

ICAR Sponsored Summer School

on

Phenotyping for drought adaptable physiological traits in different crops

from

25th October to 15th November, 2017

Sponsored by



Indian Council of Agricultural Research, New Delhi-110 012

Course Directors

Dr.T.K. Nagarathna

Dr.Y.A.Nanja Reddy

Organized by



University of Agricultural Sciences, GKVK
Bangalore-560065

Preamble

Among the abiotic stresses, drought alone reduces 30-80% of the productivity depending on the crop species. With climate change these stresses are predicted to be extreme and frequent. Hence, it is necessary to save the yield loss due to drought in order to realize the full potential. Genetic improvement through enhanced drought tolerance believed to be very rewarding, has not received the significant attention of crop breeders. This is mainly due to the physiological complexities involved in the development of adequate screening techniques to precisely document the available variability. Several strategies are considered in breeding of drought stress in a crop species. This includes developing early varieties/hybrids escaping drought especially in late season or terminal drought, modification of certain physiological traits and introduction of drought tolerant traits associated with yield. Root characteristics are also important in determining the water extraction capability from soil. Hence identification of relevant physiological traits associated with the drought tolerance is one of the important selection criteria. Using such criteria, identification of donors in crop species would be relevant in crop improvement programme. With this background, the training is proposed to demonstrate the techniques of screening genotypes for relevant physiological traits in cereals, pulses and oilseed crops under drought stress condition.

Course contents

- Relevance of Crop Physiology in agriculture
- Physiological approaches to increase productivity under drought
- Mechanism of drought tolerance in different crop species
- Field phenotyping to improve drought tolerance
- Screening of genotypes for high temperature stress, moisture stress, oxidative stress and salinity
- Drought screening techniques/methodologies
- Studies on water relations and gas exchange traits
- Practical relevance of drought related physiological traits
- Drought yield indices for identifying drought tolerant genotypes
- Role of root traits in drought tolerance
- Mechanism of drought tolerance in C3 and C4 plants
- Hands on training in handling IRGA, root imaging system, SPAD chlorophyll meter and other equipments.
- Molecular approaches for drought resistance in crop plants
- Use of nano particles in combating abiotic stress in plants
- Application of statistical tools in agriculture

About the host Institute

University of Agricultural Sciences, GKVK, Bangalore was established in 1964 and is one of the premier agriculture institutes in the country. It is one of the earliest Agricultural Universities established in the country and celebrated its Golden Jubilee during the year 2013-14. The university is well known for its high academic standards, research achievements and transfer of technologies. The university has sub campuses at Mandya, Hassan and Chintamani and has 13 research stations, 33 All India Co-ordinated Research Projects, 2 Extension units, 7 KVK's and an ATIC centre. In 2001, the university was recognized as the best agricultural university in India by the Indian Council of Agricultural Research. In 2008, it was ranked third among the best state agriculture universities. It was conferred with Sardar Patel Outstanding ICAR Institutional Award for excellence in teaching, research and extension in 2001 and 2012 and has received highest number of Junior Research fellowships (2015 & 2016). There are several ICAR, DBT, DST and other state funded projects with international level laboratories and field facilities with excellent infrastructure amenities.

Eligibility

The winter school is designed for the scientists working in Teaching, Research and Extension under SAUs/ ICAR institutions, Deemed Universities, Central Universities and other ICAR/ SAU organization related to agricultural sciences

for those working in Assistant professors or above cadre.

How to apply

The interested teachers / scientists should apply through CBP vortal <http://www.iasri.in/cbp> or click on capacity building programme under www.icar.org.in. The application should be filled online only. The filled in application should be approved by their competent authority and should be uploaded in the CBP vortal. The approved copy along with the postal order of Rs.50/-payable in favour of 'Course Director' (non-refundable registration fee) has to be sent to the Course Director through surface mail or speed post.

Travel & accommodation

Participants will be paid travel fare for onward and return journeys by train or bus, as per their entitlement class of travel, restricted to the maximum of AC II tier. TA will be paid on submission of tickets in original. Free boarding and lodging will be provided to participants during the training programme.

How to reach the venue

University of Agricultural Sciences, Bangalore is located on Bangalore-Hyderabad National Highway No.7 with its headquarters at GKVK which is 14km from Bengaluru city railway station / central bus terminal (Majestic) and 21km from Kempegowda International Airport, Bengaluru.

Important Dates

Last date for receiving application : 10.10.2017
Intimation to selected candidates : 12.10.2017
Confirmation from selected candidates : 16.10.2017

Course Directors

Dr.T.K.Nagarathna

Professor of Crop Physiology
AICRP on Sunflower
UAS, GKVK, Bangalore-560065
E mail ID:
nagarathnavijay@rediffmail.com
Contact No.: 09448349106

Dr.Y.A.Nanja Reddy

Professor of Crop Physiology
AICRP on Small Millets
UAS, GKVK, Bangalore-560065
E mail ID: yan_reddy@yahoo.com
Contact No.: 09844250263

