

Pre-breeding for effective use of plant genetic resources

an e-Learning Course

Introduction

The Global Partnership Initiative for Plant Breeding Capacity Building (GIPB) is pleased to announce the release of an e-learning course on **Pre-breeding for Effective Use of Plant Genetic Resources**. As part of a comprehensive strategy to develop a critical mass of personnel skilled in the genetic improvement of crops, this course aims at strengthening capacities at the interface between germplasm conservation and its use in plant breeding.

Pre-breeding refers to all activities designed to identify desirable characteristics and/or genes from unadapted materials that cannot be used directly in breeding populations and to transfer these traits to an intermediate set of materials that breeders can use further in producing new varieties for farmers. It is a necessary first step in the use of diversity arising from wild relatives and other unimproved materials.

These activities are a collaboration between the germplasm curator and the plant breeder who need to work together to understand the scope and value of germplasm collections and how new traits from these collections can be bred into new varieties. The adoption of pre-breeding facilitates the efficiency and effectiveness of crop improvement programmes by enabling increased access to, and use of, genetic variations conserved in genebanks.

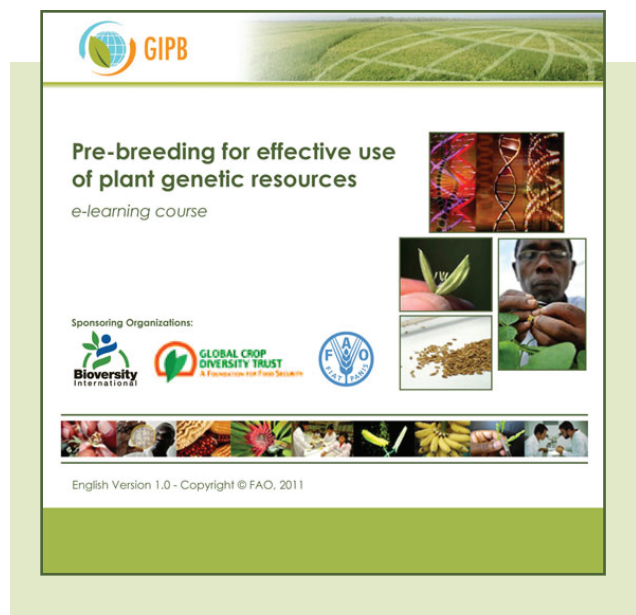
Audience

The target audience for this e-learning course is primarily germplasm curators and plant breeders and their support and collaborating personnel. University lecturers and students engaged in germplasm management and/or crop improvement will also find this course very useful. The course is also recommended for extension agents, seeds specialists, field technicians and relevant research administrators and managers.

Overview of the Course Contents

The course consists of five Units which require about 16 hours of self-paced instruction to complete. The Units cover a range of theoretical and practical topics from the basic concepts and applications of pre-breeding to germplasm distribution and regulatory issues. Every lesson achieves a specific set of learning objectives, using interactive step-by-step instructions and exercises which help reinforce the internalization of the subject matter.

The course is complemented by bibliographic references including on-line resources for each Unit and a rich glossary of terms. The structure of this e-learning course, characterized by stand-alone Units, allows the learner to take the course as a whole or select specific lessons depending on individual needs and circumstances.



The five Units of the course are:

Unit 1: Introduction to Pre-breeding

Pre-breeding is defined in the context of crop improvement that is dependent upon access to heritable genetic variation; best strategies for, and limitations to, its applications are given.

Unit 2: Genebank Management Relevant to Pre-breeding

Current state of knowledge on genebank management and collecting of plant genetic resources in order to facilitate access is presented in relation to pre-breeding.

Unit 3: Pre-breeding Project Management

Comprehensive yet concise step-wise guide on the planning, implementation and monitoring of a pre-breeding project is presented.

Unit 4: Creating and Managing Variation

Salient elements of the basic principles of crop improvement and relevant practices and strategies are presented in the context of pre-breeding.

Unit 5: Distributing, Use and Regulatory Issues

Strategies for ensuring the need-based delivery of the products of pre-breeding and the relevant legal and regulatory regimes are articulated.

Access to the Course

Created using the latest digital technology, the interactive, self-paced learning environment is user-friendly and can be accessed at no cost from the GIPB website (<http://km.fao.org/gipb/>), under the “e-learning” tab on the left side of the screen. Also, a copy of the course on CD can be ordered cost-free from GIPB at the same site or alternatively by sending an email to GIPB@fao.org.

Acknowledgements and Credits

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For more information, please contact us at GIPB@fao.org

GIPB is committed to enhancing capacities worldwide for crop improvement.
Please visit its websites for other aspects of its activities at <http://km.fao.org/gipb/>

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