



COMBATING THE *POLYSTIGMA RUBRUM* FUNGUS IN PLUM PLANTATIONS BY APPLYING INNOVATIVE FUNGICIDES.

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Abstract: This paper presents the results of testing new remedies for control using fungicides with rapid uptake in plants against the obligate parasitic pathogen *Polystigam rubrum* that causes red spot on plum leaves. The action of phytosanitary products, Signum, Folpan 80 WDG, Bellis, Amistar, Score EC was investigated in terms of their effectiveness, comparing those with a single active substance and those with two active substances, the results obtained being without obvious differences in terms of their effectiveness, which was their recommendation in the integrated management of plum protection. Amistar and Bellis fungicides are part of the strobilurin category with systemic and contact action at the same time, being the most recommended in plum protection against the fungus *Polystigam rubrum* because they have immediate action upon the appearance of the disease and then later during the vegetation period of the trees

• Introduction

Phytopathogenic microorganisms, in contact with host plants, cause disruption of the functional balance and determine a decrease in the amount of organic substances accumulated through photosynthesis. Overall, cultivated plants show a higher sensitivity to disease attack compared to their wild relatives, because they are forced to develop in monoculture conditions (Wyczling, et al. 2010). Currently, obtaining major productions cannot be conceived without the use of appropriate protection methods, which must include legislative and phytosanitary quarantine measures - measures regarding the improvement and cultivation of more resistant varieties, measures regarding cultural hygiene, physical-mechanical methods and means; agrophytotechnical measures, biological method, forecasting and warning measures, and in strictly necessary cases chemical control.



• Material and method

- The experiment was set up in the spring of 2025, using the Latin rectangle method. Each experimental variant included four repetitions, and the plots for each repetition had dimensions of 25 x 2 m (50 m²).
- In order to avoid overlapping of the working solution between the experimental variants, the plots were separated by paths. Each experimental variant and repetition was identified by plates installed in front of the respective plots, on which their numbers were indicated.
- Three treatments were carried out: the first on May 19, 2025, the second on June 4 and the third on June 25, 2025. The treatment of the plants was carried out using a portable sprinkler, in windless hourly intervals, to ensure uniform application of the solution.
- Phenological observations and evidence surveys were carried out periodically, before and after the application of chemical treatments.

• Results and discussions

- Results of the biological effectiveness of new phytosanitary products against the fungus *Polystigma rubrum*.

The fungicide applied (active substance)	Spectrum of action	Doza conc.	F%	I%	E%
SIGNUM (boscalid 26% + piroclostrobin 7%)	Contact-sistemic	0,5 kg/h	13,9	3,6	90,1
FOLPAN 80 WDG (folpet80%)	contact	0,2%	9,4	5,3	88,2
BELLIS (boscalid 250g/kg+piroclostrobin 128g/ha)	Contact-sistemic	0,2%	7,5	4,8	91,1
AMISTAR (azoxistrobin)	Contact-sistemic	1l/ha	6,8	3,0	95,2
SCORE 250 EC (difenoconazol 250g/l)	sistemic	0,2%	11,5	4,2	90,8
Martor netrarat		-	30,6	50,3	-

• Conclusions

- The *Polystigma r.* fungus had evolutionary conditions since April, when the projection of ascospores was triggered, the phase that corresponds phenologically to the white button phenophase.
- The triggering of the projection of ascospores also occurred as a secondary infection during the flowering period - the beginning of the shaking of the petals.
- Fungus control must be done on a timely basis based on the study of a complex of factors that include the biology of the fungus, climatic conditions, phenology and age of the plants.
- The annual appearance of the pathogen leads to accelerated defoliation of the tree trunks, which results in premature aging of the trees.
- The pathogen is not dangerous through direct damage, as it can be controlled through minimally applied treatment programs, but it is dangerous because it leads to the sensitization of the plant to unfavorable climatic conditions through frostbite of the tree trunks, defoliation and their drying over the winter.

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