

STUDY ON THE BEHAVIOR OF THE VICTORIA TABLE GRAPE VARIETY IN THE HINOVA VITICULTURAL AREA, MEHEDINTI COUNTY

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Abstract

This paper aims at studying the favorability of the cultivation of the 'Victoria' table grape variety in the Hinova viticultural area, Mehedinti County, in a non-irrigated system. The research was carried out in 2017. After determining the viability of the buds losses were found, so there were studied 3 different fruit loads to follow the number of buds started from the vegetation and to meet the number of shoots required for the study. Once this requirement has been fulfilled, the work of normalizing the inflorescences was carried out, taking into consideration 5 variants, namely: 6, 8, 10, 12, 14 inflorescences/vine. The evolution of these fruit variants was followed up until reaching the full maturity stage, with the harvesting of the grapes resulting in the deliverable production of each variant of the studied fruit load. The conclusion of this study is that Hinova viticultural area in Mehedinti County is favorable to the cultivation of the 'Victoria' vine variety in a non-irrigated system, only if a moderate fruit load is respected, thus obtaining quality grapes.

Key words: favorability, Hinova, table grapes, 'Victoria' variety, viticultural area

INTRODUCTION

Hinova viticulture area located in Mehedinti County enjoys a climate with Mediterranean influence, due to its proximity to the Danube, mild winters and dry summers (Gherasim et al., 1977).

This very important factor in the zoning of vine varieties allows the cultivation of table grape varieties in this area, who has been cultivated until 1989 with table grape varieties such as 'Perla de Csaba', 'Regina Viilor', 'Coarna alba', 'Coarna neagra', 'Chasselas doré', 'Chasselas rozé'. The table grape variety Victoria has special characteristics (precocity, size, weight, taste, appearance), being grown on large surfaces both in Romania and in countries with a tradition in the cultivation of table grape varieties: Italy, Greece, Spain, Turkey (Giugea et al., 2015)

The study of the behavior of the 'Victoria' table grape variety in the Hinova viticultural area in a non-irrigated system is a novelty for this area, since it has not been cultivated in the past, so it can be noticed what technological measures must be taken to obtain the best productions, both quantitatively and qualitatively.

MATERIALS AND METHODS

In order to study the favorability of the cultivation of the Victoria table grape variety in the Hinova viticultural area located in Mehedinti County, the following elements were studied: the viability of the winter buds in order to determine the type of winter pruning that had to be carried out, the number of winter buds to be assigned to the fruit elements (2 canes + 2 spurs), the number of buds started in vegetation, the number of inflorescences assigned to each vine, the determination of the weight of the harvested grapes.

This study was conducted during the year 2017.

RESULTS AND DISCUSSIONS

Knowing the viability of the winter buds is an important element in determining the number of winter buds to be attributed to the fruit elements, with the occasion of the winter pruning. It is done by cross-section with the blade by the buds during the rest period of the vines, once the danger of other losses due to low temperatures has passed. Once the viability check has been carried out, it has resulted a

percentage of loss of the main buds due to winter frost of 60%.



Figure 1. Cross section made with the blade through the bud complex

The type of winter pruning is double Guyot (2 woody shoots + 2 spurs) .



Figure 2. Guyot type pruning applied to the 'Victoria' vine

In order to study the number of buds that will start in vegetation and to meet the number of shoots with fruit necessary for the study, we have studied 3 different variants of loads, which will be attributed to the fruit elements during the winter pruning, and namely: 16 winter buds/grape vine divided into 2 canes x 6 winter buds + 2 spurs , 20 winter eyes/grape vines divided by 2 canes x 8 winter buds + 2 spurs, 24 winter buds/grape vines divided by 2 canes x 10 winter eyes + 2 spurs.

The number of buds started in vegetation as well as the number of inflorescences / grape vine for each studied variant are presented in Table 1:

Table 1. Load variants/vine

No. variant	No. winter buds	No. buds started in vegetation	No. inflorescences/vine
1	16	13	20
2	20	12	19
3	24	14	23

Analyzing the data presented in this table, we can conclude that from of all the variants taken in the study resulted a number of similar shoots, the same conclusion can be made in the case of the number of inflorescences distributed on each grape vine. Next, there are 5 variants of fruit loads taken in study, obtained by the work of normalization of the inflorescences: 6, 8, 10, 12, 14 inflorescences/grape vine.



Figure 3. Buds widening phenophase

The evolution of the 5 variants was followed during the vegetation period, of interest being the period of ripeness and the period of maturity of the grapes (Table 2).



Figure 4. Phenophase of 2-3 leaves



Figure 5. Blooming phenophase



Figure 6. Ripeness phenophase

Table 2. Ripeness/maturity date of grapes depending on the number of inflorescences left on the vine

No.inflorescences/vine	Ripeness starting date	Date of maturity
6	July 23-24	August 10
8	July 22-24	August 14
10	July 26-27	August 16
12	July 29-30	August 22
14	August 1-2	August 25

In Table 3 there are presented data showing the number of grapes harvested from the three variants taken into study as well as the total weight of grapes obtained/grape vine:

Table 3. Number of harvested grapes and weight/vine depending on the number of inflorescences left on the vine

No.inflorescences/vine	No. of harvested grapes	Total grape weight/ vine
6	6	4.2
8	8	5.4
10	9	4.9
12	9	4.6
14	4	1.4



Figure 7. 'Victoria' vine with a load of 12 grapes/vine

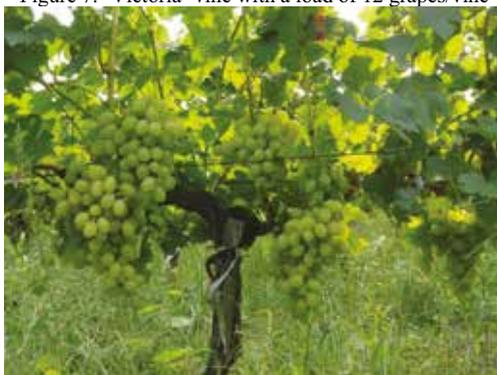


Figure 8. 'Victoria' vine with a load of 8 grapes/vine

CONCLUSIONS

This study highlights the fact that once the number of inflorescences / grapes on the grape vine increases, it increases also the date when the grapes reach maturity, and the number of grapes harvested from the grape vine decreases. It was noteworthy that the best results had the grape vines with a load of 8-10 grapes/vine. Also, it was observed that in the variants with fewer grapes/vine they were bigger and more compact, and in the variants with more grapes/vine they were smaller and less compact.

The conclusion of this study is that the Hinova viticultural area located in Mehedinti County is favorable to the cultivation of the 'Victoria' vine variety in a non-irrigated system, only if a moderate fruit load is respected, thus obtaining quality grapes.

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