

BIOGRAPHY



My name is Alexander Milovanov, I have a PhD in biology and now I work as a post-doc at the Comenius University. The project I work on is dedicated to the study of the wheat resistance to the powdery mildew. I applied to the SASPRO 2 fellowship because it is giving an outstanding opportunity both to the scientific and personal growth which are important for me. I believe my good knowledge and experience in plant genetics will help me to reach the aim of this promising and important for the future development of plant selection project.

ALEXANDER MILOVANOV

Faculty of Natural Sciences
Comenius University

Project number
3339/03/02

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PROJECT SUMMARY

Study of powdery mildew resistance genes on wheat

Wheat is one of the main worldwide field crops that produce food for the World's human population. One of the most important problems of wheat agronomic technology is the diseases. And the most common disease is powdery mildew. Hybridization is one of the ways to expand the diversity of common wheat for resistance genes to fungal diseases, while in recent years the attention of researchers has been drawn to attracting both cultivated and wild relatives as sources of effective immunity genes.

Team of the CARPATHIA project (named: "Cloning of genes conferring total resistance to powdery mildew on wheat", hosted at Comenius University) has a genetic resource from the domesticated tetraploid wheat *Triticum dicoccum* Schrank ex Schübl. for which no powdery mildew isolate has yet been found to attack it. It is resistant to powdery mildew both in the juvenile stage of plant development and in the later mature stages. This *Triticum* ecotype was found in Slovakia in the foothills and for this reason it was called as "Carpathian resistance". It is likely that the combination of two genes (in chromosomes 2A and 7A) provides complete resistance. Thus, the presented project aimed to study the genetic basis and structure of the powdery mildew resistance genes in chromosomes 2A and 7A in different plant lines and genotypes.



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PUBLICATIONS

Smirnova, E., Savenkova, D., Milovanov, A., Zvyagin, A., Smirnova, E., Repko, N., & Troshin, L. (2022). Genetic relationship of the winter barley varieties assessed by the inter-Primer Binding Site (iPBS) DNA profiling method. *Journal of Crop Improvement*, 36(3), 400-421.

<https://www.tandfonline.com/doi/abs/10.1080/15427528.2021.1973171>

Garkovenko, A. V., Vasilyev, I. Y., Il'nitskaya, E. V., Radchenko, V. V., Asaturova, A. M., Kozitsyn, A. E., & Shternshis, M. V. (2020). Draft genome sequence of *Bacillus velezensis* BZR 336g, a plant growth-promoting antifungal biocontrol agent isolated from winter wheat. *Microbiology Resource Announcements*, 9(30), e00450-20.

<https://journals.asm.org/doi/full/10.1128/MRA.00450-20>

Milovanov, A. V., Il'nitskaya, E. T., Radchenko, V. V., Garkovenko, A. V., Zvyagin, A. S., Troshin, L. P., & Koshchaev, A. G. (2020). Comparative analysis of the VvMybA1 locus allelic state in some indigenous and introductant grapevine varieties. *Agricultural Biology*.

<http://agrobiology.ru/articles/3-2020milovanov-eng.pdf>

Milovanov, A. V., Tello, J., Anhalt, U. C. M., & Forneck, A. (2019). Truncated Non-Nuclear Transposable Elements in Grapevine: A Mini Review. *Scientia Agriculturae Bohemica*, 50(4), 219-227.

https://www.researchgate.net/publication/338296507_Truncated_Non-Nuclear_Transposable_Elements_in_Grapevine_A_Mini_Review

Milovanov, A., Zvyagin, A., Daniyarov, A., Kalendar, R., & Troshin, L. (2019). Genetic analysis of the grapevine genotypes of the Russian *Vitis* ampelographic collection using iPBS markers. *Genetica*, 147(1), 91-101.

<https://link.springer.com/article/10.1007/s10709-019-00055-5>