अजैविक स्ट्रैस प्रबंधन समाचार
Abiotic Stress Management News

भाकृअनुप-राष्ट्रीय अजैविक स्ट्रैस प्रबंधन संस्थान
(समतुल्य विश्वविद्यालय)
मालेगाँव खुर्द, बारामती - 413 115, पुणे, महाराष्ट्र, भारत

ICAR- National Institute of Abiotic Stress Management
(Deemed to be University)
Malegaon Kh., Baramati - 413 115, Pune, Maharashtra, India

Vol. 02 No. 01 | **An ISO 9001:2015 Certified Institute** | **April to September 2018**

In this issue

From the Director's Desk.....

Greetings from ICAR-NIASM.

Climate change and abiotic stresses are becoming more prevalent day by day in all over the globe. This year, it has been observed high rainfall and floods in Kerala, Karnataka, Maharashtra and North Eastern states and also very poor and unevenly distributed rainfall in various parts of country including Western and Central Maharashtra which received less than 400 mm rainfall since onset of monsoon. This caused delay in sowing of kharif crop and resulted drought stress at vegetative growth stage of the crops. In this scenario ICAR-NIASM is working for mitigation and adaptation of abiotic stresses in crop plants by various techniques like use of plant bio regulators for mitigating water stress in onion, use of phonemics tools for screening of abiotic stress related traits in plants and use of stress mitigating microbes in crop plants. Apart from this, efforts have been made to develop herbal garden consisting of hardy and local species of medicinal and aromatic plants to identify the alternate and subsidiary crops for abiotic stress prone areas.

Efforts have been made on development of human resource by educating and training the pomegranate farmers by conducting one day programme on pomegranate, workshop on organic cultivation of sugarcane, Summer School on climate change and abiotic stress management for doubling the farmers income. Apart from research activities, ICAR-NIASM actively involved in Tribal Sub Plan programmes and conducted trainings for tribal farmers of Nadurbar district of Maharashtra, Mera Goan Mera Gaurav and Swatch Bharat Mission etc. ICAR-NIASM, Baramati had its first QRT meeting under the Chairmanship of Dr. Gurbachan Singh, Ex Chairman, ASRB, New Delhi. The achievements of the institute since inception was reviewed and appreciated by the QRT team.

I thank the Editorial team who made tremendous efforts to compile the highlights of the institute in this issue of the Newsletter. I also thank to all the staff members who have contributed for this issue of Newsletter. I extend my sincere thank to Dr. Trilochan Mohapatra, Secretary, DARE & Director General, ICAR; Shri Chhabilendra Roul, Special Secretary, DARE & Secretary, ICAR; Shri B. Pradhan, Additional Secretary and Financial Advisor, DARE/ICAR; Dr. K. Alagusundaram, DDG, NRM, ICAR; Dr. S. K. Chaudhari, ADG, Soil and Water Management and Dr. S. Bhaskar, ADG, AAF & CC for their continued support to ICAR-NIASM. I am very much confident that this issue of the Newsletter would provide useful information for advancement of research on abiotic stress management to readers across different domains.

Date : September 30, 2018

(Narendra Pratap Singh)

Research Highlights

School of Atmospheric Stress Management

Plant bio–regulators enhances yield and quality of onion (*Allium Cepa* L.) under water scarce conditions

(Dr. G.C. Wakchaure, Scientist, AS&PE)

Impact of various plant bio–regulators (PBRs) like thio–urea (500 ppm), sodium benzoate (150 mg L^{-1}), potassium nitrate (15 g L^{-1}), salicylic acid (10 µM) and gibberellic acid (25 ppm) under water stress conditions was evaluated. Line source sprinkler system (LSS) was used to maintain seven levels of irrigation water (IW) equalling to 1.00, 0.85, 0.70, 0.55, 0.40, 0.25 and 0.10 times of cumulative open pan evaporation (CPE). Application of PBRs helped to mitigate the water stress through maintenance of leaf water content, modulating the canopy temperature and better water usage thereby improve bulb yield (10.1–25%), biomass (7.2–15.5%) and water productivity (7.78–9.61 kg m^{-3}). The overall water saving ranged between 18.3–63.8% with PBRs. The study demonstrates that the conjunctive use of PBRs like potassium nitrate and thio urea with supplemental irrigation could sustainably enhance the yield and quality of onion grown in water scarce conditions (Fig.1).

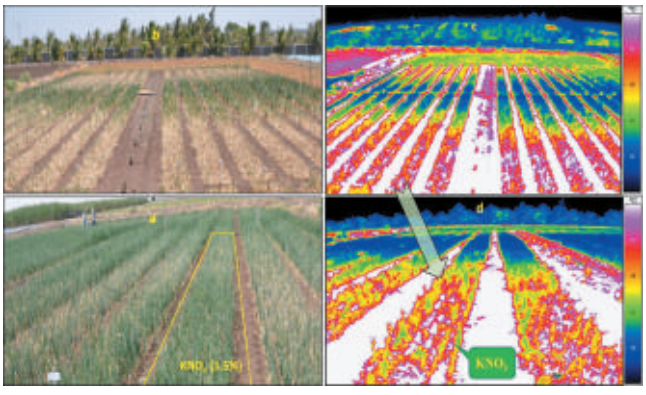

Fig. 1. Respons of onion to PBRs under different irrigation water levels as depicted in IR image

Evaluating performance of the potential water stress tolerance in onion cultivars using line source sprinkler system

(Dr. G.C. Wakchaure, Scientist, AS&PE)

The performance of the eight onion cultivars was evaluated for water stress tolerance using line source sprinkler system. The onion cultivars includs Bhima Red (TFL), Bhima Shubra, Bhima Sweta, Bhima Safed, Bhima Red, Bhima Super, Bhima Raj and Control as main plot treatments (Fig.2). Line source sprinkler system (LSS) was used to maintain six levels of irrigation water (IW) i.e. 65.9, 57.5, 49.4, 35.3, 19.8 and 12.5 cm applied based on cumulative open pan evaporation (CPE) as subplot treatments. The maximum marketable bulb yield (113.2 t ha^{-1}) was obtained at IW, 65.9 cm for control (local cultivar) and corresponding values were 99.1, 98.0, 92.2, 91.9, 89.5, 85.9 and 76.1 t ha^{-1} for Bhima Shubra, Bhima Safed, Bhima Raj, Bhima Sweta, Bhima Red, Bhima Raj and Bhima Red obtained at IW 49.4–57.5 cm, respectively. In comparison to red onion cultivars, total 9.5–42.9, 18.6–44.6, 6.1–20.5 and 2.3–28.6% improvement in bulb yields for local (red) cultivar was reported under excess IW (65.9 cm), no stress/optimum IW (57.5 cm), moderate stress (35.3–49.4 cm) and severe water stress (12.5–19.8 cm) conditions. However, the yield performance of white onion cultivars (Bhima Safed and Bhima Shubra) was found better than all red onion cultivars under moderate to severe water stress conditions. Among the red onion cultivars, maximum water productivity (WP) of 12.3–19.7 kg m^{-3} was obtained for local (control) and almost comparable, even superior than white onion cultivars like Bhima Shubra (15.5–20.1 kg m^{-3}), Bhima Sweta (12.2–18.9 kg m^{-3}) and Bhima Safed (13.3–19.0 kg m^{-3}). The post–harvest quality parameters viz., geometric mean diameter,

sphericity and average bulb weight of local cultivar were found superior in comparison to all other onion cultivars tested. In conclusion, yield performance and quality of local onion cultivars identified from the farmers field was found better among the all onion cultivars tested both under excess and water deficit conditions.

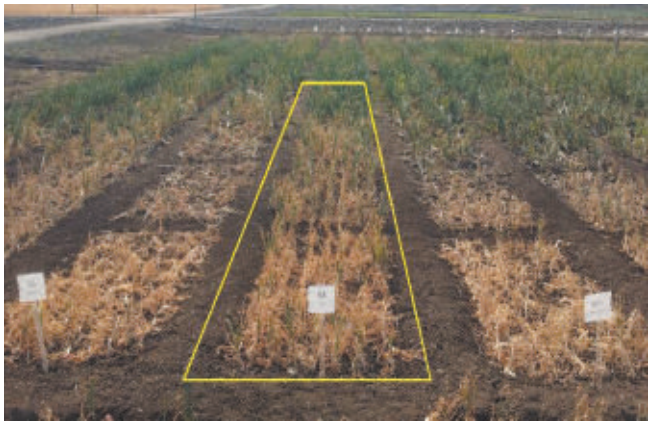

Fig. 2. High yielding local onion cultivars, tolerant to both excess and deficit water stress conditions

Pre-stocking management of fish pond, live feed culture and stocking of Murrel, *Channa* sp.

(Mukeshkumar P. Bhendarkar, Scientist, Fisheries Resourse Management)

Pre-stocking management of fish pond has been done and it aims at proper preparation of pond to remove the causes of poor survival, unsatisfactory growth etc. and also to ensure ready availability of natural food in sufficient quantity and quality for spawn/fry/fingerlings to be stocked. The eradication of aquatic weed has been carried out from the fish pond. The cow dung has been applied @ 70 kg of each pond. The main objective of manuring is to augment the production of zooplankton, the natural food of fish spawn/fry.

Snakeheads, also known as murrels or serpent-headed fish, are a peculiar group of freshwater fishes having accessory respiratory organ to utilize atmospheric air for respiration that enables them to thrive in oxygen depleted waters. Keeping in the view of future abiotic scenario, the major concern in freshwater aquaculture is to increase per unit area of production rather than increase area by identifying and introducing stress tolerant species in the aquaculture system. The *Channa* sp are most reliable and potential species for species diversification. On the line of objective the fry size of murrel was reared in rounded FRP

Reared and acclimitize of *Channa* sp.

Fig. 3. Pre-stocking management of fish pond

tanks for conditioning with a stocking density of 1000 numbers. The collection of rotifer from the Nira canal has been done by plankton net has mesh size 60 micron.

School of Drought Stress Management

Virus induced gene silencing in soybean

(Dr Ajay Kumar Singh, Senior Scientist, Agricultural Biotechnology)

1-Aminocyclopropane Carboxylate Synthase (ACS) gene is involved in Ethylene biosynthetic pathway. This gene plays an important role in abiotic stress tolerance in Arabidopsis and rice. *GmACS* gene was silenced in soybean using BPMV based VIGS vector for functional elucidation. A 288 bp fragment of GmACS was inserted into BPMV-VIGS vector using *Bam*HI and *Msc*I restriction enzymes. Cloning of silencing fragment was verified by PCR and restriction digestion. *In vitro* transcripts were prepared for BPMV-RNA1 and GmACS:BPMV-RNA2. *In vitro* transcripts were inoculated on fully expanced cotyledonarly leaves of VC stage soybean plants. Silencing of GmACS in soybean was verified by RT-PCR. GmACS silenced plants showed distinct phenotype compared to mock and vector control plants. GmACS silenced soybean plants are being evaluated for water stress tolerance by morpho-physiological, biochemical, and molecular analyses.

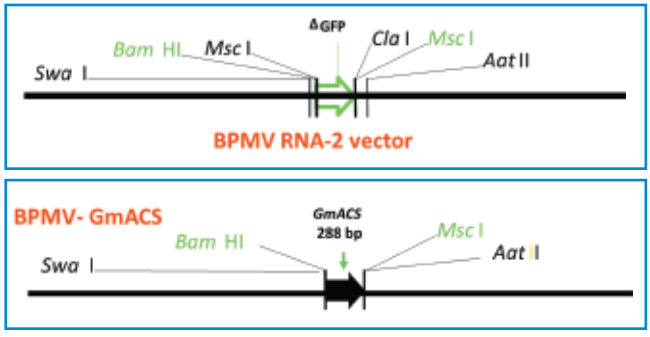

Fig. 4. BPMV-based VIGS vector for silencing *ACS* gene in soybean

Fig. 5. Phenotypes of leaf of mock, vector control and ACS silenced soybean plants

Image-based method for estimation of chlorophyll content in soybean

(Dr. Mahesh Kumar, Scientist, Plant Physiology)

Leaf colour has been commonly used as an index for crop stress diagnosis. Greenness assessment using wet chemical method is laborious and time consuming. We therefore developed an alternative method for non-destructive assessment of genetic variation in leaf greenness. The method is based on images of leaves captured by digital camera and quantification of colour pixels through image analysis. To assess the efficacy of the method a series of RGB images of detached leaves of soybean varying in their greenness were processed and analysed in programme developed in visual basic. Average pixel values of Red (R), Green (G)

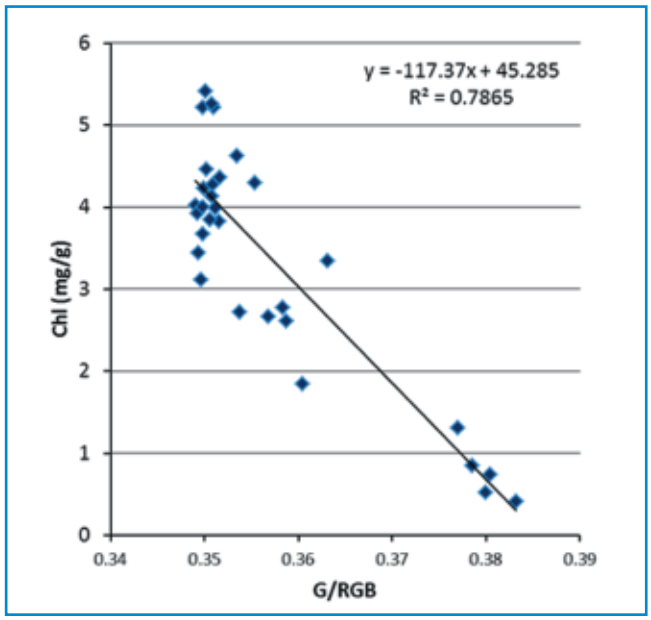

Fig. 6a. Relation between imaging vs DMSO method to estimate chlorophyll

and blue (B) bands in each of the images were extracted. The values and derived parameters were compared with SPAD values and actual chlorophyll content in leaves estimated by spectrophotometric method. RGB colour indices such as G/RGB, R/RGB were found to be significantly correlated with chlorophyll content and SPAD values suggesting that the method can be used for assessing the variation in greenness of leaves in soybean. The RGB-based digital image analysis has the advantage over conventional subjective methods for being fast, non-invasive, and inexpensive.

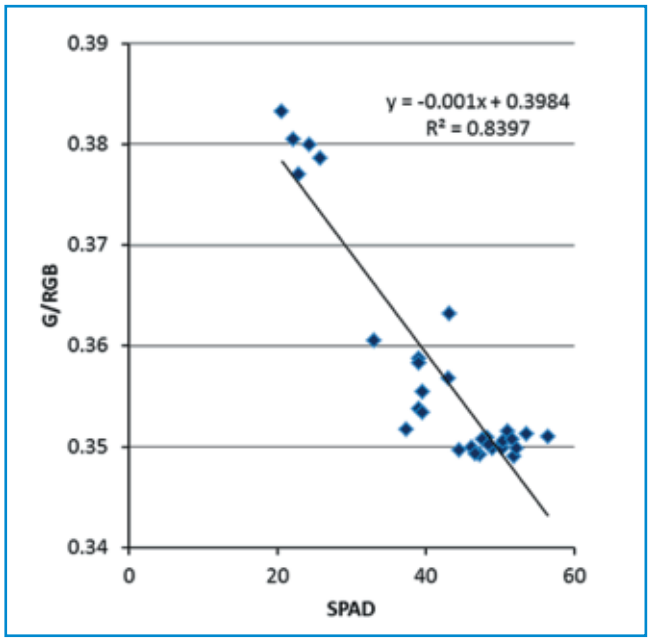

Fig. 6b. Relation between imaging vs SPAD to estimate chlorophyll

Convex hull area as a surrogate parameter to assess shoot architectural responses in pigeon pea genotypes

(Dr Jagadish Rane, Principal Scientist, Plant Physiology)

The effect of drought often gets manifested in changes in plant shoot architecture. Drooping of leaves or rolling of leaves to minimise the transpirational area is a common phenomenon across the crop plants in response to depleting soil moisture. However, such phenomenon is difficult to quantify during large scale germplasm screening. Image based parameters can explain such changes quantitatively. Convex hull is one of the image parameters, which tells about the spread of canopy from top view or/and side view. It is polygonal structure, which adjoins the peripheral points of plant parts by keeping all the plant parts inside the convex shape. The convex hull area of six pigeon pea genotypes was assessed under well-watered and water stressed environments in high throughput Phenomics Platform. In this experiment all genotypes exhibited higher convex hull area under well-watered condition than under the water stressed condition. Convex hull area increased when water was supplied to plants. There was genetic variation in percent change over the corresponding initial values in convex hull area of different pigeon pea genotypes. Genotype BPG 5-12 was least influenced by water stress than other genotypes and genotype WRP 1 exhibited very high response to water availability. This indicated that convex hull area can be used to differentiate the shoot architectural responses of pigeonpea genotypes.

Excised Leaf Water Loss in Chickpea

Excised Leaf Water Loss (ELWL) has been often cited as one of the traits of drought tolerant genotypes of crop plants. This trait is associated with water stress tolerance and was considered for assessing genetic variation in responses in crop plant. Traditionally this trait is measure based on the initial and final weight of excised leaves. In this study an attempt has been made to explore NIR image based non-destructive and rapid method for assessing genetic variation in ELWL of chickpea genotypes. Five chickpea genotype tested using NIR camera of LemnaTec HTS Scanalyzer and actual ELWL was also estimated by recording

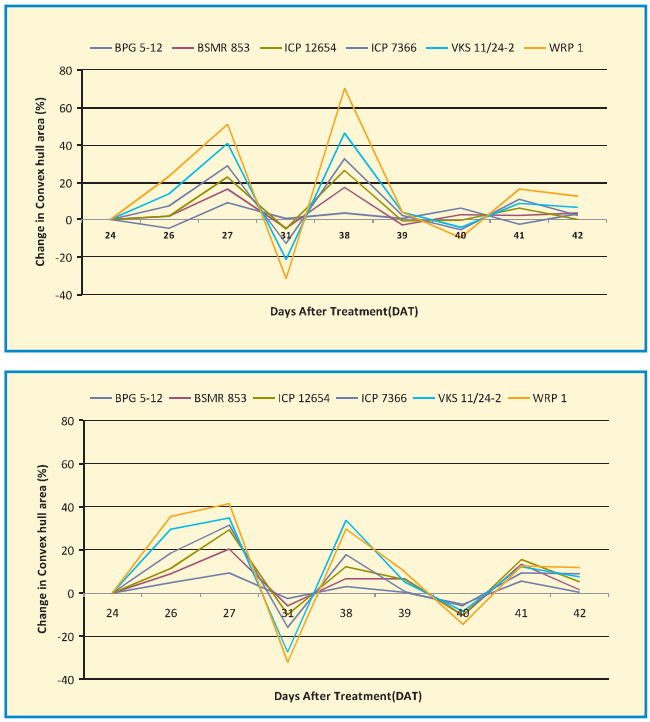

Fig. 7. Convex hull area in Pigeonpea genotypes under well-watered (a) and water stress conditions (b)

weight of excised leaf immediately after imaging at different time interval. Results indicated that NIR intensity sensed by camera can explain the tissue water content in crops like chickpea also D24 genotype found better than local check in terms of leaf water as indicated by their NIR intensity.

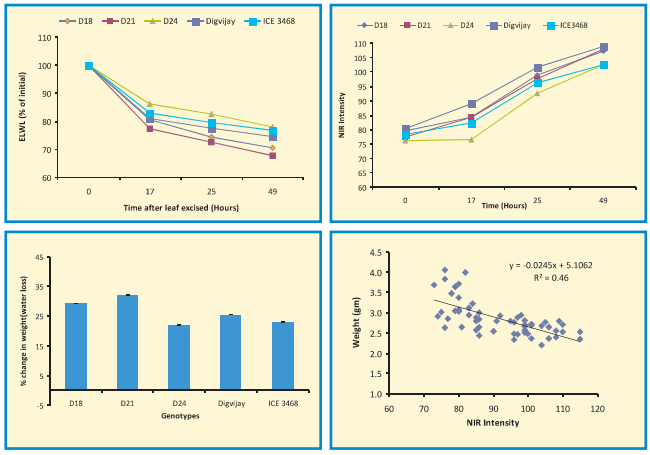

Fig. 8. Genetic variation in excised leaf water loss (a) and relative NIR intensity (b) Percent change in weight (c) and relation of leaf weight and NIR intensity (d) in representative chickpea genotypes

School of Edaphic Stress Management

Halotolerant *Rhizobium* - mediated alleviation of drought stress in Fenugreek

(Dr. K K Meena, Senior scientist, Agricultural Microbiology)

Two rhizobium strains were evaluated for growth promotion in drought-challenged fenugreek crop under field conditions. The crop was grown under normal and restricted irrigation conditions. Log cultures of the strains the *Rhizobium* strains (T1, and T2) were applied by seed coating method; while uninoculated seeds served as control. Both the treatments significantly enhanced the biomass per plant as well as total seed weight over the control under fully irrigated

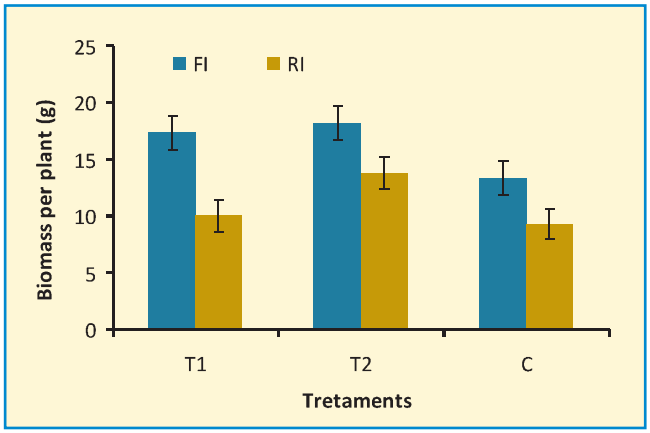

Fig. 9. Average biomass per plant of the fenugreek crop under full and restricted irrigation (FI and RI) conditions

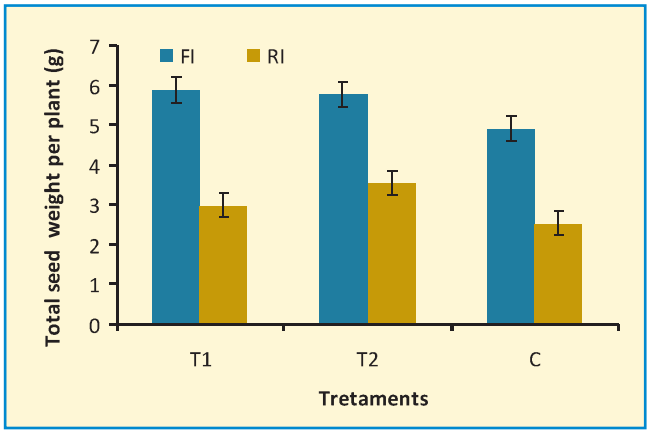

Fig. 10. Total seed weight per plant of the fenugreek crop under full and restricted irrigation (FI and RI) conditions

conditions (Fig. 9, 10); however there was slight difference among the efficiency of the strains under restricted irrigation conditions, where the strain T1 appeared relatively less efficient over the strain T2. The strain T2 dominated over the control as well as T1 in terms of biomass production as well as total seed weight per plant under both full and restricted irrigation environments.

Similar observations were also recorded with the test weight of seeds. Interestingly the average test weight of seed increased under restricted irrigation conditions under the influence of both the treatments as well as in control, although the extent of increase differed (Fig. 11). The Rhizobium strain 2 (T2) found dominantly enhancing the seed weight under both the full and restricted irrigation conditions (Fig. 11). The overall results strongly endorse the use of resilient Rhizobium strains for successful cultivation of fenugreek crop in drought-prone area.

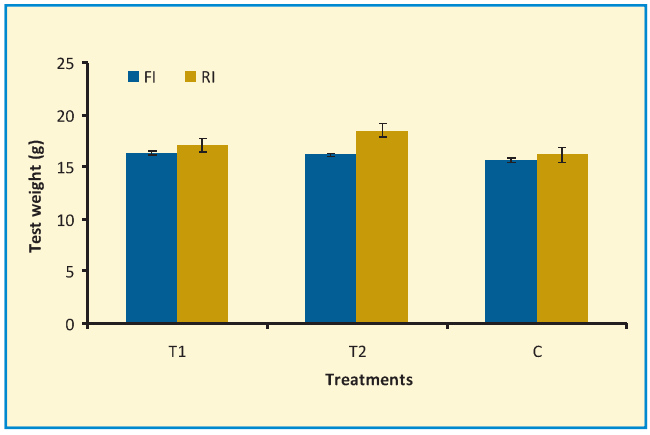

Fig. 11. Test weight of fenugreek seed under full and restricted irrigation (FI and RI) conditions

Temperature induces zinc nanoparticles toxicity in Fish

(Dr. Neeraj Kumar, Scientist, Fish Nutrition and Biochemistry)

Unexpected temperature variation has been observed worldwide and it is because of climate change. The toxicity of Zn-NPs has been affected with temperature variation in aquatic ecosystem and however such study has not been reported earlier. With temperature rising, toxicity of Zn-NPs has also increasing and tolerance of the toxicity of fish is also decreasing. Temperature plays a crucial role in regulating physio biochemical process in aquatic organism especially fish because it belong to poikilothermic animal. Hence the lethal concentration were evaluated in concurrently exposure to Zn-NPs and high temperature as 37.16, 31.26, 24.02 and 19.74 mg/L at 24, 48, 72 and 96 hr respectively. The variation in global temperature can affect fish physiology such as growth, metabolism, food consumption, reproductive success and internal homeostasis. The aquatic organism, fish have fully dependent on temperature variation and hence the metabolic rate increases, leads to increasing bioaccumulation of toxic substance. Both temperature and nanoparticles cause free radical production through reactive oxygen species (ROS). It can disrupt biological macromolecules and cell signaling involved in lipid peroxidation and alteration in anti-oxidative defence mechanism. The enzymes involved in anti-oxidative defence systems such as catalase (CAT), superoxide dismutase (SOD) and glutathione-s-transferase (GST), glutathione per oxidase (GPX) are responsible for protection of cell and tissue form oxidative damage through neutralizing ROS. Lipid peroxidation (LPO) has been also a strong biomarker for oxidative damage associated with multiple stresses. The most desirable in the form of neurotransmitter such as acetylcholine chloride as a biomarker and other biochemical such as carbohydrate metabolic enzymes (LDH and MDH) and protein metabolic enzymes (ALT and AST) are used as biomarkers to monitor the contamination of aquatic ecosystems. The digestive enzymes such as protease, amylase and lipase

will also monitor the condition of fish in short exposure of contamination, evaluated in present study. The present study is the first report in which the toxicity of Zn-NPs alone and along with high temperature has been determined in the fish.

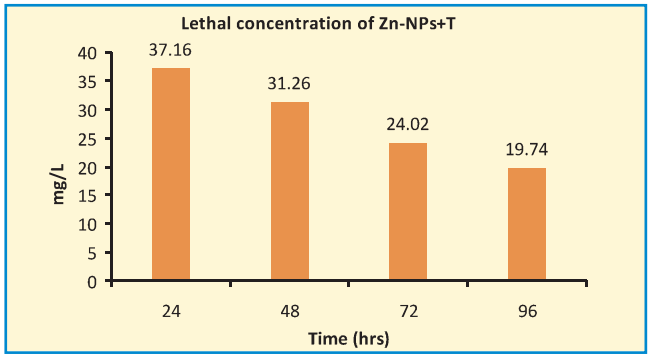

Fig. 12. Lethal concentration of concurrent exposure to zinc nanoparticles and high temperature in fish

Effect of nutritional stress on volatile oil and oleoresin recovery of turmeric

(CB Harisha, Scientist, Spices, Plantation, Medicinal and Aromatic plants)

Nutrient stress in turmeric influenced the oleoresin and essential oil content of turmeric rhizomes. Volatile oil content of turmeric rhizomes on fresh weight basis was improved by application of biopolymers and nutrient stress and it varied from 2.60% in control to 3.0% in soil application of biopolymer beads 7.5 kg ha^{-1}. Volatile oil content was increased with soil application of biopolymer and whereas, rhizome dipping and control did not show any significant difference in volatile oil. Application of recommended dose of nutrients improved the oil content due to better metabolic activity. It was found highest in 100% RDF and it was ranging from 2.8% in control to 4.5% in 100% RDF treatments.

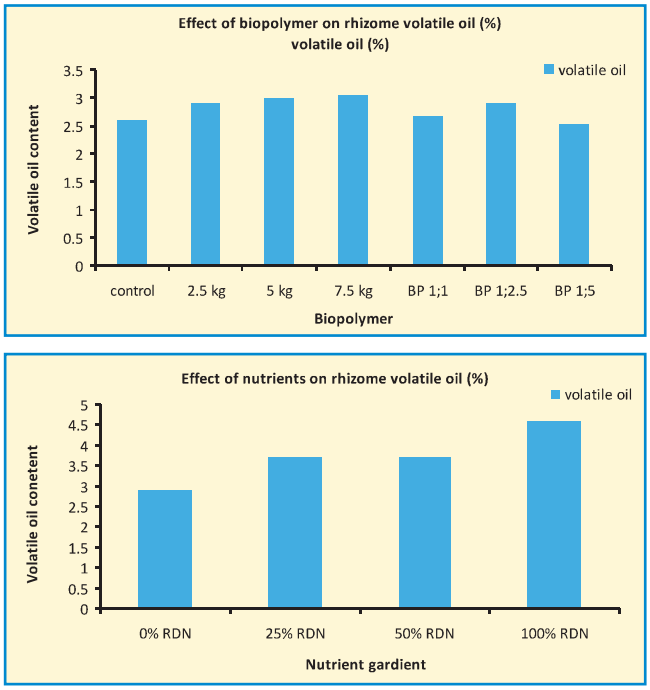

Fig. 13. effect of Nutrient stress and application of biopolymer on rhizome volatile oil content in turmeric

New Initiatives

Vermicompost production unit

Under Swatch Bharat Mission crop residue management was initiated by vermicomposting. For this 6 cemented tanks with Size (5x1m) was constructed with shade overhead. This unit is capable of producing 10 tonnes of compost every year crop residues.

Vermicopositing unit under construction

Mango diversity block

Mango diversity block consisting of 100 plants of 17 varieties were planted by 1st QRT team on 9th July 2018. Important Indian varieties of mango such as Mallika, Alphanso, Totapuri, Neelam, Dasheri, Sindhu, Ratna, Kesar, Konkan Ruchi, Suvarna, Amrapali, Kent, Goa Mankurad, exotic varieties such as Keitt, Tomy Atkins and Maya were planted in this Block.

Planting of Mango by QRT Chairman

Medicinal and aromatic plants garden

Development medicinal and aromatic plants garden in an area of 5.0 acres was taken up. In this garden various medicinally important trees, shrubs, climbers were planted in four different blocks. This garden consisting of rare, threatened, endangered and important plants 50 species more than 900 plants were planted. National Medicinal Plants Board, New Delhi provided financial assistance for establishment and maintenance of this herbal garden.

Planting of medicinal plants

Bee keeping

Five colonies of *Apis mellifera*, Europian honey bees were being maintained for better pollination in crops. For maintanence of bee colonies sunflower during summer, coriander, fennel and ajwain during winters, maize, lucern during kharif

New Initiatives

being grown. Activities of bees is being monitered and also found that apart from cultivated crops bees are visiting coconut, babul, drumstick, opuntia, subabaul flower during scarcity period.

Sunflower as a forage for honey bees

Roof top solar panel

To harness the natural resources, the roof top solar power system has been installed at office cum admin building which has the capacity to generate 115 kWp consisting of 360 numbers of solar panels. This enables the institute to utilize the natural solar energy as electric energy.

Roof top solar panel at ICAR-NIASM

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Major events

Network project proposal meeting on climate resilient crops for Maharashtra

A meeting was held on April 9, 2018 to discuss about the status of climate resilience in key crops grown in Maharashtra. In this meeting, there were two scientists from Mahatma Phule Krishi Vidyapeeth, Rahuri; five scientists from Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, two scientists from B. S. Konkan Krishi Vidyapeeth, Dapoli and two scientists from Panjabrao Deshmukh Krishi Vidyapeeth, Akola in addition to scientists from NIASM, Baramati. The meeting was chaired by Prof. Narendra Pratap Singh, Director, ICAR-NIASM. In his introductory remark he emphasised the need to develop climate resilient crops for states like Maharashtra which often faces drought and extreme temperatures that affect both field and horticultural crops.

Network project proposal meeting

IRC meeting

The 8th meeting of Institute Research Council (IRC) of ICAR-NIASM was held on May 3, 2018. The meeting was chaired by Prof. Narendra Pratap Singh, Director, NIASM. All scientists attended the meeting and presented research findings of last year was reviewed and discussed by the scientists. Chairman, IRC expressed gratification about research efforts by the scientists through their various projects. He also urged the scientists to intimate about the new outcomes and institute technologies in farmer's field.

8th IRC meeting at ICAR-NIASM

Farmers fair on pomegranate production technology for doubling farmers income

Farmers fair was organized at Shri Chatrapati Mangal Karyalaya, Bhavaninagar, Indapur on 19 May, 2018 on "Pomegranate Production Technology for Doubling Farmers Income" by ICAR-NIASM, Baramati & ICAR-NRCP, Solapur. In this programme 900 farmers participated and discussions made on pomegranate cultivation, plant protection, post-harvest technologies, marketing etc.

Inaugration and gathering of farmers during farmers fair on pomegranate

One day awareness training program on ISO 9001:2015

Awareness programme on ISO certification was held on June 08, 2018 at ICAR-NIASM. During which quality standards to be maintained in scientific institutes were explained by Shri. D.P. Singh, Quality Consultants, New Delhi during which all the staff including scientific, technical, administrative were present and this institute was continued with an ISO9001:2015 Certification.

ISO awareness and training programme

Major events

Live web telecast of interaction with beneficiaries of agriculture schemes by Hon'ble Prime Minister Shri Narendra Modi

Live telecast and interaction of Honorable Prime Minister Shri Narendra Modi with farmers was made at the Auditorium on 20th June, 2018. The scientific, technical, and administrative staff of the institute along with farmers watched live interactive telecast.

Live telecast of PM's interaction with farmers

Interface meeting between ICAR Institutes and Agriculture Department of Maharashtra

Interface meeting between ICAR Institutes and Agriculture department of Maharashtra was organised by ICAR-NIASM at ICAR-NRC on Grapes, Pune on 20th June 2018. The meeting was chaired by Mr. Sachindra Pratap Singh, Agriculture Commissioner, Pune, Govt. of Maharashtra. Around 35 representatives of various departments/ institutes were actively participated in this meeting. Various issues were discussed to increase the agriculture production and farmers income.

Interface meeting of ICAR-NIASM and Sate Govt. Officials of ICAR-NRCG, Pune

International Yoga Day

The 4th International Yoga Day was celebrated on 21st June 2018 by following the Common Protocol published by Ministry of AYUSH, Govt. of India. All staff members including Scientist, Technical, Administration, Contractual staff and Students participated in the event. The program started with recorded message of Hon'ble Prime Minister Shri Narendra Modi, Hon'ble Minister for External Affairs and Hon'ble State Minister for AYUSH, Govt. of India. This was followed by an introduction to Yoga and the Prayer. All the attendee performed Yoga practices like Asanas, Pranayama, Dhyana, etc. with overwhelmed enthusiasm.

International Yoga Day celebrations at ICAR-NIASM

हिन्दी कार्यशाला सह राजभाषा प्रशिक्षण कार्यक्रम

राजभाषा हिन्दी के प्रयोग को बढ़ावा देने हेतु **''एक दिवसीय हिन्दी कार्यशाला सह राजभाषा प्रशिक्षण कार्यक्रम''** का आयोजन दिनांक 25 जून, 2018 किया गया । इस हिन्दी कार्यशाला सह राजभाषा प्रशिक्षण कार्यक्रम का शुभारंभ करते हुये संस्थान के निदेशक एवं राजभाषा कार्यान्वयन समिति के अध्यक्ष, प्रो. नरेंद्र प्रताप सिंह ने अपने सम्बोधन में संस्थान के दैनिक कार्यो में राजभाषा हिन्दी के प्रयोग को बढ़ाने पर ज़ोर देते हुये **''राजभाषा हिन्दी का महत्व''** विषय पर मार्गदर्शन भी किया तथा गृह मंत्रालय, भारत सरकार द्वारा जारी विभिन्न प्रोत्साहन योजनाओं के बारे में भी अहम जानकारी प्रदान की । इस अवसर पर मुख्य अतिथि व प्रमुख वक्ता के रूप में डा. प्रदिप सोरवडे, विभागाध्यक्ष हिन्दी, टी.सी. कॉलेज, बारामती उपस्थित थे । उन्होने ''विज्ञान और हिन्दी'' विषय पर मार्गदर्शन किया साथ ही प्रशासकीय एवं कृषि अनुसंधान के कामकाज में हिन्दी राजभाषा के उपयोग का महत्व इस विषय मे संस्थान के अधिकारियों व कमचरियों को प्रशिक्षण दिया । इससे पहले डा. आर एल चौधरी, वैज्ञानिक (सस्य विज्ञान) एवं प्रभारी हिन्दी अधिकारी ने अतिथियों का स्वागत करते हुये राजभाषा हिन्दी के प्रयोग को बढ़ावा देने हेतु संस्थान में किए जा रहे प्रयासों पर अपने विचार प्रस्तुत किए । इस एक दिवसीय हिन्दी कार्यशाला सह राजभाषा प्रशिक्षण कार्यक्रम में संस्थान के सभी अधिकारियों व कर्मचारियों ने बढ़–चढ़ कर भाग लिया तथा इसका समापन श्री परितोष कुमार, वैज्ञानिक (पर्यावरण विज्ञान) एवं सदस्य, राजभाषा कार्यान्वयन समिति के धन्यवाद ज्ञापन के साथ सम्पन्न हुआ ।

राजभाषा हिन्दी प्रशिक्षण सह कार्यशाला कार्यक्रम

One day workshop cum training program on scope and prospects of organic farming in sugarcane cultivation

The workshop cum training programme was inaugurated on 26th June 2018 by Shri Rajan Kumar Taware, Chairman, Malegaon, Cooperative Sugar Factory in presence of Prof. Narebdra Pratap Singh, Director, ICAR–NIASM. Other dignitaries Shri. P. Jagtap, Chairman, Someshwar, Cooperative Sugar Factory; Dr. Anil Deshmukh, Deputy Project Manager, ATMA, Pune; Dr. S. S. Ali, Project Coordinator, KVK, Baramati and Shri. D. Padwal, Tahsil Agriculture Officer, Baramati were present during the programme. The two technical sessions (i) organic sugarcane production technologies and (ii) cultivation technologies for increasing productivity of sugarcane and soil health management were organised. The sugarcane

expert from KVK Baramati and Central Sugarcane Research Station, MPKV, Padegaon were also invited. About 100 sugarcane farmers and ICAR-NIASM staff were participated in the workshop.

Workshop on sugarcane organic farming

Quinquennial Review Team (QRT) Meeting

The QRT is Chaired by Dr Gurbachan Singh, Ex Chairman, ASRB, New Delhi and panel of members are Dr K C Bansal, Dr Dilip Kumar, Prof K E Lawande, Dr R S Sidhu and Dr G G S N Rao. First QRT meeting of ICAR-NIASM, Baramati was held at ICAR-NIASM Campus. The first meeting held during 28-29 May, 2018 during which research and infrastructural achievements of ICAR-NIASM since inception was presented by Director and Heads of respective schools. During this Chairman and member of QRT visited ICAR-NIASM infrastructure, research facilities and experimental fields and appreciated the progress made during short span of time. The second meeting of QRT was held during 8-9 July 2018. The meeting was Chaired by Dr Gurbachan Singh and in this meeting all the Directors of ICAR Institutes in Maharashtra, Vice Chancellors, Director of Research of SAU's of Maharashtra participated and emphasised the need of abiotic stress research in their respective crops.

QRT meeting and interaction with VC and Directors of SAUs of other research institutes

72nd Independence Day

72nd Independence Day was celebrated with great enthusiasm at NIASM Campus. The national flag was hoisted by Director NIASM followed by Independence Day speech. All the staff members security personal, RA SRF and other field workers were graced on the occasion.

Flag hoisting by Director, ICAR-NIASM

Summer School on climate change and abiotic stress management strategies for doubling farmer's income

ICAR Sponsored Summer School was organised at ICAR-NIASM during 7-27 September, 2018 and it was inaugurated by Prof. Narendra Pratap Singh, Director ICAR-NIASM, Baramati on 07 September 2018. Twenty four scientists, teachers and researchers from six states including, Tamil Nadu, Telangana, Andhra Pradesh, Karnataka, Madhya Pradesh and Maharashtra were participated in this training programme. Lectures related to abiotic stress management and doubling farmers income in abiotic stressed areas were delivered and also hands on training on use of high-end equipment related to abiotic stress assessment such as Hyper Spectral Remote Sensing, Plant Phonemics facility, ICPMS, UHPLC, orchard management and gene silencing etc. were demonstrated to the trainees.

Summer School programme

Various eminent researchers and speakers from various ICAR Institutes and agriculture universities were also delivered lectures on climate change and abiotic stress management. Valedictory function of this training was held on 27 spetember 2018. During this Dr. A K Singh Ex. DDG (NRM) was the chief guest and Mr. R N Shinde, Chairman, Tirupati Balaji Agro Products Pvt. Ltd, Baramati was the guest of honour.

हिन्दी सप्ताह

संस्थान में 14 सितम्बर से 20 सितम्बर को हिन्दी सप्ताह का आयोजन किया गया। हिन्दी सप्ताह का उद्घाटन समारोह संस्थान के सभागार में आयोजीय किया गया। हिन्दी सप्ताह का शुभारंभ संस्थान के निदेशक महोदय प्रो. नरेन्द्र प्रताप सिंह ने दीप प्रज्वलित करके किया। हिन्दी सप्ताह के दौरान विभिन्न प्रतियोगिताओं जैसे की कम्प्युटर पर हिन्दी टंकण प्रतियोगिता, अंग्रेजी से हिन्दी में अनुवाद, हिन्दी निबंध, वाद–विवाद प्रतियोगिता, हिन्दी गायन/कविता प्रतियोगिता का आयोजन किया किया गया। संस्थान के सभी सदस्यों ने इन प्रतियोगिताओं में बढ–चढ़ कर हिस्सा लिया। हिन्दी सप्ताह के दौरान 19 सितम्बर को एकदिवसीय हिन्दी कार्यशाला का भी आयोजन किया गया। इस हिन्दी कार्यशाला में विशेषज्ञ के तौर पर सावित्री फुले पुणे विश्वविद्यालय के हिन्दी अनुभाग के सहायक प्राध्यापक डॉ महेश द्वंगे ने संस्थान के सभी क्रमचारियों को अपना काम हिन्दी में करने के आसान तरीकों के बारे में अवगत करवाया। उन्होने हिन्दी के समृद्ध साहित्य का उल्लेख करते हुए अपने कार्यों को हिन्दी में करने के फायदे भी बताए। 20 सितम्बर को हिन्दी सप्ताह के समापन समारोह आयोजित किया गया। समापन समारोह के मुख्य

हिन्दी सप्ताह का आयोजन

अतिथि श्री सुरजीत कुमार शाह, मुख्य प्रबंधक, स्टेट बैंक ऑफ इंडिया, बारामती शाखा ने सभी प्रतियोगिताओं के विजेताओं को पुरस्कार वितरित किए। मुख्य अतिथि ने भी अपने वक्तव्य में हिन्दी का अधिक से अधिक उपयोग करने पर ज़ोर दिया। संस्थान के निदेशक महोदय ने अपने समापन समारोह के भाषण में हिन्दी को बढ़ावा देने के लिए, संस्थान में लिए गए विभिन्न निर्णयों से सभी अवगत कराया। समापन समारोह में संस्थान के उन सभी सदस्यों को भी सम्मानित किया गया जो की अपना कार्य हिन्दी में करते हैं। इस प्रकार से संस्थान में हिन्दी सप्ताह का आयोजन बहुत ही कारगर तरीके से किया गया।

हिन्दी सप्ताह समापन समारोह का आयोजन

Swachh Bharat Mission

Under Swachh Bharat Abhiyan more than 100 persons including scientific, administrative, technical, young professionals and research fellows contributed more than 50 hours in different Swachhata Action Plan (SAP) approved activities. Different activities such as cleaning the toilets, office building premises, doing weeding and plantation of flowering plants in front of the office building regularly. Cleaning and eradication drive conducted every month at ICAR-NIASM to make the institute campus plastic waste and Parthenium free. For the implementation of Swachh Bharat Mission, Ministry of Drinking Water & Sanitation has launched a campaign 'Swachhata Hi Sewa-2018' from 15th September to 2nd October, 2018 as part of the 150th Birth year celebration of Mahatma Gandhi. In this campaign cleaning and construction of toilets, awareness campaign in schools, village an school level rally was performed and also waste segregation, vermicomposting unit, sewage water treatment unit were constructed. All the staff and school children around the institute is participated in various activities. Apart from all these activities cleaning of office premises, residential quarters, farm and guest house was also carried out.

Collection of plastic waste in campus

Cleaning of office premises

Waste management by vermi-composting

Swachhata Hi Seva rally by school children at Malegaon

Mera Goan Mera Gaurav

The interaction meeting of Director and scientists from ICAR-NIASM, Baramati with Mr. Sunil Borkar, Superintendent Agriculture officer, Satara. Mr Shivprasad Mangle, Taluka Agriculture officer, Khandala and Mr Sunil Pawar, President, Khadala taluka krishi pratisthan, Khandal was held at Khandala on 24th May, 2018. Prof. Narendra Pratap Singh, Director and Scientists Dr. KK Krshnani, Dr. DD Nangare, Dr. GC Wakchaure and Dr. Bhaskar Gaikwad discussed on giving scientific support from NIASM and physical inputs from agriculture department to farmers of MGMG villages in Khandala tehsil for water management techniques and other inputs for increasing the farmer's income.

Transfer of technology and participation in farmer fair

A team of ICAR–NIASM including Dr. KK Meena, Sr. Scientist (Microbiology), Dr. GC Wakchaure, Scientist SS (AS&PE), Dr. Paritosh Kumar, Scientist (Environmental Sciences) and Mr PR Chahande (STA) participated in State Level Kisan Mela and Farmers Innovation Day (13–15 September 2018) programme organised by ICAR-CAZRI, Jodhpur. The various ICAR–NIASM technologies like Dragon fruit cultivation, microbial biopolymer, SORF machine for sugarcane etc. were demonstrated to about 500 farmers. ICAR– NIASM stall awarded 3rd prize for best stall exhibition. Dr. Om Praksh Yadav, Director CAZRI and exhibition committee appreciated the research work carried at ICAR–NIASM.

Dr. K K Meena receiving best exhibition stall award

Tribal Sub Plan

One day "Krishi Kalyan Abhiyan" (Farmers Welfare and Training Campaign) was organized at Visaravadi on July 19, 2018 by ICAR-NIASM. Accordingly, a training camp was organized on integrated farming technology. On this occasion, about 275 farmers from Navapur and Nandurbar talukas viz. Chitivi, Vadsra, Umaj, Pavla, Nipatwat, Shravati, Surevadi, Pimple, Tebhly, Sonpada, Borle, Sarda and other villages

participated in the training camp. On this occasion, various agricultural inputs such as five types of horticultural seeds, improved manual agricultural implements, mineral mixture for animals, deworming tablets and information booklets were distributed to farmers. Discussions were made on improved animal breeds for higher milk production and about silage preparation technology, fish farming, mechanizing paddy cultivation and improved agricultural implements available in market, integrated fish farming to increase the income of farmers and fishery culture. Head of Nandurbar Agricultural Science Centre Dr. Rajendra Dahatonde was informed about the work done under Krishi Kalyan Abhiyan in Nandurbar district. On this occasion, former District Council Member Mr. Somu Gavit, Sarpanch Chitvi Uttam Gavit, Upasarpanch Baghi, Suresh Gavit (Karanji), Arvind Gavit (Chitvi) and Agriculture Supervisor Shri H. S. Pawar and Shri R.A. Vasava were present.

Participants of TSP training programme

Workshop/Seminar/Symposia/Conference

Prof. Narendra Pratap Singh

- Participated in National Conference on Enhancing Productivity of Oilseeds in Changing Climate Scenario at ICAR-DGR, Junagadh, Gujarat during 07-09 April, 2018.
- Participated in International Conference on "Doubling the Farmers Income through Innovative Approaches" at KVK, Baramati during 09 – 11 April, 2018.
- Participated and chaired the session in BRNS Life Science symposium on Frontiers in sustainable Agriculture. Organized by Bioscience group, Bhabha Atomic Research centre, Mumbai at Anushakthinagar, Mumbai during 26-28th April, 2018.
- Attended Annual Zonal Workshop of KVKs working under Zone VIII (Maharashtra, Gujarat and Goa) at MPKV Rahuri during 05 May, 2018.
- Participated and chaired the poster session on crop production in International Mango Conference, 2018, Organized by BSKKV, Dapoli and ISASaT, Dapoli at Regional Fruit research Station, Vengurlae during 8-11 May 2018.

Workshop/Seminar/Symposia/Conference/Training

- Participated in Steering Indian Agriculture Through Valagro's Sustainable Solutions organized by Valagro Group at Hyderabad 26-27 May, 2018.
- Participated in the 6th Annual Review Meeting of NICRA organised at NASC, New Delhi from 7-9 August 2018.
- Participated in discussion on doubling the farmers income of animal Husbandry at Commissionerate of Animal Husbandry, Aundh, Pune on 2nd August 2018.
- Participated in the 'International Conference on Recent Advances in Food Processing Technology' at Indian Institute of Food Processing Technology, Ministry of Food Processing Industries, Government of India, Thanjavur, Tamil Nadu during 17–19 August 2018.
- Attended 57th All India Wheat & Barley Research Workers Meet at Birsa Agriculture University, Ranchi during 24-26 August, 2018.
- Attended Annual Group Meet of All India Coordinated Research Project on Chickpea at RARI, Durgapura, Jaipur during 27-29 August, 2018.
- Attended Foundation Day & Workshop on "Addressing farmers' issues in pomegranate production , protection & marketing" at ICAR-NRCP, Solapur on 25 September 2018.
- Attended 12th National Symposium on "Coastal Agriculture: Boosting Production Potential Under Stressed Environment" at BSKKV, Dapoli during 28 September to 01 October 2018.

Dr. Jagadish Rane

- Attended DAE-BRNS Life Sciences Symposium on Frontiers in Sustainable Agriculture, organized by BioScience Group, Bhabha Atomic Research Centre, Trombay, Mumbai, during 26-28, April 2018 at Anushaktinagar Mumbai.
- Participated in National Conference on Intensification and Diversification in Agriculture for Livelihood and Rural Development at DRPCAU, Pusa (Samastipur) Bihar during 28-31 May, 2018.
- Participated in discussion on doubling the farmers income of animal Husbandry at Commissionerate of Animal Husbandry, Aundh, Pune on 2nd August 2018.
- Participated and co-chaired the technical session and delivered invited talk in the West Zone Symposium of Indian Society for Plant Physiology organised at MPKV, Rahuri on 4th August 2018.
- Participated in the 6th Annual Review Meeting of NICRA organised at NASC, New Delhi from 7-9 August 2018.
- Participated in the meeting of Science and Technology Group chaired by Hon'ble VC, MPKV Rahuri who is the chairman of State Level Coordination Committee for Doubling the Farmers Income of Maharashtra on 8th August 2018 at Agricultural College Pune.
- Participated and Co-Chaired the technical session of Crop Production in the Annual Chickpea workers meet at RARI, Jaipur from 27 - 29 of August 2018

Dr. Ajay Kumar Singh

- Attended National Conference on 'Enhancing Productivity of Oilseeds in Changing Climate Scenario' during 07 to 09th April, 2018, at ICAR-Directorate of Groundnut Research (ICAR-DGR), Junagadh, Gujarat.
- Attended one day "State Level Biosafety, Capacity Building Workshop" organized by the

Mahatma Phule Krishi Vidyapith (MPKV), Rahuri in collaboration with Biotech Consortium India Ltd (BCIL), New Delhi on April 13, 2018, at MPKV, Rahuri.

- Participated and presented poster in DAE-BRNS Life Science symposium on Frontiers in sustainable Agriculture, organized by Bioscience group, Bhabha Atomic Research centre, Mumbai at Anushakthinagar, Mumbai during 26-28 April, 2018.

Dr. Yogeshwar Singh

- Participated and presented poster paper in DAE-BRNS Life Science symposium on Frontiers in sustainable Agriculture, organized by Bioscience group, Bhabha Atomic Research centre, Mumbai at Anushakthinagar, Mumbai during 26-28 April, 2018.
- Participated in International Mango Conference, 2018, Organized by BSKKV, Dapoli and ISASAT, Dapoli at Regional Fruit research Station, Vengurlae during 8-11th May 2018.
- Attended Divisional Committee Meeting for Monitoring and Reviewing the Progress of Foreign Aided Projects for the period of January to June, 2018 and presented progress of IRRI Aided Projects "Raising Rice Productivity Through Drought Tolerant Rice Varieties and Their Matching Management Practices in Rainfed Environment of Maharashtra" for the period of January to June, 2018 at KAB-II, Pusa, New Delhi. on 4 July, 2018.
- Attended TCC Agricultural Review meeting and presented the progress of DST-HSRS project entitled 'Characterizing sugarcane & citrus stress responses to abiotic & biotic stresses through hyperspectral remote sensing' at ICAR-CRIDA, Hyderabad during 04 September, 2018.

Dr. D D Nangare

- Participated in International Mango Conference, 2018, organized by BSKKV, Dapoli and ISASAT, Dapoli at Regional Fruit research Station, Vengurlae during 8-11 May 2018.
- Participated in the Inception workshop on Climate smart Agriculture and water management at MPKV, Rahuri during July 15-17, 2018

Dr. G C Wakchaure

- Participated in the 'International Conference on Recent Advances in Food Processing Technology' with theme of 'Doubling farmers income through food processing' to be held at Indian Institute of Food Processing Technology, Ministry of Food Processing Industries, Government of India, Thanjavur, Tamil Nadu during 17–19 August 2018,

Dr. Mahesh Kumar

- Attended the workshop on Hospitality Management organized by ICAR-NAARM, Hyderabad during 20-24 April 2018.
- Participated and presented poster paper in DAE-BRNS Life Science symposium on Frontiers in sustainable Agriculture. Organized by Bioscience group, Bhabha Atomic Research centre, Mumbai at Anushakthinagar, Mumbai during 26-28 April, 2018.
- Participated in the 6th Annual Review Meeting of NICRA organised at NASC, New Delhi from 7th to 9th August 2018.
- Participated and presented oral paper in the West Zone Symposium of Indian Society for Plant Physiology organised at MPKV, Rahuri on 4th August 2018.

Dr. Bhaskar Gaikwad

- Participated in the Inception workshop on Climate smart Agriculture and water

management at MPKV, Rahuri during July 15-17, 2018

Mr. Satish Kumar

- Participated in National workshop on Digital Field Book organized by IIMR, Hyderabd and ICAR-DOGR, Pune at ICAR-DOGR Pune on 29th September, 2018.

Mr. C B Harisha

- Participated and presented poster paper entitled 'Make farms sustainable and climate smart with medicinal and aromatic plants. In Abstracts, DAE-BRNS Life Science symposium on Frontiers in sustainable Agriculture. Organized by Bioscience group, Bhabha Atomic Research centre, Mumbai at Anushakthinagar, Mumbai during 26-28 April, 2018.
- Participated in International Mango Conference, 2018, organized by BSKKV, Dapoli and ISASAT, Dapoli at Regional Fruit research Station, Vengurlae during 8-11th May 2018.
- Participated in National workshop on Digital Field Book organized by IIMR, Hyderabd and ICAR-DOGR, Pune at ICAR-DOGR Pune on 29th September, 2018.

Mr. Mukeshkumar P. Bhendarkar

- Participated and presented Poster entitle "Farm Pond based Aquaculture model in perspective of Doubling Farmers Income" at International Conference on Doubling the Farmers Income through Innovative Approaches organised by Agricultural Development Trust, KVK, Baramati from 9-11 April, 2018.

Mrs. Priya George

- Participated and presented poster in West zone Plant Physiology conference held at MPKV Rahuri on 2 August 2018.

Human Resource Development

Trainings attended

- A K Singh attended training programme on 'Intellectual Property Valuation and Technology Management (IPV&TM) during 24 - 29 August, 2018 at NAARM, Hyderabad.
- C B Harisha attended Summer school on Climate change and abiotic stress management strategies for doubling farmer's income at ICAR-NIASM, Baramati during 7-27 September 2018.
- Satish Kumar attended Summer School on Climate change and abiotic stress management strategies for doubling farmer's income at ICAR-NIASM, Baramati during 7-27 September 2018.
- Rajkumar attended training on "Analysis of Experimental Data" at ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad from 6-11th September, 2018.

Lectures delivered

- Dr Jagadish Rane delivered lecture on "Plant Phenomics concepts and advances for crop improvement" in the training programme at Rajasthan Agricultural Research, Institute at Jaipur during 09 August 2018.
- Dr. Jagadish Rane delivered invited lecture on "Phenomics Opportunities for Abiotic Stress Tolerance in Plants" talk in the West Zone Symposium of Indian Society for Plant Physiology organised at MPKV, Rahuri on 4th August 2018.
- Dr Yogrshwar Signh delivered Key lecture on "Potential of Dragon Fruit crop for rocky barren lands and water scarce areas of India" on 30th May, 2018 during the 'National Conference on Intensification & Diversification in Agri. for

Livelihood & Rural Development' organised by the Dr RPCAU in collaboration with CHAI and Amit Foundation during 28-31 May, 2018 at Dr RPCAU, Pusa, Bihar.

- Dr Yogrshwar Signh delivered lecture on 'Weed management in conservation agriculture and related problem in sugarcane based cropping system' during Workshop-cum-meeting on Weed Management in Conservation Agriculture held at ICAR-DWR, Jabalpur (MP) during 11-12 September 2018.
- Prof Narendra Pratap Singh delivered lecture in Summer Institutional training on 'Soil Water Conservation and Watershed Management' ICAR-IISWC, Udhagamandalam, Tamil Nadu during 01 June, 2018.
- D D Nangare delivered a lecture on 'Water management in Pomegranate' in Farmers Fair on "Pomegranate Production technology for Doubling Farmers Income" organized at Shri Chatrapati Mangal Karyalaya, Bhavaninagar, Indapur on 19th May, 2018
- A K Singh delivered lead lecture on, "Development of Climate Resilient Crop Varieties Suitable for Cultivation under Abiotic Stress Conditions with Special Reference to Oilseed Crops' at ICAR-Directorate of Groundnut Research (ICAR-DGR), Junagadh, Gujarat during 7-9 April 2018.
- Mukeshkumar P. Bhendarkar delivered lecture on ''मत्स्यव्यावसायातील संधि'' in training programme on improved technology interventions on integrated farming under Krishi Kalyan Abhiyan at Visarwadi on 19th July 2018.
- Mukesh P. Bhendarkar delivered lecture on ''शेततळ्यातील मत्स्य संवर्धन'' in training programme organized by Krishi Vigyan Kendra, Nandurabar at Visarwadi on 20th July 2018.
- Mukesh P. Bhendarkar delivered lectures in the Worksop on development of fisheries and aquaculture through farmers approach held at Panchayat Samiti, Baramati on 30th September 2018.

Publication

Research papers

- Kumar N, Krishnani K K, Kumar P, Sharma R, Baitha R, Singh D K, Singh N P (2018) Dietary nano-silver: Does support or discourage thermal tolerance and biochemical status in air-breathing fish reared under multiple stressors? Journal of Thermal Biology. 77: 111-121.
- Kumar N, Krishnani K K, Gupta S K, Sharma R, Baitha R, Singh D K, Singh N P (2018) Immuno-protective role of biologically synthesized dietary selenium nanoparticles against multiple stressors in *Pangasinodon hypophthalmus*. Fish and Shellfish Immunology.78:289-298
- Diwakar Y, Harisha C B, Singh B, Kakani R K and Saxena S N., 2018. Floral biology and reproductive behaviour of *Nigella sativa* L. var. Ajmer Nigella-1. Journal of Pharmacognosy and Phytochemistry, SP3: 53-58

Book chapters

- Singh A K, Kumar M, Choudhary D, Rane J, Singh N P. (2018). RNAi approach: a powerful technique for gene function studies and enhancing abiotic stress tolerance in crop plants. In: Biotechnologies of Crop Improvement, Vol II, Transgenic Approaches. Gosal SS and Wani SH (Eds.), Springer International Publishing AG, Cham, USA. Pp. 25-39.

- Singh A K, Kumar M, Choudhary D, Rane J, Singh N P. (2018). Virus Induced Gene Silencing Approach: A potential functional genomics tool for rapid validation of Function of genes associated with abiotic stress tolerance in crop plants. In: Biotechnologies of Crop Improvement, Vol II, Transgenic Approaches, Gosal SS and Wani SH (Eds.). Springer International Publishing AG, Cham, USA. Pp. 113-127.

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Awards

- Mukeshkumar P. Bhendarkar, Scientist (Fisheries Resource Management) awarded best Poster Award during International Conference on Doubling Farmers Income through innovative Approaches" organized by Agriculture Development Trust, Baramati During 9-11 April 2018 held at KVK, Baramati.
- K K Meena awarded with "Adarshvidya Saraswati Rashtriya Purskar" National Award of excellence by Global Management Council of Glacier Journal Research Foundation, Ahmedabad on 22 July 2018.
- K K Meena nominated as Member of Editorial Board of Glacier Journal of Scientific Research on 22 July 2018.
- Mahesh Kumar awarded best oral presentation in West zone Plant Physiology conference for the paper "Image based method for estimation of chlorophyll content in soybean held on 2nd August 2018 at MPKV Rahuri.
- ICAR-NIASM, Baramati exhibition stall has awarded third best stall in State Level Kisan Mela and Farmers Innovation Day (13–15 September 2018) programme organised by ICAR-CAZRI, Jodhpur.
- Priya George awarded best poster award in West zone Plant Physiology conference held at MPKV Rahuri on 2 August 2018.

First Quinquennial Review team of ICAR-NIASM, Baramati

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Distinguished visitors

1. Dr. Gurbachan Singh, QRT Chairman, Ex-Chairman, ASRB, New Delhi, 8 July 2018 and 28 May 2018
2. Dr. Rajinder Singh Sidhu, Registrar, Punjab Agriculture University, Ludhiyana, 8 July 2018 and 28 May 2018
3. Prof. Dilip Kumar, Ex Director, ICAR-CIFE, Mumbai, 8 July 2018

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4. Prof. K E Lawande, Ex Vice Chancellor, Dr.BSKKV Dapoli, 8 July 2018.
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6. Dr. G G S N Rao, Ex Project Coordinator, AICRP-Agromet, ICAR-CRIDA, Hyderabad, 8 July 2018 and 28 May 2018.
7. Dr. A S Dhawan, Vice Chancellor, NMKV, Parbhani, 8 July 2018.
8. Dr. H P Singh, Ex DDG (Hort. Sci.), ICAR-New Delhi, 24 May 2018.
9. Dr. K P VIshwanatha, Vice Chancellor, MPKV, Rahuri 8 July 2018.
10. Dr. P M Haldankar, Director Research, Dr. BSKKV, Dapoli, 8 July 2018.
11. Dr. Sammi Reddy, Director, ICAR-CRIDA, Hyderabad, 8 July 2018.
12. Dr. S D Sawant, Director, ICAR-NRC on Grapes, Pune, 8 July 2018.
13. Dr. Jyotsana Sharma, Director(Acting), ICAR-NRC pomegranate, Sholapur, 8 July 2018.
14. Dr. K V Prasad, Director ICAR-DFR, Pune, 8 July 2018.
15. Dr. Major Singh, Director, ICAR-DOGR, Rajgurunagar, Pune, 8 July 2018 and 19 September 2018.
16. Dr. Subodh Gupta, Principal Scientist, ICAR-CIFE, Mumbai, 8 July 2018.
17. Dr. P S Paithankar, PDKV, Akola, 8 July 2018.
18. Dr Nandini Nimbakar, NARI, Phaltan, 8 July 2018.
19. Dr. S M Paul Khurana, Ex Vice Chancellor, Rani Durgavati University, Jabalpur and QRT Chairman NIBSM, Raipur, 9-10 July 2018.
20. Dr. R H Lakshman, Principal Scientist (Plant Physiology), ICAR-IIHR Bangalore, 14 September 2018.
21. Dr. M Prabhakar, Principal Scientist, (Entomology), ICAR-CRIDA, Hyderabad, 15 September 2018.
22. Dr. Ajay Kumar Upadhyay, Principal Scientist, ICAR-NRC Grapes, Pune, 15 September 2018.
23. Dr. Maheshwari, Head (Crop Sciences), ICAR-CRIDA, Hyderabad, 15 September 2018.
24. Dr. A K Singh, Principal scientist, ICAR-IISR, Lucknow, 19 September, 2018.
25. Dr. R N Sahoo, Principal Scientist (Agril. Physics) ICAR-IARI, New Delhi. 22 September 2018.
26. Dr. S K Bal, Principal Scientist (Agro Met.) ICAR-CRIDA, Hyderabad, 22 September 2018.
27. Dr. V K Singh, Head (Agronomy), ICAR-IARI, New Delhi, 25 September 2018.
28. Dr. Sanjeev Gupta, Principal Scientist (Plant Breeding), ICAR-IIPR, Kanpur, 25 September 2018
29. Dr. A K Singh, Ex DDG (NRM), ICAR and Ex VC RVSKVV, Gwalior, 22 September 2018.
30. Mr. R N Shinde, Chairman, Tirupati Balaji Agro Products Pvt. Ltd. Baramati, 22 September 2018.

New joining

Shri. Anil Kumar Sidharth, Finance and Accounts Officer joined at ICAR-NIASM, Baramati from ICAR-IIWBR, Karnal.

Transfer

– Dr. K K Krishnani, Principal Scientist, SESM, transferred to ICAR-CIFE Mumbai on 30st June 2018.

– Dr. R L Chaudhary, Scientist (Agronomy) transferred to ICAR-DRMR, Bharatpur on 30st June 2018.

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