

Ministry of Science and Higher Education of the Russian Federation
Federal Research Center
the N.I. Vavilov All-Russian Institute of Plant Genetic Resources (VIR)



**ALL-RUSSIAN
SCIENTIFIC AND PRACTICAL CONFERENCE
POTENTIAL OF PLANT GENETIC RESOURCES
IN THE REPUBLIC OF DAGESTAN:
CONTRIBUTION TO FOOD
SECURITY OF RUSSIA**

**proceedings of the conference dedicated to the 90th anniversary of the
Dagestan Experiment Station – branch of VIR**

Derbent, April 28–29, 2025

St. Petersburg
2025

UDC 575:631.52:633/635:338.439(470.67)(063)

All-Russian Scientific and Practical Conference *Potential of Plant Genetic Resources in the Republic of Dagestan: Contribution to Food Security of Russia*: proceedings of the conference dedicated to the 90th anniversary of the Dagestan Experiment Station – branch of VIR, Derbent, April 28–29, 2025 : scientific online edition / Yu. V. Ukhatova (chief ed.) ; K. U. Kurkiev (ed.) ; N.I. Vavilov All-Russian Institute of Plant Genetic Resources. – St. Petersburg : VIR, 2025. – 62 p. : tab., ill.

ISBN 978-5-907780-28-6

The proceedings of the All-Russian Scientific and Practical Conference *Potential of Plant Genetic Resources in the Republic of Dagestan: Contribution to Food Security of Russia* are presented. The conference, dedicated to the 90th anniversary of the establishment of the Dagestan Experiment Station – branch of VIR, was held in Derbent (Republic of Dagestan) on April 28–29, 2025 (hereinafter referred to as the Event/Conference).

The Event consisted of two sections: *Plant Genetic Resources and Breeding* and *The Role of Modern Agricultural Biotechnology in Agricultural Development*.

The Conference brought together leading scientists and experts from Russia's largest scientific and plant breeding centers, and directors of VIR's regional branches. The ceremonial session (April 29, 2025) was attended by E. K. Khlestkina, Director of VIR, A. N. Aliyeva, Chairperson of the Committee on Agrarian Issues, Nature Management, Ecology, and Environmental Protection of the People's Assembly of the Republic of Dagestan, and Sh. I. Sharipov, First Deputy Minister of Agriculture and Food of the Republic of Dagestan.

Addressed to a wide range of researchers and experts in the sphere of biology and agriculture, including undergraduate and postgraduate students, and young scientists.

The conference proceedings have been prepared in the framework of implementing the Development Program of the National Center for Plant Genetic Resources.

The authors (coauthors) of the published materials are responsible for the impartiality and reliability of the data presented. The proceedings are published in the authors' original versions.

The Conference's website: <https://www.vir.nw.ru/blog/2025/04/02/90-let-dosv/>

UDC 575:631.52:633/635:338.439(470.67)(063)

ISBN 978-5-907780-28-6
DOI 10.30901/978-5-907780-28-6

© Federal Research Center
the N.I. Vavilov All-Russian Institute
of Plant Genetic Resources (VIR), 2025
© Authors of the articles, 2025
© E.A. Charushina-Kapustina, cover design, 2025

CONTENTS

Khlestkina E.K. Welcome speech	7
Ukhatova Yu.V., Kurkiev K.U. Welcome address	8
Abdulaeva U.A., Batasheva B.A. Spectrophotometric analysis of photosynthetic pigments in barley and spelt accessions	10
Agahanov A.H., Saidova S.B. Analyzing and studying sources of characteristics valuable for breeding among hybrid forms of grapevine	13
Aydemirova Z.S., Vodeneev V.A., Gromova E.N. Field phenotyping using an unmanned aerial vehicle at the Dagestan Experiment Station	15
Batasheva B.A., Kovaleva O.N. Promising trends of barley breeding in Dagestan	17
Belousova M.H., Chikida N.N. Spontaneous <i>Aegilops</i> –wheat hybrids	20
Gadzhimustapayeva E.G. Influence of climatic conditions on morphobiological features of broccoli	23
Gadzhimustapayeva E.G., Abdullaev K.M. Leek is a winter vegetable	27
Gadzhimustapayeva E.G. Early pests on <i>Brassica</i> crops in Derbent District of Dagestan	29
Zuev E.V., Brykova A.N., Lyapunova O.A., Lysenko N.S., Dementiev A.V., Shikhmuradov A.Z. Dagestan wheat in the VIR collection	32
Zuev E.V., Brykova A.N., Shikhmuradov A.Z., Akhmedov M.A., Chekurova S.S. Spring bread wheat accessions resistant to yellow rust under the Dagestan conditions	35
Israfilova S.F. Vetch is a valuable forage plant	37
Kafarova N.M., Saidov B.M. Gene pools of subtropical fruit and berry crops in southern Dagestan	40
Kurkiev U.K. Evaluation of the latest winter triticale cultivars according to their traits valuable for breeding under irrigation conditions	42
Kurkiev U.K., Gadjimagedova M.Kh. Genetic potential of VIR’s worldwide triticale collection at the Dagestan Experiment Station of VIR	46
Nesterova E.A., Povalyaev A.V., Romanova O.I., Gorbunova K.N., Shvachko N.A. From explant to callus: strategies for increasing the effectiveness of rice crop callusogenesis (<i>Oryza sativa</i> L. subsp. <i>indica</i>)	48
Porotnikov I.V., Nigamadyanov A.R., Antonova O.Yu. Relationship between the allelic composition of <i>Vrn1</i> genes and the duration of the growing season in spring bread wheat	50
Saidova S.B., Agahanov A.H. Results of the study of introduced wine-grape cultivars under Dagestan conditions	52
Solovyeva M.V., Rozanova I.V., Zuev E.V., Shvachko N.A. The use of GWAS to identify markers associated with phenological features in spring bread wheat	53
Tagirov N.S., Kazarov N.K. Ampelographic grapevine collection of the Dagestan Experiment Station – branch of VIR	54
Fedorova K.A., Starovoitova T.E., Gashimov M.E., Shvachko N.A. Genetic identification of markers associated with heading features in spelt by GWAS	56
Shikhmuradov A.Z. The Department of Private Genetics and Genetic Resources of Wheat is 90 years old	58
<i>Alphabetical index of the authors</i>	60