

Press Release

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Bern Biologists Improve Ethiopia's Most Important Cereal Crop

A member of the millet family, tef, is the most important cereal for the food security of the Ethiopian people. However, the plants tend to fall easily. Therefore researchers at the University of Bern have developed new plants with shorter stems. The new candidate lines are now being field-tested in Ethiopia.

The most important cereal and staple food of Ethiopia is tef, a member of the millet family that is tolerant to a wide range of climatic conditions. It grows in dry as well as water-logged soil and is resistant to many pests and diseases. In addition, the seeds are very nutritious and gluten-free, making tef a healthy and valuable food source. The one disadvantage to tef is that the average crop yield is far less than that of other cereals such as wheat and rice. The main problem is the long and weak stalk of the plant, which irreversibly falls especially in the wind and rain.

The «Tef Improvement Project», led by Dr. Zerihun Tadele in the Institute of Plant Sciences at the University of Bern, is tackling this problem. With the help of modern molecular genetics techniques, his group is raising a robust dwarf variant of tef. To do so, he and his team identify changes in relevant tef genes which were induced by special substances. The major focus of the group is to study the genes that influence the height of the plants and to breed a new generation of tef plants with shorter and stronger stems. Furthermore, the project is the first to successfully decipher the genome of tef. The genomic information will bring a better understanding of the mechanisms that are relevant for the dwarf and other desirable properties.

Ensuring Local Acceptance

Screening for the dwarf characteristics has produced several dwarf tef plants that are now being sent to Ethiopia for field-testing. The purpose of these field tests is to discover if the new candidates develop as desired under natural crop-growing conditions. «It is important to do the field tests in cooperation with the Ethiopian farmers to gain acceptance for the newly developed plant lines», emphasized Dr. Zerihun Tadele.

Because tef is significant for food security mainly in Ethiopia but not for the entire world, research and development on this crop has been limited until now. The project at the University of Bern, supported financially and technically by the Syngenta Foundation for Sustainable Agriculture, is well on the way to developing a hardier, sturdier tef plant.

Conference of Tef Experts in Bern

Experts that are interested in improving the essential cereal for the Ethiopian population, tef, are meeting on Monday, April 18, 2011 at the University of Bern. The researchers of the «Tef Improvement Project» will discuss the next steps with their partners from both Switzerland and Ethiopia (Ethiopian Institute of Agricultural Research). The Ethiopian Ambassador to the United Nations and Switzerland, Mr. Minelik Alemu, the Deputy Director of Syngenta Foundation for Sustainable Agriculture, Dr. Mike Robinson and Vice-Rector of Research at the University of Bern, Dr. Martin Täuber, will also participate in this first meeting of all groups interested in tef research.

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At 15:00, the participants will be available for more information and interviews. Please register your interest in advance.