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FACTS REGARDING *STIGMINA CARPOPHILA* IN *PRUNUS* SP. ORCHARDS FROM WESTERTN PART OF ROMANIA

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Abstract: *During the last five years, one of the targets of our research work from the area of South-Western part of Romania was to determine the most important diseases sources for maintaining their infectious pressure the diseases of plum trees from a very favorable area as there are the western part of Romania. Also, it is an attempt to see the dynamics of those pathogens. It is our duty to show from the very beginning that this paper contain data from last five years of research and this is the reason why data statistic interpretation could suffer dramatic changes in the near future, after we bring more observations data for statistic analyze. On the plum orchards, Stigmina carpophila is one of the pathogens which take it's share from the leafs of plum trees and so it take a part of the plum crop. Never the less the pathogen produce a premature aging of the trees by reducing each ear the plum trees vigor. As an active measure to prevent this pathogen to produce damage to the trees and plum harvest it is necessary to apply some treatments after a premade plan of trees protection measure. But all these measures bring a higher cost to the harvest and also some pollution by using some fungicides. To reduce the number of treatments it is sometimes useful to know the infetios preasure of the pathogens which are the target of the phytosanitary plan of actions.*

• Introduction

As it is clear at this moment, the pathogen name is *Stigmina carpophila* (Lév.) M.B. Ellis but it is known also in other research and literature materials as *Corineum beijerinkii* (www.mycobank.org). This pathogen produces the shot hole disease on the major species of stone fruit trees plum trees, cherry trees, apricot and peach trees (Hickman, G.W. 2001; Kirk, P.M. 1999; Kotte, W. 1941;). The disease is easy to be identified on the field (Larsen, H., 1999) and in the laboratory (Adaskaveg, J.E. 1995; Ellis, M.B., Adaskaveg, J.E., et al. 1990; Ellis, J.P. 1997). The spore source of the infection is not just inside of the orchard but it comes also from isolated or groups of stone fruit trees, which are on different locations nearby the orchards (Kafi, A., Rizvi, M.K. 1971). In addition, it could come from some tree species from spontaneous areas, as there are the almond trees in the mountain regions because it proves that almond trees are an excellent host for *Stigmina carpophilla* fungus (Adaskaveg, J.E. 1995: Evans, K., et al. 2008; Shaw, D.A., 1990.)

• Material and method

To evaluate the infection capacity of the fungus *Stigmina carpophila* we performed measurements of the frequency and intensity of the pathogen in the identified plum populations. Based on the measurements, the degree of attack of the pathogen was calculated as a synthetic indicator of the evolution of the infectious capacity. It is also easy to see which are the sensitive points of the agent's resistance.

• Results and discussions

The attack rate has very low values due exclusively to the low values of the attack intensity. It can also be observed that in combination, attack frequency and 5). This can also be seen from the lack of differences that exceed the significance limiintensity have the effect of reducing the differences between populations (table t in the case of populations

Fungus *Stigmina carpophila* attack degree on observed populations

Factorul A Populations	Factorul B Year	Repetition 1	Repetition 2	Repetition 3	Average of factor A	Differences	Significance
Population of Carasova	2020	2.3	5.5	9.8	3.1	-0.9	-
	2021	1.5	1.8	4.0			
	2022	0.2	1.3	1.3			
Population of Anina	2020	5.0	8.3	17.5	5.6	1.6	-
	2021	1.5	3.5	8.3			
	2022	1.0	1.5	3.5			
Population of Sasca	2020	2.0	7.5	8.3	3.3	-0.7	-
	2021	1.3	3.0	5.3			
	2022	0.2	1.0	1.3			
Populations averages	2020	3.1	7.1	11.8	4.0	Control	-
	2021	1.4	2.8	5.8			
	2022	0.5	1.3	2.0			

Fungus *Stigmina carpophila* attack degree between 2020-2022

Factorul B - year	2020	2021	2022	Average
Averages	7.3	3.3	1.2	4.0
Differences	3.4	-0.6	-2.7	Control
Significance	*	-	○	-

• Conclusions

- The degree of attack, as a synthetic index of the frequency and intensity of the attack, shows after statistical calculation the fact that there really is no specific population with sensitivity to the pathogen
- Among the three years, the best for the development of the pathogen attack was 2020, and the most unfavorable was 2020, this being due exclusively to the rainfall regime of the three years.