# THE INFLUENCE OF SPECIAL GREEN WOOD OPERATIONS ON THE CHASSELAS DORE VARIETY

**Cheregi Viorel***

*University of Oradea, Faculty of Environmental Protection, 26 Gen. Magheru St., 410048, Oradea, Romania, e-mail: viotrel.cheregi54@gmail.com

***Abstract***

*Experience was organized in a vineyard in the town Biharea using the variety Chasselas Dore, planted at a distance of 2,2 / 1,2 m, semi high driven form, mixed cutting system, the Guyot cutting type on half stem (75 cm).*

*It watched the effect of certain operations in green sprouts and weeding rating for the number of grapes, the percentage of eyes turn in vegetation.*

*Experience included experimental versions with different loads attributed to cutting the eye in combination with weeding sprouts and standardization number of grapes.*

**Key words:** green, wood, chasselas dore, grapes,

## INTRODUCTION

The variety CHASSELAS DORE occupies the first place in the assortement of grapes, being cultivated in southern as well as in northern vineyards, because of its ecological plasticity.

The influece of its ecological plasticity is reflected in the area occupied with this variety, in different counties. In the Bihor County it occupies the largest area of the assortement of grapes.

In Biharea locality where this variety occupies significant areas and our experience was installed, the climate conditions are proper for its growth. These conditions allow this variety toaccumulate 180 g/l sugar and an acidity of 4,5 g/l $H_2SO_4$ at maturity. The grapes of this variety remain very long on the vine stock (3-4 weeks) allowing a gradual vintage.

The grapes have an agreeable taste, well balanced, with a semi-juicy pulp, have a specific, being ideal for consumption.

## MATERIAL AND METHODS

The research was carried out in a 12 years old plantation and lasted for 3 years (2011-2013).

The studied CHASSELAS DORE variety was grafted on the S04 stock and planted at a distance of 2,2/1,2 m., which realized a density of 3787 cuttings/ha.

The vine stocks were trained in a semi upright shape, mixed pruing system, and type of pruning Guyot on semi-trunk (75 cm.).

The experimental variants include different charges of eyes attributed for pruing combined with the weed of teh shoots and the normalization of teh grape clusters number.

$V_1$ - witness - 16 eyes/square meters, which means 42 eyes/vine stock;

$V_2$ - 16 eyes/square meters + the weed of the sterile shots;

$V_3$ - 16 eyes/square meters + the normalization of the grape clusters number;

$V_4$ - 16 eyes/square meters + the weed of the sterile shoots + the normalization of the grape clusters number;

$V_5$ - 18 eyes/square meters, wuich means 48 eyes/vine stock;

$V_6$ - 18 eyes/square meters, wuich means 48 eyes/vine stock;

$V_7$ - 18 eyes/square meters + the normalization of the grape clusters number;

$V_8$ - 18 eyes/square meters + the weed of the sterile shoots + the normalization of the grape clusters number;

$V_9$ - 20 eyes/square meters, which means 53 eyes/vine stock;

$V_{10}$ -20 eyes/square meters, which means 53 eyes/vine stock;

$V_{11}$ - 20 eyes/square meters + the normalization of the grape clusters number;

$V_{12}$ - 20 eyes/square meters + the weed of the sterile shoots + the normalization of the grape clusters number;

$V_{13}$ -22 eyes/square meters, which means 58 eyes/vine stock;

$V_{14}$ -22 eyes/square meters, which means 58 eyes/vine stock;

$V_{15}$ - 22 eyes/square meters + the normalization of the grape clusters number;

$V_{16}$ - 22 eyes/square meters + the weed of the sterile shoots + the normalization of the grape clusters number;

The weed of the shoots was executed after the appearance of the inflorescence when it was easy to make a difference between the sterile and fertile shoots.

The normalization of the grape clusters number was made after the blooming and forming of the grapes and was meant to keep a number of 32 clusters/vine stock of the best formed.

Each variant included three repetitions of 10 vine stocks each, the observation being made on a number of 480 vine stocks.

The field layout and the statistical - mathematically processing were made by blocks methode, the acquired data was submitted to analyses of variance.

**RESULTS AND DISCUSSION**

The number of eyes left on the vine stock after the dry pruning is very important because the number of clusters depends on it, and as a consequence, the vintage too.

After the analyses made in 2011-2013 (table no. 1), we see a clear difference regarding the percent of eyes burst to vegetation hits almost normal values, the mean being 90,9 %.

*Table 1*

THE PERCENT OF EYES BURST TO VEGETATION (2011 - 2013)

| VARIANT | PERCENT OF EYES BURST TO VEGETATION | | | | DIFFERENCE | |
|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | | |
| $V_1$- 16 eyes/$m^2$ (witness) | 93,21 | 81,91 | 72,41 | 82,51 | 100,0 | - |
| $V_2$ - 16 eyes / m + weed of sterile shoots | 92,34 | 80,26 | 72,20 | 81,60 | 98,9 | -0,91 |
| $V_3$ - 16 eyes / m + normalization of clusters number | 94,06 | 83,02 | 73,02 | 83,36 | 101,0 | + 0,85 |
| $V_4$ - 16 eyes / $m^2$ + weed + normalization | 93,82 | 82,10 | 73,40 | 83,10 | 100,7 | + 0,59 |
| $V_5$- 18 eyes/$m^2$ | 92,30 | 77,51 | 70,10 | 79,97 | 96,9 | -2,54 |
| $V_6$ - 18 eyes / m + weed of sterile shoots | 91,21 | 76,02 | 69,85 | 79,02 | 95,8 | -3,49 |
| $V_7$ - 18 eyes / m + normalization of clusters number | 93,02 | 78,12 | 70,30 | 80,48 | 97,5 | -2,03 |
| $V_8$ - 18 eyes / m + weed + normalization | 92,50 | 77,70 | 69,94 | 80,04 | 97,0 | -2,47 |
| $V_9$ - 20 eyes / $m^2$ | 90,34 | 75,92 | 67,50 | 77,92 | 94,4 | -4,59 |
| $V_{10}$ - 20 eyes / m + weed of sterile shoots | 92,81 | 74,30 | 66,34 | 77,81 | 94,3 | -4,70 |
| $V_{11}$ - 20 eyes / $m^2$ + normalization of clusters number | 90,52 | 76,31 | 67,62 | 78,15 | 94,7 | -4,36 |
| $V_{12}$ - 20 eyes / $m^2$ + weed + normalization | 88,08 | 76,09 | 67,80 | 77,32 | 93,7 | -5,19 |
| $V_{13}$ - 22 eyes / $m^2$ | 87,26 | 74,25 | 65,82 | 75,77 | 91,8 | -6,74 |
| $V_{14}$ - 22 eyes / m + weed of sterile shoots | 87,21 | 73,02 | 64,38 | 74,87 | 90,7 | -7,64 |
| $V_{15}$ - 22 eyes / m + normalization of clusters number | 88,30 | 74,60 | 66,04 | 76,31 | 92,5 | -6,20 |
| $V_{16}$ - 22 eyes / $m^2$ + weed + normalization | 87,40 | 73,87 | 65,91 | 75,75 | 91,8 | -6,76 |
| AVERAGE | 90,90 | 77,18 | 68,91 | 79,00 | 95,7 | |

Comparing the year 2011 with 2012, when the percent of eyes burst to vegetation hits the mean 77,18 %, we see that these values are situated at an intermediary level, the burst to vegetation being lower than in 2011 as a consequence of early spring drought.

In 2013 we noticed the lowest percent of eyes burst to vegetation, the mean being 68,91 % because of the January frost.

Comparing among variants in 2011, the differences among these are reduced, the percent of eyes burst to vegetation being reduced while the number of the eyes left out of pruing grows, from 94,06 % at variant $V_3$ to 87,21 % at variant $V_{14}$.

Also the differences among variants with the same charge of eyes with or without the application of green-wood operations are reduced a higher percent being noticed at variants where the normalization or the combined with the weed of sterile shoots was applied.

In 2012 the differences among variants are higher, from 83,02 % at variant $V_3$ 78,02 % at variant $V_{14}$.

In 2013 the differences among variants are lower, the best burst to vegetation of eyes being noticed at the variant where a charge of 16 eyes / square meters was left followed the application of green - wood operations (weed + normalization).

The percent of eyes bust to vegetation, except $V_1$= 16 eyes / square meters (M+) are not statistically assured at the other variants.

**CONCLUSIONS**

The application of greed - wood operations and especially of the weed of the sterile shoots combined with the normalization of grape clusters number leads to an improvement of vintage quality and assured better conditions for making a difference among the buds for next year.

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