

Studies on anthesis and dehiscence in different varieties of grape (*Vitis vinifera* L.)

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ABSTRACT

The present investigation was carried out at the Department of Horticulture, Marathwada Agricultural University, Parbhani. The anthesis and dehiscence studies were carried out in the Gulabi, Anab-e-Shahi, Bhokri and Bangalore Purple varieties of grape. Maximum period of anthesis was recorded between 7 to 8 am in all the varieties of grape. Gulabi recorded the highest per cent of anthesis (61.58%) and Anab-e-Shahi the lowest (48.64%) during the period from 7 to 8 am. Dehiscence occurred at the time of anthesis in the varieties Bangalore Purple, Anab-e-Shahi and Bhokri. In the case of Gulabi, dehiscence occurred little earlier than the detachment of corolla-lobe.

Key words : Anthesis, Dehiscence, Grape.

Grape occupies largest area among all fruit crops in the world. It is one of the important fruit crops grown in many states of India. There are several production problems concerning in the grape industry. These could be tackled successfully by following hybridization programme. Studies on anthesis and dehiscence are basic and important. Such studies in different varieties of grape were undertaken under Parbhani conditions at the Marathwada Agricultural University.

MATERIALS AND METHODS

Anthesis :

Time of anthesis was studied in four varieties of grapes namely, Bangalore Purple, Gulabi, Anab-e-Shahi and Bhokri. In each variety, three panicles were selected at random. The observations on anthesis were recorded at an interval of one hour. The flower was considered fully open when the corolla-lobes were detached from the receptacle or the corolla-cap had over-turned (whichever was earlier). Flowers when once opened were recorded and removed to avoid recounting. These observations were recorded regularly for five days.

Dehiscence :

Study of the time of anther dehiscence was made for a period of five days. Anthers of freshly opened flowers were examined with the help of hand lens. The process of anther dehiscence was considered to have begun when the yellow powdery substance began to appear on the anther-lobes and it was confirmed by

removing the pollen with camel hairbrush.

RESULTS AND DISCUSSION

Anthesis :

The number of flowers opened in four varieties were counted at hourly intervals and the data in this respect are presented in the Table 1.

It can be seen from the data that the anthesis was continued upto 4 pm. The maximum number of flowers were opened between 7 to 8 am in all the varieties. Gulabi recorded the highest per cent of anthesis (61.58 %) and Anab-e-Shahi lowest (48.64%) during the period from 7 to 8 am. After this period, the percentage of flower opening was sharply declined, so much so that very few flowers opened after 12 noon.

Dehiscence :

Studies on dehiscence of anthers were carried out on four varieties, namely Bangalore purple, Gulabi, Anab-e-Shahi and Bhokri. The dehiscence occurred at the time of anthesis in the varieties Bangalore Purple, Anab-e-Shahi and Bhokri. In the case of Gulabi, dehiscence occurred a little earlier than the detachment of corolla-lobe. Maximum anthesis was observed in between 7 and 8 am. The opening of flowers after 8 am sharply declined and very few flowers opened after 12 noon. Similar results have been reported by Randhawa and Negi (1965), Lingaraj (1965), Jawanda *et al.* (1965), Kanwar and Nauriyal (1969), Dogra (1973).

Some varietal differences in the time of anthesis were also noted. The proportion of anthesis between 7 to 8 am was highest (61.58 %) in Gulabi and lowest (48.64 %) in