AGG Webinar Series: Maize Breeders Online Course

Accelerating Genetic Gains (AGG) – Maize Project Early Career Maize Breeding Course

Date: 3-26 September 2021 (Online)







About the Course:

CIMMYT and IITA are pleased to announce the 2021 Early Career Maize Breeders Online Course. The course is designed for new and upcoming Maize Breeders from public and private sector in Africa who wish to learn about the maize improvement targeted especially for stress environments and breeders who have been working in maize improvement for the last few years but need to update themselves with new knowledge and innovative techniques that can enhance genetic gain and efficiency in their breeding activities. This course will be offered in modules over on six different dates: 3rd, 10th, 13th, 16th, 21st, and 24th **September 2021**.

Course Objectives:

- 1. To impart research skills and knowledge needed to efficiently use modern breeding methods in maize breeding programs.
- **2.** To develop participants' knowledge on product profiles and provide a platform upon which defining or refining their product profiles can be achieved.
- **3.** To familiarize participants with CIMMYT's and IITA's current research and breeding objectives and new improved stress tolerant maize germplasm.
- 4. To foster team work and interdisciplinary research approaches.

Participants:

This maize breeding course is a unique professional development opportunity for early career scientists who work in the public or private sectors in Africa. Scientists working in National Agricultural Research System (NARS) and private seed companies, particularly in the area of maize breeding, pathology, and entomology may find this course useful. Participants must fulfill the following requirements:

- English proficiency to allow for full participation in the course program and discussions.
- BSc or MSc with at least 2 years of proven experience in maize breeding.
- Active involvement in research in the areas of maize breeding, entomology, pathology, physiology, and/or molecular breeding.

Participants will gain knowledge in the following units, each of approximately 4 hours:

Unit	Торіс
1	3 rd September 12:00 hr (Nairobi) Foundations of maize breeding, product profiles, inbred line and hybrid development.
	Challenges to maize production, product profiles, inbred line and hybrid development, heterotic groups, and recurrent selection will be discussed.
2	10th September 11:00 hr (Nairobi) Stage-gate Process and Genetic Gains.
	Aspects of the stage-gate process for maize product advancement, use of selection indices, and measurement of genetic gains in maize breeding will be discussed.
3	13 th September 11:00 hr (Nairobi) Doubled haploids and molecular markers in maize breeding.
	Use of doubled haploids and biotechnological tools including marker-assisted selection (MAS), genomic selection, in breeding for higher genetic gain, and resistance or tolerance to biotic and abiotic stresses that limit the crop production.
4	16th September 11:00 hr (Nairobi) Breeding for abiotic stress tolerance.
	Aspects in breeding maize for higher yield under abiotic stresses including drought, heat, and acid soils that limit the crop production. Phenotyping tools for abiotic stress tolerance will be discussed.
	21st September 11:00 hr (Nairobi) Breeding for biotic stress resistance.
5	Aspects in maize breeding for higher yield with resistance to biotic stresses that limit the crop production especially foliar and ear diseases, <i>Striga</i> , maize lethal necrosis, and fall armyworm. Phenotyping tools for biotic stress tolerance will be discussed.
6	24 th September 11:00 hr (Nairobi) Seed production, Gender and farmer trait preferences.
	Seed production planning and seed research will be discussed. Importance of incorporating gender and farmer trait preferences in maize breeding will also be discussed.



Language of the course:

English.

Course Lecture Notes:

Course lecture notes, presentations, as well as some reference materials will be availed to participants electronically.

Please note that the dates and times have been scheduled based on availability of resource personnel.

Course Registration:

Breeders interested to participate **must register at the CIMMYT academy** no later than **30**th **August 2021**.

https://academy.cimmyt.org



For further information, please contact the course coordinators:

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