

National Conference

on

**ENHANCING PRODUCTIVITY OF
OILSEEDS IN CHANGING CLIMATE SCENARIO**

April 7-9, 2018

Organised by

INDIAN SOCIETY OF OILSEEDS RESEARCH, Hyderabad

&

ICAR-Directorate of Groundnut Research,
Junagadh 362001, Gujarat

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Extended Summary can be submitted directly through the portal:

http://www.ncos.dgr.org.in or mailed to: ncosjunagadh@gmail.com

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National Conference on ENHANCING PRODUCTIVITY OF OILSEEDS IN CHANGING CLIMATE SCENARIO

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The impact of climate change is envisaged all over the world, more so in agriculture with increase in frequency and intensity of drought. Ingression of vast area in coastal region is also predicted rendering them unfit for cultivation. However, countries like India are more vulnerable because of over dependence on agriculture and excessive pressure on natural resources. The nature and magnitude of impact will vary depending on the degree of change in climate, geographical region and type of production system. Several forecasts for coming decades project an increase in atmospheric CO₂ with concomitant increase in temperature by 1.8 to 4 C, changes in patterns of precipitation resulting in more frequent droughts and floods, wide-spread run-off causing accelerated erosion leading to loss of nutrients and biota, emergence of new pests and diseases and thereby, threatening the livelihood security of majority of farm enterprises.

In India, oilseeds follow cereals, sharing 14% of the country's gross cropped area and accounting for nearly 3% of the gross domestic product and about 6% of the value of all agricultural products. Despite being the largest cultivator of oilseeds in the world, India imports about 50% of its requirements owing to the life style changes in dietary pattern and increasing per capita income. The diverse agro-ecological conditions in the country are favourable for growing nine annual oilseed crops, which include seven edible oilseeds (groundnut, rapeseed & mustard, soybean, sunflower, sesame, safflower and niger) and two non-edible oilseeds (castor and linseed). In addition, oilseeds of tree and forest origin, which grow mostly in tribal inhabited areas contribute significantly as a source of oil. Many of the oilseed crops are grown under marginal management conditions and in rainfed areas. Only 28% of area under oilseeds is irrigated. The variability in annual oilseed production in the country is directly related to the annual variability of rainfall pattern. These make the oilseed sector climatically challenged. Hence, it is imperative to understand the impact of climate change on oilseeds in order to identify the adaptation strategies.

Relative to cereal crops, very little direct experimental work was done to study the impact of climate change on oilseed crops. The major impact of climate change on oilseed crops will be due to drought. With decrease in number of rainy days, and likely increase in frequency and intensity of dry spells which will have negative impact on the productivity of *kharif* oilseed crops like soybean, groundnut, etc., whereas a sharp rise in temperature during reproductive phase will cause adverse impacts on flowering, fertilization and seed development in both *kharif* and *rabi* crops including rapeseed and mustard. Availability of ground water will also decrease further owing to predicted less rainfall. Erratic distribution will also cause major concerns for attaining robust yield. Oilseed crops are also likely to face short periods of water logging owing to excessive rainfall in some parts of country because of change in patterns of precipitation.

The rapid change of climate in the past few decades and predicted uncertainty of climatic events and vulnerability of most of crops are likely to exert pressure on agricultural production systems including oilseed crops and is likely to affect our quest of attaining self-reliance in vegetable oil production. Under the changing climate scenario, we will have to produce more in less area that too with less water and other resources. Though genetic improvement will continue to be the driving force to circumvent the impending stress issues as a long-term solution, mitigation strategies and improvised plant protection measures and agronomic practices will be required to address the concerns challenging enhanced productivity. Diversification and value addition of oilseed products and by-products will also be key to enhance income of farm enterprises in the backdrop of increasing uncertainty of assured production in changing climate condition. It is against this background that a National Conference on "Enhancing productivity of oilseeds in changing climate scenario" under the aegis of Indian Society of Oilseeds Research (ISOR), Hyderabad is being organized at Directorate of Groundnut Research, Junagadh during 7-9 April, 2018 as a part of the Golden Jubilee celebrations of All India Coordinated Research Project on Oilseeds

The deliberations during the National Conference are expected to take stock of several measures and the emerging recommendations will have

lasting impact in enhancing the productivity of oilseeds in India.

Themes of National Conference

Development of climate resilient varieties

Development of high yielding oilseed crop genotypes tolerant to seasonal drought, salinity, acidity, and floods/frost; Cultivars with changed duration to overcome winter; Heat stress, high temperature, and submergence; Resource-use efficient; Tolerance to existing and emerging pests and diseases by integrating modern tools of genomic research, transgenic and genome editing technologies.

Management strategies to mitigate impact of climate change

Climate change impact studies through crop simulation modelling; Influence of climate change (elevated CO₂ and/or temperatures) on crop growth, flowering, seed yield, and quality of oilseeds; Microbe mediated alleviation of abiotic stresses, adaptation and mitigation strategies that includes soil and rain water conservation and harvesting; Carbon sequestration; Site-specific nutrient management; Conservation agriculture; Biomass energy and waste recycling and Agro-forestry.

Crop Protection measures to enhance productivity

Existing and emerging insect pest & disease scenario under changing climate; Insect pest and disease diversity and ecology; Pest-plant interactions in changing climate; Biological based insect pest & disease management including biocontrol agents, Botanicals and host-plant resistance; Pest forewarning, Microbes- formulations and delivery; Plant resistance and insect - virus interactions; Climate smart improvised IPM

Processing, post-harvest management and value addition for harnessing the potential of secondary sources of oil

Oilpalm, Tree borne oilseeds, Biofuels and diversification and value addition to products and by-products of oilseed crops. Post-harvest measures for reducing aflatoxin contamination.

Innovative approaches for rapid adoption of technologies

Improving partnerships and fostering new linkages in PPP mode.

Policy Frame Work for Oilseed Sector including doubling of income

Development of weather based insurance; use of ICT's for dissemination of climate information based agro advisories; Public-private partnership; successful models and capacity building in oilseeds; Marketing and policy issues for increasing the oilseeds productivity. Policy interventions required for doubling of farmers income.

Panel Discussion –Devising Road map for doubling farmers income through Climate Resilient Agricultural Technologies

Experts on Oilseed R&D, processing, farmer groups, private organizations, NGO's shall debate on measures for charting out Climate Smart Technologies for doubling farmers income in oilseeds crop in changing climate scenario. The recommendations emanating from this National Conference shall be forwarded to ICAR/DAC for further consideration.

Keynote / Invited Lead Lectures

Each session will have presentation of Keynote and lead papers from eminent persons in the field concerned followed by in-depth discussion.

Call for Extended Summaries

The DGR welcomes participation of all stakeholders of oilseed sector including those involved in oilseeds research, processing, utilization of oilseeds and their by-products as feed and nutraceuticals, policy making, pricing and marketing, etc. The contributory papers will be presented in the conference as oral presentation. Papers from students will be presented as posters during the session. About 10% of the high quality papers of the students will also be presented as oral presentation. The extended summaries of all the contributory papers will be published electronically.

Instructions to authors

The Extended Summary should outline the purpose of the paper and the main results, and conclusions. Authors should submit the Extended Summary prepared with the following heads: Introduction, Methodology, Results & Discussion and Conclusion(s). All Extended Summaries must be in 11 points Times New Roman text with a margin of 1.2 inches on all the sides on A4 size paper. The title should be in bold with initial caps, followed by a line followed by names of authors (underline the registering author name) affiliation, e-mail address of presenting author. Paragraphs should not be indented but separated by blank lines. Avoid using pictures, equations and graphics.

A one-page soft copy of the extended summary prepared in Microsoft word may be emailed to Organizing Secretary through the [ncos web portal or ncosjunagadh@gmail.com](mailto:ncoswebportal@ncosjunagadh@gmail.com); rathnakumar169@gmail.com; berask67@yahoo.co.in latest by **March 28, 2018**. Awards will be given for the best poster presentations. The editorial board would also consider good quality papers for publication in the forthcoming issues of ISOR's "Journal of Oilseeds Research", provided that one of the authors is a member of the society. Only one paper will be considered for each registered participant.

Key Dates

Submission of Extended Summary	March 28, 2018
Acceptance of Extended Summary	March 31, 2018
Conference Dates	April 7-9, 2018

Venue ICAR-DGR, Junagadh, Gujarat

Registration

All participants are requested to register in advance as per the schedule and fee given below. Registration fee for participation may be sent through crossed ***Demand Draft in favour of the Organizing Secretary, National Conference, payable at Junagadh. Registration fee may also be transferred directly/electronically through NEFT/RTGS with information to Organizing Secretary to the following account details; NCOS-2018; Account No: 37494492030, IFSC Code: SBIN0003251; State Bank of India, Diwan Chowk Branch, Junagadh.*** This information can also be accessed on NCOS 2018, DGR and ISOR web sites: www.ncos.dgr.org.in; www.dgr.org.in and www.isor.in.

Participants	Details of Registration Fee (RS)	
	Upto 28.03.2018	After 28.03.2018
Delegates	5,000/-	6,000/-
Students/RAs/Fellows	2,000/-	3,000/-
Accompanying person	2,000/-	3,000/-

Accommodation

Accommodation will be arranged in the guest houses of DGR, and Junagadh Agricultural University, Junagadh on first come first serve basis. However, a range of Hotel accommodation is available at reasonable rates ([see the NCOS 2018 portal for details](#)). Delegates are requested to book accommodation directly in the hotels.

Post-Conference Tour

Junagadh is a historical city located in the heart of Saurashtra. It is rich in heritage with museum, tombs, mosques, temples, zoological park, ancient Buddhist caves, and Jain pilgrimage. Nearby places like Gir Forest, Somnath temples, Kirti Mahal at Porbandar, Dwarka temple and Diu are well known tourist destination and are well connected from Junagadh. The post-seminar tour will be arranged based on demand and on payment basis.

Sponsorship Tariff

Type	Amount	Privileges to sponsor
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The sponsors' logo will be prominently displayed throughout the Conference and a full-page space for colour advertisement in souvenir.