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DEVELOPMENT OF AN IMPROVED TECHNOLOGY TO INCREASE PRODUCTION EFFICIENCY IN THE SERICULTURE FARM

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Abstract:

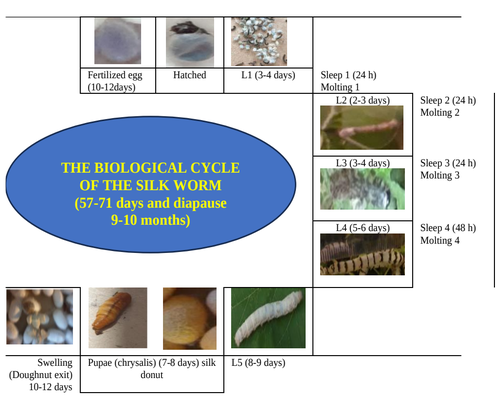
The development of an optimized technology is the main objective of this study. At the same time, the concept of "Pharma-Farming" is being explored, which promotes an integrated and sustainable approach in the management of sericulture farms by integrating sericulture and moriculture products and by-products into the pharmaceutical production chain, contributing to the creation of an additional source of raw materials and promoting a circular and sustainable economy. This research is carried out in a collaboration between three partners with expertise in the field of sericulture to successfully address the development and implementation of the technology in different areas of Romania.

- **Introduction**

The technology of rearing silkworms differs depending on the stage of development in the biological cycle (eggs, larvae, chrysalis, adult).

- **Material and method**

In the 2023 sericulture season, at the Sericulture Research Station in Băneasa, Bucharest, investigations were carried out in order to improve a technology aimed at increasing the efficiency of a sericulture farm, in collaboration with partners from USAMV Cluj and USAMV Timișoara.



- **Results and discussions**

The RG 90 breed, used in combination with improved technology, presents additional characteristics and advantages in terms of production efficiency and quality. The use of improved technology can positively influence egg, larva, silk fiber characters, bringing improvements in silk fiber uniformity, yield and quality.

No. crt.	Characters	U.M.	Value
1.	Average prolificacy	No. eggs/laying	540
2.	Hatching percentage	%	92,30
3.	Size of the egg: length/width	mm	1,6/1,2
4.	Hatched egg's colour	-	Grey-green
5.	Chorion's colour	-	yellow

No. crt.	Characters	U.M.	Value
1.	The length of the mature larva	cm	7,0
2.	Weight of the mature larva	g	5,5
3.	Larval period	days	30
4.	Larval viability	%	90,76
5.	Moulting	No.	4
6.	Larval signs	-	The integument has transverse brown stripes, giving the larva a zebra-like appearance

No. crt.	Characters	U.M.	Value
1	Cocoon yield / 10.000 larvae	Kg	14,53
2	Raw cocoon weight	g	♀ 2,240 ♂ 1,969
3	Shell cocoon weight	g	♀ 0,434 ♂ 0,437
4	Silk content	%	♀ 19,38 ♂ 22,19
5	Raw silk	%	38,62
6	Reeling percentage	%	83,72
7	Longitudinal axis	cm	3,88
8	Transversal axis	cm	1,72
9	Dry cocoon weight	g	0,945
10	Lungimea fibrei	m	1194
11	Filament weight	g	0,365
12	Filament size	d	2,75

- **Conclusions**

The implementation of improved technology can represent a significant change in the way sericulture farms can be managed and play a crucial role in increasing efficiency and competitiveness in this industry.

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