Researches Regarding the *Eutypa Lata* Lignicole Fungus Manifestation in Vineyards from Blaj Wine Centre

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Abstract. The responses of vine to the eutipoze attack were analyzed, depending on the age of the plantation. Of the four varieties studied, regardless of the plantation age, the lowest degree of attack was registered at 'Fetească regală' (7.0%) and 'Sauvignon blanc' (7.3%), the differences between being insignificant. The results confirm the data from the literature according to which the eutipoză is more widespread in plantations for over 10 years.

Keywords: *Eutypa Lata*, lignicole pathogen, vines.

Introduction. *Eutypa lata* attack a number of over 80 plant species belonging to 27 botanical families in temperate and Mediterranean area. The most common hosts are apricot, peach, plum, apple, vine, currant, gooseberry, etc. (Tomoiață *et al.*, 2007). It is a well known species in terms of spreading and virulence of the attack (Stoica and Ulea, 2004) and plays an important role in biological decline at vine. The eutipoză symptoms appear at a distance of 3-8 years after infection of the vine (Comșa, 2014).

Aims and objectives. The research aims to assess the response of vine to the eutipoze attack, depending on the age of the plantation (young plantation – 6 years and old plantation – over 25 years).

Materials and methods. The experiments were conducted in vineyards of SCDVV Blaj on

varieties 'Fetească regală', 'Fetească albă', 'Sauvignon blanc' and 'Muscat Ottonel'. For assessing the way of the vine block reaction to eutipoză were placed two experimental plots (with the same varieties), in the vine plantations with different ages. On vines were conducted observations and measurements of the frequency and intensity of eutipoze attacks. For this purpose in 2012, were included in the study both the young vineyards in the age of 6 years and vineyards over 25 years.

Results and Discussion.

The two factors taken in the study (age of plantation and the variety) as well as their interaction have a very significant influence on the attack caused by *Eutypa lata* (Tab. 1). The greatest influence was exercised by the age of plantation ($F_{\text{calc}} = 1751.61 > F_{\text{teor}} = 8.86$), this influence being very significant.

Tab. 1. Analysis of variance for the attack degree (%) of *Eutypa lata* pathogen in bifactorial experience type A x B (SCDVV Blaj, 2012)

Source of variation	SS	DF	s ²	F Test	
				Versus s ² _{A x B}	
Total	1987.1	23			
Replications	0.5	2			
A (Variety)	249.2	3	83.1	95.70	> 3.34; 5.56
B (The plantation age)	1520.0	1	1520.0	1751.61	> 4.60; 8.86
A x B	205.2	3	68.4	78.83	> 3.34; 5.56
Error	12.1	14	0.868		

Tab. 2. The effects of experimental factors and their interaction in Variety x Age of plantation experience, regarding the attack degree (%) of *Eutypa lata* pathogen, at SCDVV Blaj in 2012

Variety	The plantation age		Average per variety
	6 years	over 25 years	
Fetească regală	1.0 a	12.9 b	7.0 A
Fetească albă	1.4 a	16.0 c	8.7 B
Muscat Ottonel	2.0 a	27.9 d	15.0 C
Sauvignon blanc	1.6 a	13.0 b	7.3 A
Average per age of plantation	1.5 M	17.4 N	

DS 5% for two age plantation means = 0.8 %

DS 5 % for two variants means = 1.2 %

DS 5 % for two variants x age plantation means =1.6– 1.8 %

Note: Difference between two values followed by at least one common point is insignificant.

Analyzing the attack degree, regardless of the varieties included in the study (Tab. 2), this has registered in young plantation a much lower value (1.5%) compared with that recorded in older plantations (18%).

Of the four varieties studied, regardless of the plantation age, the lowest degree of attack was registered at 'Fetească regală' (7.0%) and 'Sauvignon blanc' (7.3%), the differences between being insignificant. At a significant distance from them stood the 'Fetească albă' for this variety the attack degree caused by the pathogen *Eutypa lata* being 8.7%.

The highest value of the attack degree was recorded at 'Muscat Ottonel', of 15%, this variety, under condition of Blaj wine center, showing an adequate sensitivity quite high to the destructive action of this lignicol pathogen.

Between the eight experimental versions resulting from the factors interaction (age of plantation x variety), the all four varieties from young plantation stand out with low values (below 2%) of the attack degree of pathogen *Eutypa lata*, this values being equal from statistic point of view.

At significant difference of these older plantations is classified: 'Fetească regală' (12.9% GA) and 'Sauvignon blanc' (13.0%). In contrast, the highest value of the attack was recorded in old

plantation, at 'Muscat Ottonel', this variety having a value of 27.9% GA.

Conclusion. The results confirm the data from the literature according to which the eutipzoa is more widespread in plantations for over 10 years (Tomoiață *et al.*, 2007, Oprea and Dumitru, 1988, Duthie *et al.*, 1991). This does not necessarily mean that young plantations are less susceptible to attack of *Eutypa lata*, the absence of symptoms is due to the slow evolution of the pathogen in grapevine wood.

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