



Department of Plant Pathology
4024 Throckmorton Plant Sciences Center
Manhattan, KS 66506 -5502
785-532-6176
Fax: 785-532-5692
<http://www.oznet.ksu.edu/plantpath/>

July 1, 2011

To: Science Development Foundation

Under the President of the Republic of Azerbaijan

Ataturk Avenue, 48B, AZ-1069

Baku, the Republic of Azerbaijan

Tel.: (+994) 012-563-61-11,

e-mail: grant@elfondu.az

<http://elfondu.az/index.html>

Dear Mr Elchin Babayev,

As scientific supervisor of PhD student Mehdiyeva Sabina Parvin from Cytogenetics Lab, Institute of Genetic Resources of ANAS, I inform You according to invitation letter from the Wheat Genetics and Genomics Resources Center (WGGRC) at Kansas State University scheduled from June 1, 2011 to July 1, 2012 and granting her training by Science Development Foundation Under the President of the Republic of the Azerbaijan, she passed the training hosted by WGGRC in molecular cytogenetic techniques including in situ hybridization and genomic in situ hybridization analyses to characterize wheat-alien introgressions.

The training material was research material brought by Mehdiyeva Sabina Parvin from Azerbaijan and consisted hybrids between trigeneric amphidiploid and

some tetra- and hexaploid wheat species, bread wheat varieties, two triticale and with other two amphidiploids.

The C-banding technique was performed by Dr Bernd Friebe, the GISH (genomic in situ hybridization) and FISH (fluorescent in situ hybridisation) techniques were demonstrated by Dr Danilova Tatiana and Joey Cainong Ronell according to the protocols from Electronic Laboratory Manual of the WGGRC (<http://www.k-state.edu/wgrc/Protocols/labbook.html>). Slides for in situ hybridization were analyzed with an epifluorescence Zeiss Axioplan 2 microscope. Images were captured using a SPOT 2.1 CCD camera and processed with Photoshop software.

The Giemza C-banding method is the most applicable one, which has been widely used for chromosome identification in many species of grass genera. FISH has a large number of applications in molecular biology, holds great potential to help scientists develop optimum breeding strategies and assisting selection. Other important modification of ISH technique is genomic in situ hybridization (GISH), which allows parental genomes in interspecific or intergeneric hybrids to be distinguished. This information is crucial in chromosome engineering, for determining the cytogenetic and agronomic characteristics of the resulting lines in plant breeding programs.

I hope that the provided training was helpful for Sabina Mehdiyeva and will be useful for her further research work in home institute.

Sincerely yours



Bernd Friebe

Research Professor