Sub-cane was topped at 5th leaf in each treatment)

Cane pruning (October pruning)

(Note :- Sub-cane was topped at 2nd leaf in each treatment and in control treatment main cane was pruned at 12th leaf)

Pruning operations:

Vines selected for the experiment were pruned in March, 2006 for summer (foundation) pruning. The shoots emerged after April pruning. The cane was allowed to grow up to 5, 6, 7, 8 and 9 leaf and then topped. The sprouts canes on digital bud of their shoots were again topped at 5th leaf.

The vegetative growth obtained after this pruning was pruned in the month September for forward pruning. During the September pruning, the vines were pruned by retaining 2 buds on each sub-cane and in control treatment 12 buds retained on the main cane.

RESULTS AND DISCUSSION

The results of the present investigation as well as relevant discussion have been summarized under following heads:

Growth:

Bud burst:

The different severity of cane pruning had exhibited