

TESTS OF SOME FUNGICIDES USED FOR GRAPE VINE GRAY MOLD CONTROL, IN S.D.E. “V. ADAMACHI” IAȘI CONDITIONS

TESTAREA UNOR FUNGICIDE UTILIZATE ÎN COMBATEREA PUTREGAIULUI CENUȘIU AL VIȚEI DE VIE, ÎN CONDIȚIILE S.D.E. “V. ADAMACHI” IAȘI

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***Abstract.** Against grape vine gray mold has been elaborated different combat plans of this one. Most researchers discovered that the treatments had the highest efficiency when were applied in the next phenological moments: to the flower shake-up; to the grape compaction and to the grape greenness stadium. To accomplish the experiences contained in this paper, we attend to the phenological phases of Fetească regală genus, following the optimization of the treatments plan, applied against grape vine gray mold. In the paper are presented 3 new treatments plan, starting with the basic plan which included 3 treatments and continued with a cyclic elimination of treatments in every phenological moment.*

***Rezumat.** Împotriva putregaiului cenușiu al viței de vie, au fost elaborate diferite scheme de combatere a acestuia. Cei mai mulți cercetători au constatat că tratamentele au avut eficiența cea mai ridicată atunci când s-au aplicat în următoarele momente fenologice: la scuturarea florilor; la compactarea strugurilor; și la intrarea în părgă a strugurilor. La realizarea experiențelor cuprinse în această lucrare, s-a ținut cont de fazele fenologice ale soiului Fetească regală, urmărind optimizarea schemei de tratamente, aplicate împotriva putregaiului cenușiu al viței de vie. În cadrul lucrării sunt prezentate 3 scheme noi de tratamente, plecând de la schema de bază cu 3 tratamente și eliminând succesiv câte un tratament în fiecare moment fenologic.*

MATERIAL AND METHOD

The experiences established in 2007 followed two factors, being placed using “aleatory blocks” methods. The followed factors were: the moment when the treatments were applied and the fungicides used. Every experience contained 80 vines grouped in 4 variants each of them with 4 repetitions. In the experiences were used 4 fungicides: Teldor 500 SC (A1), Topsin 70 PU (A2), Dithane M-45 (A3), and Carbendazim 500 SC (A4). The fungicides were used successively in the experiences so that all fungicides could be applied in every variant and phenologic moment.

Every experience contained 80 vines grouped in 4 variants (V1, V2, V3, V4), each of them with 4 repetitions (R1, R2, R3, R4).

Every variant contained 5 vines totalized 20 vines per variant for each experience.

Inside of the 4 repetition from first experience, at the first moment T_1 (when the flower shake-up), the fungicides were used in this way: A_1 fungicide was applied in V_1 variant, A_2 in V_4 , A_3 in V_3 and A_4 in V_2 .

The second moment T_2 (to the grape compaction), A_1 fungicide was applied in V_2 variant, A_2 in V_1 , A_3 in V_4 and A_4 in V_3 .

The third moment T_3 (to the grape greenness stadium), A_1 in V_3 , A_2 in V_2 , A_3 in V_1 and A_4 in V_4 .

RESULTS AND DISCUSSIONS

From the 4 used fungicides in the experiences the most expensive was Teldor 500 SC product and the cheaper was Dithane M_{45} product.

References prices of the tested products were the products presented by Alcedo firm in *Technical and financial offer for phyto-sanitary products, fertilizers and seeds – 2007*.

Table 1

The cost and quantity of fungicides used in experiences in 2007 year

The fungicide	The price (lei/l)	The quantity used at one treatment	The total quantity used - kg./l	Total cost of the treatments in the 4 experiences (lei)	The price (lei / ha)
A₁ -Teldor 500 SC	191	0,02	0,18	34,38	191
A₂ -Topsin 70 PU	50	0,024	0,22	10,80	60
A₃ -Dithane M-45	19	0,04	0,36	6,84	38
A₄ -Carbendazim 500 SC	43	0,03	0,27	11,61	64,5

Forward we will calculate the economically efficiency of the tested products using burden method, correlated with the attack level produced by *Botryotinia fuckeliana* fungus.

Analyzing the result regarding the obtained productions in the experiences (fig. no. 1), we observed that the highest production spore was obtained in 3 and 4 variants, inside of 3 from 4 analyzed experiences.

Because of the climatic conditions existent in 2007 year summer (excessive drought conditions), gray mold disease doesn't develop until the grapes maturation. In those conditions the most important moment for treatments to be applied against gray mold and in the same time the most relevant to establish the efficiency in field of the used substances, become T_3 . At the T_3 moment, in 3 and 4 variant we applied Teldor 500 SC and Carbendazim 500 SC fungicides.

Besides the anterior presented situation, where the economically efficiency of fungicides was presented reported to the production level obtained, to establish the economical efficiency we also count on the attack level produced by the pathogenic agent *Botryotinia fuckeliana* (fig. no. 2).

Because of the existent climatic conditions from 2007 year summer, the pathogenic agent has develop lately (to the grapes maturation) acting mostly like a noble mold.

It is new the fact that noble mold can determinate a quantitative reducing of productions till 40%. So can be explained the fact that the production obtained in some variants where was registered a highest attack level was smaller. The variants where was registered the lowest attack level were 3 and 4 variants.

Analyzing the obtained productions and also the attack level in the four experiences, we can conclude that the most efficient tested fungicides are Teldor 500 SC and Carbendazim 500 SC.

Between that two, Teldor 500 SC fungicide presented the highest efficiency, but the approximately 3 percents differences compared with Carbendazim 500 SC doesn't justify the highest price of Teldor 500 SC fungicide.

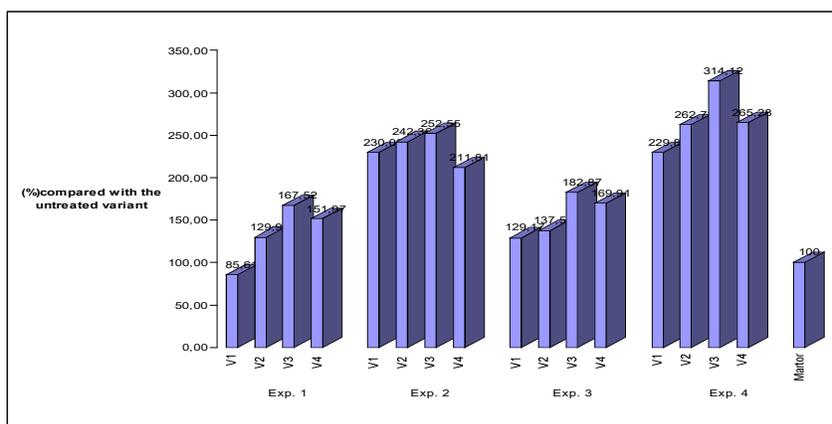


Fig. 1 – The obtained productions in the experimental variants (%)

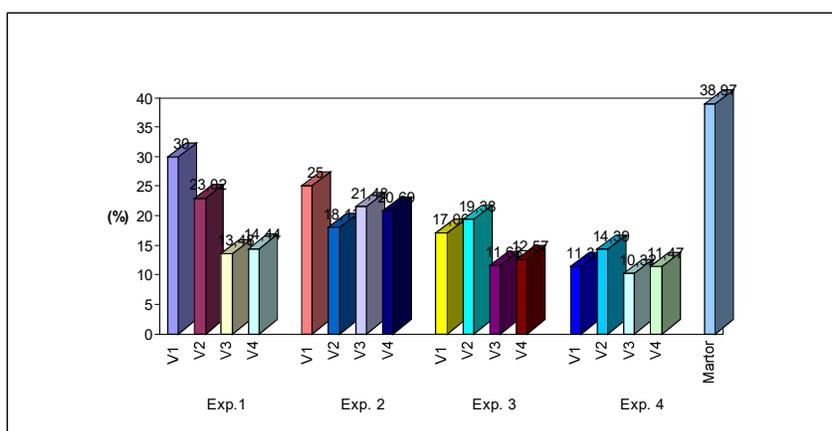


Fig. 2 - The attack level registered in the experimental variants (%)

CONCLUSIONS

Corroborating all the factors involved in the experiences development, we can concluded:

- because of the existent climatic conditions from 2007 year summer, the pathogenic agent has developed lately (to the grapes maturation) acting mostly like a noble mold, so even that treatments were made at the 3 phenological moments, were efficient only the treatments applied at T₃ moment (*the grape greenness stadium*).

- Teldor 500 SC fungicide presented the highest efficiency, but the approximately 3 percents differences compared with Carbendazim 500 SC doesn't justify the highest price of Teldor 500 SC fungicide

- between the tested fungicides from experiences in 2006-2007 agricol year, the highest economically efficiency in gray mold control was manifested by Carbendazim 500 SC fungicide.

REFERENCES

1. Baicu T., 1980 – *Testarea pesticidelor*, vol. VI. Editura Ceres, București;
2. Baicu T., 1986 – *Testarea pesticidelor*, vol. IX. Editura Ceres, București;
3. Baicu T., 1988 – *Testarea pesticidelor*, vol. X. Editura Ceres, București;
4. Baicu T., 1996 – *Testarea mijloacelor de protecție a plantelor*, vol. XIII. Editura Ceres, București;
5. Baicu T., Săvescu A., 1986 – *Sisteme de combatere integrată a bolilor și dăunătorilor pe culturi*. Editura Ceres București;
6. Drobotă I., 2007 - *Rezultate privind combaterea chimică și biologică a agentului patogen Botryotinia fuckeliana*. Iași;
7. Sandu-Ville C., Lazar A., Hatman M., 1960 - *Contribuții noi la cunoașterea biologiei și combaterii ciupercii Botryotinia fuckeliana (De Bary) Wetzel, parazită pe vița de vie*. Studii și Cercetări Științifice – Biologie și Științe Agricole, Editura Academiei R.P.R., Editura Agro-Silvică Iași;