



## ABOUT THE CITY

**Jaipur**, the capital of Rajasthan state popularly known as the "PINK CITY" because of the colour of the stones used exclusively in the wall. It is founded on 18<sup>th</sup> November 1727 by Maharaja Sawai Jai Singh. Jaipur is famous for its unique monuments, Forts, Palaces, Art & Craft, and culture. Jaipur is renowned destination on the international tourism map. The famous destination are :-



**HAWA MAHAL:** Built in 1799, by Maharaja Sawai Pratap Singh, is the most recognizable monument of Jaipur. The 5 storied stunning semi-octagonal monument having 152 windows with over hanging latticed balconies is a fine piece of Rajput architecture.

### JANTAR MANTAR (Observatory)

Built in 18th century by Maharaja Sawai Jai Singh II, the huge masonry instruments were used to study the movement of constellations and stars in the sky. Enormous sun-dial still provide accurate time, which are subject to daily corrections.



**CITY PALACE AND S.M.S. II MUSEUM:** Situated in the heart of the old City, it occupies about one seventh of the old city area. The palace is a blend of Rajput and Mughal architecture. It houses a even storeyed Chandra Mahal in the centre, which affords a fine view of the gardens and the city.

**JAIGARH FORT:** Standing on a hilltop, overlooking the palaces and city of Amer. The world biggest cannon on wheels- the Jai Ban is positioned here, built during reign of Maharaja Sawai Jaisingh. It has a twenty feet long barrel and pumped in the cannon for a single shot.



**AMER:** The old capital of the Kachhwahas stands a top a range of craggy hills. The fort is remarkable as much for the majestic grandeur of its surroundings as for its sturdy battlements and beautiful palaces. It is a fine blend of Hindu and Muslim architecture. The solemn dignity of its red sandstone and white marble pavilion when reflected in the lake at the foot hill, is a sight to behold.



## ABOUT THE COURSE

Biotechnological advances hold a great promise to fulfill the food demand and quality of increasing population. Nobel Peace Laureate, Norman Borlaug quoted that biotechnology and plant genetic engineering complemented with conventional plant breeding is needed to boost crop yield to feed the increasing population of the world. Twenty years ago plant biotechnology comprised few applications like tissue culture, recombinant DNA technology and monoclonal antibodies. Today, its applications have extended to genetic transformation, marker-aided selection, molecular breeding and development of genetically modified (GM) crops. The new DNA manipulation technique provides opportunity for transferring genes from any organism into plant overcoming the limitation of crossing to plant breeders.

Recent biotechnological tools have helped to modify the genetic make-up of many crops. The first GM /Biotech crop was commercialized in 1996 with mere 1.7 million ha area in six countries of the world. This area has extended to 125 million ha in 2015 in 25 countries at present. GM maize and soybean are covering sizeable area in the world. In Indian context, *Bt* cotton has provided large industrial benefits and there are more technologies in pipeline for other biotech crops in India. Abiotic and biotic stresses have emerged as a great challenge to global food security and malnutrition. Thus, it is realized that the modification of important crops must be implemented in more sustainable approach to accelerate crop production under environmentally friendly manner. Present training is expected to train the young scientists to learn modern techniques in plant research with a view to exploit its full potential to help in food security and sustainable development.

## COURSE CONTENT

- The Course will broadly cover the following topics :-
  - Studies on physiological and biochemical mechanisms of biotic and abiotic stress tolerance.
  - Climate change and food security.
  - Diversity analysis under stress conditions.
  - Signal transduction.
  - Proteomics and genomics of stress tolerance.
  - Biotechnology and crop improvement.
  - Bio-prospecting for allele mining
  - GM crops and its relevance in Indian context
  - Bioinformatics.
  - Practical's: Physiological mechanisms, Biochemical markers, Isozymes, DNA isolation, PCR amplification, Electrophoresis, Visualization of polymorphism, Scoring data etc.

## ELIGIBILITY

- Master's Degree in Plant Physiology, Biochemistry, Biotechnology, Microbiology, Plant Pathology, PBG, Botany etc.
- Working not below the rank of Assistant Professor and equivalent in the concerned subject in Agricultural University /ICAR Institute/State University.

## HOW TO APPLY

— As per the ICAR Instructions, the interested candidates should register and apply online through capacity Building Programme (CBP) portal as follows :

- Visit the website <http://www.iasri.res.in/cbp/> or click on Capacity Building Programme link under <http://www.icar.org.in/>
- Login using your user ID and Password or to create use ID use "Create New Account" link.
- After Login, click on "Participate in Training" link and fill the Performa.
- Take a printout of the application and get it approved by the competent authority of the institute/SAU. Upload the scanned copy of application through the above portal or send duly signed copy through proper channel to the Course Director of the training programme.

## BOARDING AND LODGING

— The lodging, boarding and travel expenses of the selected participant will be borne under the training budget as per University norms. Actual TA will be paid on the production of the tickets. The travel expenses will be restricted to a maximum of II-AC sleeper charges (III-AC sleeper charges for Assistant Professor) of train or bus and will be based on the criterion of pay scales of participants.

## HOW TO REACH JAIPUR

— The venue of the CAFT training programme is the Seed Technology Research (STR), Rajasthan Agricultural Research Institute, Durgapura, Jaipur (Rajasthan). The Institute (RARI) is about 3 km. from airport and 10 km from Jaipur railway station. Auto Rickshaw, city metro buses, taxi are easily available to reach the campus.

The month of July in Jaipur is rainy and pleasant. The temperature ranges from 30-35 °C during day time and 20-25 °C during night time.