



SLREC 23-24

Odisha University of Agriculture & Technology Bhubaneswar

PROCEEDINGS OF STATE LEVEL RESEARCH AND EXTENSION COUNCIL MEETING 2023-24

Date: 23rd -25th May 2023

The State Level research and Extension Council meeting of Odisha University of Agriculture and technology was held during 23rd to 25th May 2023 at M S Swaminathan Hall of OUAT. The SLREC meeting was conducted to review the research and extension activities undertaken during the year 2022-23 and finalizing the action plan for 2023-24. All the scientists of Directorate of Research (RRTTS, RRTSS, Commodity Research Station, All India Co-ordinated Research Projects and other associated projects & establishments) & Directorate of Extension (KVKs and other associated projects under Extension), Deans, Directors & Heads of the Department of constituent colleges, representatives of State Agriculture and allied departments, scientists from ICAR institutes, and representatives from industries, FPOs, SHGs had participated the meeting physically.

The meeting was conducted with the following sessions and activities:

Date	Session	Activity
May 23, 2023	Inaugural Session	-
	Technical Session – I	Presentations of Research activities on Crop Improvement, Crop Production, Soil Fertility & NRM, Plant Protection
	Technical Session – II	Presentations of Research activities on Horticulture, Agricultural Engineering, Animal Science and Allied Science
May 24, 2023	Technical Session – III	Presentations of Extension Activities of KVKs on Crop Production, Soil fertility & NRM, Horticultural Science, Plant Protection, Farm Mechanization
	Technical Session – IV	Presentations of Extension Activities of KVKs on Home Science, Animal and Fisheries Science, Social Science
	Technical Session – V	Presentations of Seed Production Activities
May 25, 2023	Special Session– I	Innovations in Millet Research and Extension
	Special Session – II	Industry Academia Interface
	Plenary Session	-

The major outputs of research and extension activities and the outcomes generated from the discussions in different sessions are as follows:

I. Inaugural Session

Date: 23.05.2023

Time: 10.00 AM

Venue: Dr. M. S. Swaminathan Hall, OUAT

Chairman : Prof. P.K.Roul, Hon'ble Vice-Chancellor, OUAT

Chief Guest : Shri S. K. Vashishth, I.A.S., Principal Secretary, F & ARD

Co-Chairman: Prof. S. K. Swain, Dean of Research, OUAT
Prof. P.J. Mishra, Dean, Extension Education, OUAT
Prof. H. K. Patro, Dean, CA, OUAT, Bhubaneswar

Rapporteur : Dr. T.R. Mohanty, OIC, AICRP on Agro meteorology, OUAT
Dr. Amit Phonglosa, Dy. Director Extension (Soil Sc.)

The session started with watering of the holy plant by the dignitaries and formal welcome address by Prof. P. J. Mishra, Dean, Extension Education. Prof. S. K. Swain, Dean of Research, OUAT presented the research activities carried out at OUAT during 2022-23 and the highlights are given below.

Highlights of research activity:

- The monsoon seasonal rainfall (June to September) is likely to be 96% of the Long Period Average (LPA) and the monsoon onset over Kerala may be slightly delayed and to be on 4th June, 2023 as per the IMD forecast.
- A total number of 21 crop varieties (six nos. of Rice and one variety each of Finger Millet, Little Millet, Greengram, Groundnut, Mustard & Sesame in field crops; three nos. of Ginger, two nos. of Turmeric and one each of Brinjal, Chilli, Tomato & Dolichos bean in horticultural crops) have been released for the state during 2022-23, taking the total number of crop varieties released from the University to 191.
- During 2023-24, 25 nos. of variety release proposals (Rice- 10, Mustard-2 and one var. each from crops viz. Finger Millet, Mungbean, Urdbean, Toria, Niger, Castor, Potato, Mango Ginger, Sugarcane, Cashew, Chilli, Tomato, Amaranthus and French bean) have been planned to be submitted to CVRC/SVRC for release.
- A total of 789 experiments under themes of Crop Improvement, Crop Production, Soil Fertility, Plant Protection, Horticultural Sciences, Agricultural Engineering, Animal Science, Allied and Social Sciences were conducted during 2022-23 out of which 107 were concluded and 682 experiments will be continued during 2023-24 as ongoing experiments. Apart from that, a total of 147 new experiments were proposed and approved to be conducted during 2023-24.
- Two patents on “Miniaturised system for cost effective and small scale vegetable oil refining” and “Ragi thresher-cum-perler” have been granted in 2022-23

The achievements under the Directorate of Extension were presented by Prof. P. J. Mishra, Dean, Extension Education, OUAT.

Highlights of extension activity:

- During 2022-23, a total of 254 On Farm Testing (OFT), 484 Front Line Demonstrations(FLD) were conducted under different themes like Crop Production, Soil Fertility, Horticultural Crops, Plant Protection, Fishery Science, Animal Science, Agril. Engineering, Nutrition, Livelihood, Post-harvest, Value chain & Gender issues.
- A total no. of 2357 trainings have been conducted involving more than 57,000 farmers/farm women, rural youth, extension personnel.
- For advisory services, 1183 messages were sent to the farmers database of 25, 54,009 farmers' through KISSAN Mobile Advisory Service. During last year, 9820 of soil samples, 840 no. of water samples have been tested and 1320 of Soil Health Card have been distributed to farmers.
- A total of 783 numbers of farmers have been benefited through Distance Education programme on various crops.
- Different projects with multifaceted activities like NICRA, ARYA, Natural Farming, Rice Fallow Management, Agricultural Drone Spray Technology, Agriculture Skill Council of India (ASCI), Plant Health Clinic, and RESILIENCE are being operational at different KVKs.

Remarks of Chief Guest: S. K. Vashishth, I.A.S., Principal Secretary, F & ARD

- He cited a tagline “Research is Science & Extension is Art” and emphasized the importance and coordination of both Research & Extension activities for harnessing better results.
- Research findings need to move from the laboratory and reach the farmers for which there is a requirement of coordinated approach among Govt. Officers, OUAT, ICAR and farmers.

Remarks of Chairman: Prof. P. K. Roul, Hon'ble Vice-Chancellor, OUAT

- Three centers of excellence on cutting edge science such as Genomics, Precision Farming and Regenerative Agriculture are in the process of establishment in the University.
- One NABL accredited laboratory has been approved by the Govt. to develop state-of-the-art facilities for testing of organic products and inputs.
- The Dr. G.V. Chalam Seed Testing Research Laboratory in the University has been notified by the State Govt. for testing of seed samples.
- An amount of Rs.13 crores for the advancement of the laboratory and Rs.7 crores for upgradation of Teaching & Veterinary Clinical Complex has been sanctioned by the Govt.
- All teachers/ researchers/ extension scientists should understand the requirements of farmers & work in a coordinated manner so that the ultimate benefit goes to farmers.
- Present agriculture is facing a significant threat from climate change as extreme weather events are on the rise. So we should develop efforts to address this climate change issue

with priority by emphasizing our research on Crop Improvement, Precision Farming, Natural Farming, Nano Technology and other relevant fields.

The meeting ended with a warm vote of thanks by Prof. H.K. Patro, Dean, College of Agriculture, Bhubaneswar to all the dignitaries and participants.

II. Technical Session- I (Research activities on Crop Improvement, Crop Production, Soil Fertility & NRM, Plant Protection)

Date: 23.05.2023

Time: 12:00 Noon

Venue: M.S. Swaminathan Hall, OUAT

Chairman: Prof. S. K. Swain, Dean of Research, OUAT, Bhubaneswar

Co-chairmen: Prof. H. K. Patro, Dean, College of Agriculture, Bhubaneswar,
Prof. B. S. Rath, Head, Department of Agronomy, CA, BBSR,
Prof. A. K. Dash, Head, Department of Soil Science, CA, BBSR
Prof. J. Padhi, Head, Dept. of Entomology, CA, BBSR

Rapporteur: Dr. Manasi Dash, Breeder, Dept. of G & PB, CA, Bhubaneswar,
Dr. (Mrs.) J. Pattanaik, Agronomist, AICRP on Sugarcane, Nayagarh
Dr. M. K. Rout, ASRO (Seed Pathology), STR, AICRP on seed (Crops)

The Nodal Officers of different themes *viz.* Dr. Ashok Mishra, OIC & Breeder, AICRP on Potato (Crop improvement), Dr. Rabiratna Dash, Sr. Scientist & OIC, AICRP on weed management (Crop production), Dr. R. K. Nayak, Sr. Scientist & OIC, AICRP on MSPE (Soil fertility & NRM) and Dr. A. Sasmal, Assoc. Prof., Dept. of Entomology (Plant protection) presented the activities of respective thematic groups carried out at the research stations, sub stations, commodity research stations and associated AICRPs.

Research findings of concluded experiments and the details of new experiments that are proposed to be taken during 2023-24 of different disciplines were presented during the session. The experimental status of the selected themes in numbers is as follows:

Experiments conducted during 2022-23 and action plan for 2023-24

Discipline	2022-23			2023-24		
	Target	Conducted	Concluded	On-going	New	Total
Crop Improvement	340	338	30	308	39	347
Crop Production	102	101	19	82	30	112
Soil Fertility& NRM	26	26	5	21	7	28
Plant Protection	154	153	16	137	26	163
Total	622	618	70	548	102	650

The varieties released by OUAT during 2022-23 and variety release proposal to be submitted during 2023-24 are as follows:

Field crop and spices varieties released during 2022-23

Sl. No.	Crop	Nos.	Variety Name
1	Rice	6	OUAT Kalinga Rice 1 (Kolab), OUAT Kalinga Rice 2 (Salandi), OUAT Kalinga Rice 5 (Nabanna), OUAT Kalinga Rice 6 (Bhargavi), OUAT Kalinga Rice 7(Barunei), OUAT Kalinga Rice 8 (Suryashree)
2	Finger Millet	1	OUAT Kalinga Finger Millet 1 (Shreeratna)
3	Little Millet	1	Kalinga Suan 18
4	Green gram	1	OUAT Kalinga Greengram 1 (Shreejan)
5	Groundnut	1	OUAT Kalinga Gorundnut 1 (Dhara)
6	Mustard	1	OUAT Kalinga Mustard 1 (Sampoorna)
7	Sesame	1	OUAT Kalinga Sesame 1 (Ashrit)
8	Ginger	3	OUAT Kalinga Ginger 1 (Subhada), OUAT Kalinga Ginger 2 (Saurbh), OUAT Kalinga Ginger 3 (Prayag)
9	Turmeric	2	OUAT Kalinga Turmeric 1 (Surangi), OUAT Kalinga Turmeric 2 (Gourab)
	Total	17	

Variety release proposals of crops and spices to be submitted during 2023-24

Sl. No	Crop	Number	Station
1	Rice	10	RRTTS, Ranital (3) Rice Res. Station, Jeypore (4) AICRP on Rice,EB-1, BBSR(3)
2	Finger Millet	1	AICRP on Small millet
3	Urd bean	1	AICRP on MULLaRP
4	Mustard	2	AICRP on R & M
5	Toria	1	AICRP on R & M
6	Niger	1	AICRP on Niger
7	Castor	1	AICRP on Castor
8	Potato	1	AICRP on Potato
9	Sugarcane	1	AICRP on Sugarcane
10	Mango Ginger	1	AICRP on Spices
	TOTAL	20	

MLT Activity variety release: Multi Location Trial of selected entries of different crops (Rice- 4, Maize-2, Potato-2 and one each of finger millet, green gram, black gram, pigeon pea, groundnut, mustard, sesame, cotton, tobacco, ginger and mango ginger) have been proposed to be conducted during 2023-24.

Some salient research finding:

- *Weed management in Direct Seeded Rice (Drilled):* Pre-emergence application of (Pretilachlor 6% + Bensulfuron methyl 0.6% GR) @ 660 g followed by hand weeding at 20 DAS for effective management of weed complex in DSR. (RRTTS, Bhubaneswar & Bh.patna)
- *Organic Nutrient management in Ginger:* Bio fertiliser consortia 12kg/ha (Azotobacter, Azospirillum and PSB @ 4Kg each) +10 t FYM + 4t leaf(karanj) litter + neem cake 2q/ha + pot manure as organic source of nutrients to realize higher yield.(RRTTS, G. Udaygiri)
- *Sowing window and moisture conservation in chick pea:* Sowing on 25th Nov with seed priming by CaCl₂ solution @ 0.5% for 8 hours followed by straw mulching @ of 5 t/ha proved to be the most effective practice for late sown chick pea.(RRTTS, Keonjhar)
- *Integrated weed management in Toria:* Application of Pendimethalin 30 EC @ 0.75 kg per ha as pre emergence spray followed by rice straw mulch at 12 DAS @ 5 t/ha for effective in control of mixed weed flora in line sown toria. (AICRP on Weed management)
- *Nutrient management for organic cotton cultivation:* Recommended dose of nutrients on P equivalent basis (Seed treatment with Aotobacter and PSB @25 g/kg + FYM@ 5t/ha + Castor cake@ 2.5 t/ha + green manuring with Sunhemp @ 25 kg seed/ha) can be recommended as the best source of nutrients for organic cotton production.(AICRP on Cotton)
- *Organic management of maize + tuber crops intercropping system:* Intercropping of maize + yam with application of Bio-fertilizer consortium 5 kg/ha + FYM 5 t/ha + vermicompost @2 t/ha at top dressing for higher system yield.(AICRP on Dryland)
- *Targeted yield equations* have been formulated for site specific nutrients management for Chick pea:-
 - FN = 4.99 T- 0.14 SN - 0.19 ON
 - FP₂O₅ = 11.3 T-1.15 SP₂O₅ - 1.28 O P₂O₅
 - FK₂O = 3.93 T- 0.11 SK₂O - 0.21 O K₂O

Fertilize dose of N, P and K will be decided based on targeted yield of chick pea and Avg. N, P, K status of Soil and N, P and K from organic source. Application of fertilizers based on STCR equations recorded 12-18% more yield as compared to soil test based fertilizer application in an inceptisol. (AICRP on STCR)

- The status of toxic elements in water, soil and crop of Narasinghpur, Badamba and Cuttack Sadar block: The fluoride content in ground water ranged from 0.58- 4.95 mg l⁻¹ of Narasinghpur block and 72% of ground water samples were beyond its permissible

limit (1 mg l^{-1}). 59% and 36% of ground water samples were above its reference values for Cd ($3 \text{ } \mu\text{g l}^{-1}$) and Pb ($10 \text{ } \mu\text{g l}^{-1}$) respectively. Hazard index (HI) found higher in children compared to adults and HI value for the crops followed the order: Rice> Potato> Spinach > Carrot> Tomato> Green gram Okra> Black gram> Mustard (AICRP on MSPE)

- *Evaluation of prominent insecticides against bollworm complex of cotton:* Spraying of Chlorantraniliprole 18.5 SC @ 150 ml/ ha twice at an interval of 20 days by initiating the 1st spray at 60DAS & 2nd spray at 80 DAS
- *Fruit fly management in bitter gourd:* The IPM module constituting 'Food Bait @(20 Baits/ha, 100ml/bait) (Mixture of 1kg Cucumber fruit pulp + 50g Gur + 100ml cow urine+ 0.5 l water and kept for overnight, diluted in 5 l water and added 10ml Malathion) + Pheromone Trap with Cue- Lure @25traps/ha installed at 20days after sowing (Change of lure at 20 days interval). + Foliar spray of Spinosad 45 SC @200ml/ha at 45 and 60 DAS

Suggestions/ Remarks:

The suggestions and remarks by Hon'ble Vice-Chancellor, Chairman and Co-chairmen during the session are given below.

- Timeline for submission of variety release proposals was fixed as 30th Sept 2023 and the activity of proposal submission is to be monitored and reviewed by Dean of Research.
- Seed production plan for of recently released OUAT varieties to be developed.
- Focus should be given on varietal development of non-paddy crops.
- While developing paddy varieties, in addition to yield focus should be given on other criteria like biotic and abiotic stress tolerance, nutritional and value-added product quality.
- OUAT developed crop varieties and transferable technologies are to given priority in the OFT / FLDs of KVKs.
- Compendium of germplasm in different crops maintained at research stations and AICRPs should be developed with their characterization.
- Quick methods like STCR, crop simulation models, RCM, Nutrient experts or any other approaches may be explored, followed and be validated for revisiting the RDF of different crops (at least at one or two zones during this year).
- All AICRPs should design the station trials based on the researchable issues of their respective zone.
- Soil test-based fertilizer recommendation should be followed instead of RDF while conducting the experiment.
- Research on biofertilizer application should be encouraged in view of scarce availability of FYM.
- For plant protection trials, incremental cost benefit ratio needs to be calculated instead of simple cost benefit ratio.

- Under the current climate change scenario, experiments on “revisiting the sowing window of important crops” may be designed and conducted at all AMFU & DAMU stations.
- For amelioration of toxic elements in soil and water at Baramba area, a project proposal should be submitted in collaboration with RMRC, Bhubaneswar.
- Unified OUAT template for PPT presentation needs to be prepared and circulated to all scientists and faculties.

The session ended with thanks to Chairman, Co-chairmen and all the scientists participated during the session.

III. Technical Session-II (Presentations of Research activities on Horticulture, Agricultural Engineering, Animal Science, Allied Science)

Date: 23.05.2023

Time: 3.00PM

Venue: Dr. M. S. Swaminathan Hall, OUAT

Chairman: Dr. S. K. Dash, Dean, College of Agricultural Engineering & Technology

Co-Chairmen: Dr. S. K. Panda, Dean, College of Vety. Sc. & AH

Dr. G. S. Sahu, Head, Dept. of Fruit Science, CA, Bhubaneswar

Dr. B. P. Mohapatra, Head, Dept. of Extension Education, CA, Bhubaneswar

Rapporteur: Dr. S.K. Palai, OIC, AICRP on Floriculture, Bhubaneswar

Dr. (Mrs.) M. Mohapatra, Scientist, AICRP on PHET

The research activities of four themes *viz.* Horticulture, Agricultural Engineering, Animal Science, Allied Science were presented in this Technical Session.

The Nodal Officers of different themes *viz.* Dr. Pramod Kumar Panda, OIC, AICRP on Cashew (Horticulture), Dr. Santosh Kumar Mohanty, OIC, AICRP on ESA (Agricultural Engineering), Dr. Purna Chandra Mishra, OIC, AICRP on NPAERPA (Animal Science) and Dr. Pravasini Behera, OIC, AICRP on Honeybee & Pollinators (Allied Science) presented the activities of respective thematic groups.

The experimental status of these themes is as follows:

Theme	2022-23			2023-24		
	Target	Conducted	Concluded	Ongoing	New	Total
Horticulture Science	114	114	19	95	28	123
Agricultural Engineering	24	24	10	14	7	21
Animal Science	17	17	7	10	8	18
Allied and Social Science	16	16	1	15	2	17
Total	171	171	37	134	45	179

The vegetable crop varieties released by OUAT during 2022-23 and variety release proposals to be submitted during 2023-24 are as follows:

Vegetable crop varieties released: Four varieties of horticultural crops (vegetable) have been released during 2022-23 by SVRC. The brief characteristics of these varieties are as follows:

1. **Chilli: OUAT Kalinga Chilli 1 (Ragini):** The variety is resistant to bacterial wilt & leaf curl virus disease with an average yield of 125-132 q/ha (Green) and 25-28 q/ha (Dry).
2. **Dolichos bean: OUAT Kalinga Dolichos bean 1 (Jaykrushna):** The variety is with round to flat fleshy fruit, moderately resistant to leaf spot and tolerant to pod borer. Its average yield is 95-110 q/ha.
3. **Brinjal: OUAT Kalinga Brinjal 1 (Banita):** The variety is with round fruits of green colour and white stripes. It is resistant to bacterial wilt, moderately resistant to fruit and shoot borer with average yield of 342.02 q/ha.
4. **Tomato: OUAT Kalinga Tomato 1 (Gouri):** It is a bacterial wilt and fruit borers resistant variety to with average yield of 383.42 q/ha.

Variety proposals to be submitted during 2023-24: Variety release proposals of five entries, viz. one each of Cashew by AICRP on Cashew and Chili, Tomato, Amaranthus and French bean (Pole type) by AICRP on Vegetables will be submitted during 2023-24.

MLT Activity for variety release of vegetable crops: Multi Location Trial of selected entries of different vegetable crops viz: one each of brinjal, chilli, cucumber and bittergourd has been proposed to be conducted during 2023-24.

Some salient research findings during 2022-23

Horticultural Science

- *Banana crop management under moisture stress:* Foliar priming of banana with Acetyl salicylic acid (18 mg/l) during soil moisture stress applied at 5th MAP(months after planting) and at flowering resulted in an yield of 71.56 t/ha and 71.09 t/ha respectively, which are at par with irrigated control (73.24 t/ha).
- *Seed production in parthenocarpic cucumber:* Foliar application of silver nitrate @500 ppm, during 2 and 4-true leaf stage in parthenocarpic cucumber (var. Cu-3) resulted in highest number of male flowers (56), maximum seed yield (397.55 kg/ha) and BCR (3.32).
- *INM in bottle gourd:* Application of 75% STBNR + 25% N through vermicompost, resulted the highest yield per ha (37.6 t/ha) in bottle gourd var. Utkal Shobha with a BC ratio of 3.55.
- *Nutrient management in Mango + pineapple intercropping system:* Application of FYM (10t/ha) + 125% RDF (pine apple)* with normal RDF to mango, resulted the highest yield of mango and pineapple (72.39 q/ha and 93.82 q/ha) with net return of Rs 3.02 lakhs/year/ha and BCR 2.46.

* RDF of pineapple: N: P₂O₅: K₂O = 12:8:10 gm/plant

Agricultural Engineering

- *Bullock drawn 4-row seed drill for millets* (finger millet, little millet, etc) with output of 0.123 hah⁻¹ and field efficiency of 63% can be used for sowing all types of millets and is beneficial to small and marginal millet growers.
- *Animal operated Barnyard millet thresher* has a productivity output of 22.82 kg/ha' with threshing efficiency of 97.15%.
- *Power tiller operated groundnut digger* with a capacity 0.07- 0.11ha/h, saves Rs.1800/ha compared to manual method.
- A set of *equipment for potato cultivation* (reduction in cost by 59 % as compared to traditional method)
 - Tractor operated spading machine + rotavator for field preparation
 - Tractor operated paired row vertical belt potato planter for planting
 - Tractor/ power tiller operated potato digger for harvesting
- *Power operated coconut dehusker* with a capacity of dehusking 180-200 nuts/h (dehusking efficiency- 94 %) at a cost of dehusking -Rs.0.27/nut against Rs.0.57/nut in manual coconut dehusker is ideal for coconut growers.
- *Active packaging film for vegetables*: A film prepared using Poly-butylene adipate-terephthalate (PBAT) and Thermo Plastic Starch (starch with glycerol 5:1, w/w) mixed in the ratio of 70:30 with 0.9 % silver nano particles can be used as an antimicrobial packaging film and the film is 34.76% biodegradable in 150 days.
- The raised and sunken bed system with organic mulching in finger millet + okra and finger millet + bean intercropping system in rainfed condition of the hilly ecosystem can be practiced for higher system yield and water use efficiency.

Animal Science

- Supplementation of vitamin E @ 2g for 60 days along with ASMM @ 50 g resulted in 50% estrus induction rate and 60% conception rate in Binjharpuri heifers.
- Supplementation of Bael + Curry leaves @ 100 g / day for a week and vitamin E along with ASMM resulted in 83.3% conception rate in Binjharpuri cattle.
- “OUAT Kalinga Pallishree” coloured broiler birds attain a live weight of 1.7 kg at 6 weeks of age with FCR of 1.88. These birds fetch 20% higher market price over the commercial broilers.
- A stocking density of 0.70 sqft per bird in deep litter system is recommended for commercial poultry broilers in North Eastern Ghat Zone.
- Selective breeding, vaccination against PPR, Goat pox, HS (*Hemorrhages septicemia*), Enterotoxaemia, and supplementation of mineral mixture and concentrate resulted in improvement in body weight of goats i.e. 2.67 kg at 9 month and 6.18Kg in 12 month.
- Rearing of kids on plastic slatted floor resulted in higher body weight.

Allied Science

- Application of loam soil and FYM (1:1) of 1 inch (apprx. 500g/bag) as casing materials after completion spawn run of milky mushroom (*Calocybe indica*), produced 1146.7g mushroom/ 1500g dry substrate with 76.4% biological efficiency.
- Comb honey production technology has been standardised. Comb honey is the honey that comes straight from the hives to the ultimate user in its natural form.

Suggestions/Remarks

The suggestions and remarks by Hon'ble Vice-Chancellor, Chairman and Cochairmen during the session are given below.

- Bacterial wilt resistant brinjal cv. Utkal Anushree and BB-67 can be used as root stock in production of grafted brinjal plants.
- AICRP on Tropical Fruits to take up experiments on panama wilt management in banana cv. Patakapura.
- Seed production of OUAT released vegetable cultivars and its popularization to be taken up in collaboration with KVKs
- Research & Development work on natural farming may be considered with involvement of the regional stations/KVKs.
- Trials on development of economic packaging technology for long distance transport of paddy straw mushroom should be taken up.
- Package of practices for production of paddy straw mushroom using crumpled straw are to be standardized.
- Protocols for production of mushroom spawn using paddy grain instead of wheat and PP container instead of glass bottles to reduce cost of spawn production are to be developed.
- The experiment on mushroom production on banana pseudostem substrate is to be replaced with maize stover or any other crop residue available in large quantities and should be location specific.
- Two training programmes for skill development of KVK Scientists will be organized by the DEE as follows:

Sl. No.	Title of training	Training to be organized by	Dateline
1	Recent advances in production of honey	AICRP on Honey bee and Pollinators	15 th June, 2023
2	Recent advances in mushroom cultivation	AICRP on Mushrooms	30 th June, 2023

The house was also appraised on the innovative steps being taken by the University for watershed management through the REWARD project (Both LRI and Hydrology

Components) by concerned PIs (Dr. K.N. Mishra, Professor (Soil Science) for LRI and Dr. B.C. Sahoo, Professor (SWCE) for Hydrology) and about the online generation of Publication numbers for OUAT Publications by Dr. Asim Ch. Dash, Agronomist, SRF, Gambharipalli.

The session ended with thanks to Chairman, Co-chairmen and all the scientists participated during the session

IV. Technical Session-III: Presentations of Extension Activities of KVKs on Crop Production, Soil fertility & NRM, Horticultural Science, Plant Protection, Farm Mechanization

Date: May 24, 2023

Time: 10:00 AM

Venue: Dr. M. S. Swaminathan Hall, OUAT

Chairman: Dr. H. K. Patro, Dean, College of Agriculture

Co-Chairman: Dr. D. Behera, Dean, PGF cum DRI

Dr. A. K. Senapati, Head, Dept. of Plant Pathology, CA, Bhubaneswar

Dr. P. Tripathy, Professor, Dept. of Vegetable Science, CA, Bhubaneswar

Rapporteur: Dr. S. K. Nath, Sr. Scientist & Head, KVK, Deogarh

Dr. A. K. Swain, Sr. Scientist & Head, KVK, Nayagarh

After the opening remarks by Chairman of the session, the extension activities of KVKs under different themes were presented as follows:

A. Crop Production, Soil fertility & NRM (29 KVKs) presented by Dr. Aourovinda Das, SS & H, KVK, Bhadrak

(i) Suggested Transferable Technologies:

- HYV Rice (Kalinga dhan-1203, CR 506, CR Dhan 102, Nuadhusara), Bio-fortified rice (CR Dhan 315, CR Dhan310, CR Dhan 311), Climate resilient Rice (CR Dhan 801, CR Dhan 802, Hasant)
- Weed management for enhancement on productivity Rice and Maize
- Hyb. maize Kalinga Raj, Sweet corn Var. Pusa Super Sweet corn 1
- Finger millet: Arjun and Kalua
- Improved crop production technology for blackgram and greengram
- Production technology for Groundnut, Sunflower, Mustard, Sesame
- Improved technology for cash crops (Sugarcane, Cotton, Jute)
- Biofertilizer application in vegetable crops like tomato, brinjal, banana
- Agro-forestry technologies on Turmeric

(ii) Achievement (2022-23) & Action Plan (2023-24):

2022-23

- KVKs Conducted 63nos. of On Farm Trials as per the farmers problem at 450 locations
- 123 Front Line Technology based Demonstration in an area of 189ha.

- 512 nos. of training programmes for 12484 participants
- Cluster demonstrations on Pulses in an area of 490ha. and 730ha in oilseeds crops
- 500ha. area demonstration on pulse under Rice fallow management activities
- NICRA Project at 9 KVKs on Natural Resource Management

2023-24

- 58 nos. of OFTs will be conducted at 451 locations for its validation during 2023-24
- 116 Front line demonstrations in an area of 1300ha. during 2023-24.

B. Horticultural Science(23 KVKs) presented by Dr. Sanghamitra Pattnaik, SS & H, KVK, Mayurbhanj-I

(i) Suggested Transferable Technologies:

- Triple Resistance Tomato varieties: Arka Samrat, ArkaAbhed, ArkaRaskhyak
- Marigold variety: BM-2
- Cowpea variety: Kashi Nidhi
- Potato Variety: Kufri Khyati
- Weed management in *rabi* Onion
- Integrated nutrient management in Chili, Bitter gourd, Cauliflower, banana, tuberose
- Production Techniques like Staking in Tomato, Lean to Type trellis in Bitter gourd, Single Line trellies in Cucumber
- Nursery Raising Techniques in Pro Tray

(ii) Achievement (2022-23) & Action Plan (2023-24):

2022-23

- 40 nos. of On Farm Trials as per the farmers problem at 266 locations during
- 79 Front Line Demonstration on technology based in an area of 23.8ha
- 333nos. of training programmes for 7905 participants(F/FW/R/Y/IS)

2023-24

- On Farm Trials on 23nos of Technology will be assessed.
- 92nos of demonstrations at 920 farmers field in the current year.

C. Plant Protection(24 KVKs) presented by Dr. Debasish Mishra, SS & H, KVK, Angul

(i) Suggested Transferable Technologies:

- Integrated management of Anthracnose in Yam
- Integrated management of Mites in Marigold
- Integrated management of Fall Army Worm in Maize & Sweet corn
- Neck-blast management in Rice
- Management of Sheath rot in Rice
- Integrated management of Sheath Blight in Rice
- Integrated management of Stem borer in Rice
- Integrated management of BPH/WBPH in Rice
- Integrated management of Collar rot & Leaf spot in Groundnut

- Integrated management of MYMV in Greengram
- Integrated management of Wilt complex in Brinjal
- Integrated management of sucking pest complex in Chilli
- Integrated management of Serpentine leaf miner in Tomato

(ii) Achievements (2022-23) & Action Plan (2023-24):

2022-23

- 41nos. of On Farm Trials as per the farmers problem at 317 locations
- 84 Front Line Demonstration on technology based in an area of 119.32ha
- 321nos. of training programmes for 7694 participants

2023-24

- On Farm Trials on 46nos. of Technology will be assessed at 316 locations.
- 83nos of demonstrations in an area of 114ha. at farmers field

D. Farm Mechanization (9 KVKs) presented by Dr. Bimalendu Mohanty, SS & H, KVK, Dhenkanal

(i) Suggested Transferable Technologies:

- Line sowing of Green gram by tractor drawn SCF drill
- DSR by tractor drawn seed cum fertilizer drill (inclined plate metering)
- Ridge & Furrow making by tractor drawn sugarcane ridger
- Mechanical weed management in Brinjal/Maize by Dry land power weeder
- Intercultural operation in Ragi by CRIJAF weeder
- Threshing of ragi by OUAT ragi thresher cum pearler
- Dal Processing by using Mini Dal Mill
- Preparation of soup powder from oyster mushroom
- Irrigation management in Pointed Gourd by Drip with mulching

(ii) Achievements (2022-23) & Action Plan (2023-24):

2022-23

- 18nos. of On Farm Trials as per the farmers problem were conducted at 122 farmers locations
- 32nos. of Front Line Demonstration on technology based were conducted for 254ha.
- 148nos. of training programmes for 3535 participants(F/FW/R/Y/IS)

2023-24

- On Farm Trials on 18nos. of Technology will be assessed at 126 farmers location.
- 32nos of Front Line Demonstrations conducted at 320 farmers field

E. Remarks/Suggestions/ Recommendations

- All KVKs should have cafeteria for different crops in the demo units, preferably of OUAT varieties
- Detail information of bio-fortified crop varieties should be mentioned in presentation

- KVKs should have technology-based activities on different fruit crops
- Suitable KVKs may be identified for vegetable seed production
- Old molecules should not be taken for any On Farm Trials (OFT)
- Technology of OUAT should be assessed under OFTs
- All the technology to be updated in OUAT website
- Seed testing activities under FLD/OFTs should be conducted at OUAT seed testing laboratory
- The recommended technology should be in a capsule form for better understanding of farmers

V. Technical Session- IV: Presentations of Extension Activities of KVKs on Home Science, Animal and Fisheries Science, Social Science

Date: May 24, 2023

Time: 12:15 PM

Venue: Dr. M. S. Swaminathan Hall, OUAT

Chairman: Dr. P. J. Mishra, Dean Extension Education

Co-chairmen: Prof. S. Nanda, Director, College of Fisheries

Dr. (Mrs.) Trupti Mohanty, Director, Community Science

Prof. B. P. Mohapatra, Head, Department of Extension Education, CA, Bhubaneswar

Rapporteur: Dr. A. Panda, Sr. Scientist & Head, KVK, Kalahandi

Dr. J. Sen, Sr. Scientist & Head, KVK, Jagatsinghpur

Extension activities of the KVKs on Home Science, Animal and Fisheries Science, Social Science themes were presented by the concerned theme leaders in the session as follows:

A. Home Science presented by Dr. Sasmita Acharya, Scientist, KVK, Puri

(i) Transferable technologies

- Popularization of Blue Oyster mushroom var *Hypsizygousulmarius*
- Production of paddy straw mushroom with crumpled straw.
- Scientific management of *Apiscerenaindica*.
- Nutritional garden for ensuring Nutritional Security.
- Mini Dal Mill for drudgery reduction of farm women.
- Market acceptability of value added products from Tomato.
- Preparation of Coconut value added products-Coconut Chips

(ii) Achievements (2022-23) & Action Plan (2023-24)

2022-23

- Under this theme 36 nos of OFTs, 19 FLDs and 57 nos of training programme involving 304 participants were conducted in the year 2022-23

2023-24

New OFTs

- Improved techniques for cultivation of paddy straw mushroom (*Volvariellavolvacea*) using crumbled straw

- Processing and packaging methods of tender jackfruit.
- Suitability of different tomato varieties for preparation of tomato purees.
- Suitable value-added products from oyster mushroom.
- Preparation of high quality Jaggery.
- Weeder in Okra for drudgery reduction.
- Drudgery on different maize sheller suitable for farm women

Demonstration of technologies

- Value added products from sweet potato and pulse flour fortified noodle
- Oyster mushroom cookies for higher income
- Protein rich spicy mango bar.
- Low cost technology for drying of Oyster mushroom
- Mango harvester for drudgery reduction
- Paddy Straw cutter for mushroom cultivation
- Tomato variety Arka Apeksha for preparation of tomato puree.
- Milky mushroom for income generation (*Calocybe Indica*)
- Value added products from Tamarind
- Value addition from Mahua Flower
- Power operated Finger Millet Thresher
- Value addition of finger millet
- Quail Farming under intensive system for income generation
- Enhancement of shelf life of paddy straw mushroom
- Fogger installation in mushroom unit for humidity management
- Mahua seed decorticator
- Demonstration of Tulsi var CIM Aym

Planned for 76 trainings for 6605 participants in the year 2023-24 in the discipline of community science in KVKs of Odisha

(iii) Remarks/Suggestions/ Recommendations

- For demonstration of Ragi Thresher, technologies available at OUAT should be referred.
- Sensory evaluation of value-added products should be carried out in value added trial
- Nutritional value of produce should be tested in demos of nutritional garden
- Rethinking of nomenclature of home science to community science.
- All available species of Oyster mushroom should be demonstrated in KVK Demo Unit.
- Suggestion of substitution of “drudgery reduction” may be replaced with the term “comfort elevation”
- KVK should try to develop at least 2 women SHGs as entrepreneur linking to APICOL
- Training on recent development of food technology should be arranged for KVK Scientists in the campus of community science in food and nutrition department with resource person from CIWA and CFTRI
- Diversity of food in millet should be explored.

(B) Animal Science (5 KVKs) presented by Dr. T. K. Palai, Scientist, KVK,Bolangir

(i) Suggested Transferable Technologies:

- Artificial brooding management in chicks to reduce chick mortality
- Rearing of LIT dual type birds in backyard involving low cost of production technologies
- Rearing of OUAT Kalinga Pallishree coloured broiler, suitable for both backyard and commercial farming
- Scientific cultivation of Hybrid napier and proper feeding for cost effective milk production
- Feeding of bypass fat and mineral mixture to dairy cows for sustained milk production
- Scientific feeding in goats through concentrate feeding
- Rotation of bucks combined with periodic deworming, scheduled vaccination and supplement feeding for reduced inbreeding along with herd improvement
- Plastic slated sheet as flooring material in goat shed for better growth and health management in growing kids

(ii) Achievements (2022-23) & Action Plan (2023-24)

Achievements (2022-23):

- 10 nos. of On Farm Trials were conducted at 70 farmers` location
- 20 nos. of Front Line Demonstrations conducted involving 200 nos. of beneficiaries
- 76 nos. of training programs (for farmers, RY and extension personnel) involving 1800 participants

Action Plan (2023-24):

- On farm trials on 10 nos. of technologies will be assessed at farmers location
- 30 nos. of Front line demonstrations will be conducted involving 300 nos. of beneficiaries
- 100 nos. trainings program will be conducted involving 2250 beneficiaries

Remark/Suggestion/Recommendations

- Livestock is an important component for double farmers` income. There should be at least one demonstration unit on live stock in every KVK.

(C) Fisheries Science presented by Dr. Anil Kumar Swain, SS & H, Nayagarh

(i) Suggested Transferable Technologies

- Promotion of Polyculture Fresh water prawn with IMC and grass carp.
- Promotion of IMC stunted fingerling production in Biofloc tanks.
- Introduction of GI Catla in IMC composite carp culture.
- Application of Ivermectin to control Argulosis in fishes.
- Descaling of fish through ICAR-CIFT De-scaling machine
- Application of Soil and water probiotics for Aquatic health management.
- Replacement of Mrigal with Amur carp in IMC system.

(ii) Achievements (2022-23) and Action Plan (2023-24)

- Under the theme 15 nos. of OFTs and 72 Nos. of Training programme involving 1892 participants were conducted in the year 2022-23.
- During 2023-24, 8 nos. of On Farm Trials, 18 nos. of Front Line Demonstrations, 93 nos of Farmers/ Farm Women trainings, 26 nos. of Rural Youth training programmes, 15 nos. of In service training programmes by 10 KVKs of Odisha.

(iii) Remarks/suggestions/Recommendations

- Promotion of Integrated Fish Farming and Fish seed production activities
- Control measures for Argulosis should be trialed in all the KVKs.
- Programmes on Minor Carps to be taken taking into consideration the availability of Java puntius, Labeo species etc.
- Trial on Crab technology should be taken in consultation with College of Fisheries.

(D) Social Science presented by Dr. Sujit Kumar Nath, SS & H, Deogarh

- Under this theme 20 nos of OFTs, 20 FLDs and 60 nos of Training programme involving 7282 participants in the year 2022-23 were conducted.

(i) Technologies assessed

- Different type of FPOs with varied level task and commodity
- ICT tools to access information on rice farming

(ii) Remarks/suggestions/Recommendations

- Skill base short videos should be prepared
- There should be study on adoption rate, effectiveness, of programmes covering minimum 5 years
- Short videos of KVKs should be uploaded in OUAT website
- Suggested KVKs to work on group management and financial management of FPOs
- App development by KVKs on popular technologies.
- Study on the value added products of released rice varieties from OUAT.
- Identification and recognition of 10 to 12 Lead farmers in each district and preparation of biodata and issuing of I Card and documentation of it in KVK website
- Research domain should be touch with KVKs for dissemination of technologies and to know its feedback.

VI. Technical Session- V: Seed Production Activities

Date: May 24, 2023

Time: 3.30PM

Venue: Dr. M. S. Swaminathan Hall, OUAT

Chairman: Prof. P. K. Roul, Hon'ble Vice Chancellor

Co-Chairman: Prof. S. K. Swain, Dean of Research
Prof. P. J. Mishra, Dean, Extension Education

Rapporteur: Dr. A. C. Dash, FS, SRF, Gambharipali
Mr. N. Ch. Barik, Sr. Scientist and Head, KVK, Bargarh

Dr. S. K. Tripathy, ADR (Seeds), presented the seed production activities conducted at different production centres of OUAT. He mentioned that foundation seed production was

decreasing trend while the breeder seeds production was in increasing trend. Emphasis is to be given for expansion of breeder seed production at respective research stations & AICRP centres. Higher demand of non-paddy seeds like Dhaincha, Sunhemp, Semamum, Turmeric and Ginger are there in the state. He informed the house about the achievements made during the last year, 2022-23 and the trends of different seed production and demand along with the achievements Action plan for 2023-24.

(i) Achievements

- Notification of Dr. G. V.Challam Seed Testing Lab of OUAT as the seed testing centre with area of operation throughout the state and urged the production units to test their seed samples in this lab.
- MoU made between OUAT and National Seed Corporation (NSC) for procurement of seeds, planting materials and bioagent consortia.

(ii) Seed production during 2022-23

- A sum total of 2645.4 q (19.52 q NS, 271.70 q BS, 1688.40 q FS & 301.80 q CS) and 4828.30 q (4467.10 q FS, 92.0 q CS & 269.20q TL) of paddy seeds were produced in the Research Stations & KVKs, respectively.
- Non-paddy crops: 294.97 q BS (pulses: 18.82 q, 23.5 q oilseeds, 240 q spices, 13.10 q millets) in different research stations & 223.685 q (pulses: 22.295q, oilseeds: 24.20q, millets: 17.84q, spices 145.60q) and 31, 69, 063 nos of QPMs) were produced in KVKs.

(iii) Action Plan 2023-24

- With respect to DAC indent for 2023-24, OUAT is able to fulfil the state breeders seed requirement for crops like (paddy, black gram, Toria, sesame, niger, linseed, ginger, turmeric, finger millet, little millet, etc) except for groundnut and green gram
- During 2023-24, foundation seed production of paddy and non-paddy crops will be taken up at 60.5 ha area in research stations and 173 hectares in KVKs of OUAT.
- With respect to Planting Materials 37, 35,550 nos. of QPM will be produced by different KVKs.

(iv) Remarks and Suggestions

- Hon'ble Vice-Chancellor emphasized on 3S concept of success of the University- "Students, Staffs, Seeds"
- Chairman advised to adopt Zero fallow land concept and suggested proper production and marketing strategy to strengthen the seed production activity.
- Chairman instructed ADR (Seeds) to submit a realistic, achievable seed production plan by 31st May 2023 in consultation with the committee under the chairmanship of Dean, CA, Bhubaneswar & Dean of Research, Dean, Extension Education as Co-Chairman. He advised to prepare this in consultation with the establishment officers.
- He advised to revive QPM production at selected research stations -RRTTS, Keonjhar, Kalahandi, Koraput, G.Udaygiri, HARS, Pottangi, AICRP Vegetables, Fruits, etc. and instructed for mandatory QPM production activity in all KVKs with the guidance of Dr. H. K. Sahoo, Dy. Director, Ext. Education.

- He suggested for the establishment of hi-tech nursery at selected KVKs funded under OMBADC (8) and MIDH (5) and target for more QPM production over and above the normal target given to KVKs.
- He advised the Dean, College of Forestry to finalize the site selection for establishment of ICRAF nursery and plan for tree based QPM production of COF for 2023-24.
- He requested the Director, PME to contact with the Dean, College of Horticulture, Chiplima & College of Agriculture, Bhawanipatna to take seed and QPM production during 2023-24.
- He emphasized on re-releasing / re-notifying of popular paddy varieties Khandagiri, Pratikshya, etc. by the team lead by Prof. Devraj Lenka.
- He advised the ADR (Seeds) and Nodal Officer, IPR Cell to take steps for GI Tagging of locally preferred varieties like Pejuabiri, baby potato etc.
- The Vice Chancellor was pleased to announce that, the 6-7 best performing seed production units will be felicitated during coming foundation day of the University 2023.
- The Comptroller urged the scientists for total coverage of OUAT farms.
- Registrar requested the house to file lease applications and take necessary steps for getting RoR in favour of OUAT.

VII. Special Session– I: Innovations in Millet Research and Extension

Date: May 25, 2023

Time: 10:30 AM

Venue: Dr. M. S. Swaminathan Hall, OUAT

Chairman: Prof. P. K. Roul, Hon'ble Vice Chancellor

Guest of Honour: Dr. Arabinda Kumar Padhee, IAS, Secretary Agriculture & Farmers' Empowerment Department, Govt. of Odisha

Co-Chairman: Prof. S. K. Swain, Dean of Research
Prof. P. J. Mishra, Dean, Extension Education

Rapporteur: Dr. N. R. Sahoo, AICRP on PHET (Presenter)
Dr. D. Jena, Assoc. Professor, College of Community Science

Dr. P. J. Mishra, Dean, Extension Education delivered the welcome address which was followed by a presentation by Prof. S. K. Swain, Dean of Research on “Millet Research in OUAT: accomplishments and way forward”.

Presentation by Dean of Research

Prof. S. K. Swain, Dean of Research described about the released varieties, machines developed for production of millets. He said that ragi pearler developed at OUAT has reached 20 districts of the state with 900 units sold all over the state. As there are 90% farmers of the state are small and marginal farmers, mechanization for small scale operations have been given due importance. OUAT bullock drawn machineries have been developed for the purpose. In the machineries front one line sowing machine has been developed and design patent has been filed for the same. Five numbers of machines have been developed for different harvesting and threshing of different millets. Those machines are working either on

bullock drawn rotary mode or on 1 hp electric motor. One tractor operated high capacity thresher of 7.0 q/h has been developed.

Millet research station at Berhampur is working on collection and selection of varieties. Seven varieties have been released and more in pipe line for release of new varieties. We are also working on Good Agronomical Practices and plant protection measures.

On the processing and value addition front, protocols and nutritional profiling of different products available in the state will be done by NABL accredited laboratories. Sanitation, hygiene production, Food safety and management system (FSMS) guidelines, scientific packaging and labeling in accordance to FSSAI regulation will be done. Proper marketing the millet products in the international market and to build confidence among the consumers about the quality produce certification like ISO-22000, FSMS, GMP, GHP etc are required to be practiced by the Food Business Operators (FBOs) involved in millet processing.

Keynote Address by Principal Secretary

On his Keynote address Dr. Arabinda Kumar Padhee, IAS, Principal Secretary, Agriculture & Farmers' Empowerment Department spoke about the linking of millet research and extension activities to Odisha millet Mission, Women SHGs, NGO partners, FPOs and farmers.

He said Odisha Millet Mission (OMM), flagship programme of Govt. of Odisha has reached 177 blocks of 30 districts of the state. On the research on the local land race, germplasm have been collected from custodian farmers. Participatory varietal trials have been conducted and 15 varieties have been found to give better performance. Out of them 4 climate resilient and nutrient rich varieties will be released. They need support from OUAT and ICAR to support in GI tagging purpose.

He opined that, hand held support are needed for farmers and entrepreneurs for promotion of post harvest, value addition and marketing.

In the innovation in extension he described about the involvement of OMM and NGO partners. The flexible approach in designing mission components and its implementation has resulted in doubling the yield and income of farmer. Food festivals exclusively on millets in Panchayats, school events, local sports events, festivals, melas are being conducted throughout the state. Hotel associations, carters associations are putting millet stalls in banquets. He informed about his intervention for providing at least two millet biscuits having 210 KCals for the prisoners as snacks in the evening.

(i) Farmers Experience

Mrs. Mousumi Mohanty, CEO of Taradevi FPO, Jasipur, described her experience in collection of millet grains from farmers, grinding and millet powder selling in market. She expressed their need for help in value addition activities.

Mr. Purna Chandra Kujur of Sundergadha shared his experience in millet farming and benefits obtained from OMM.

Mrs. Padmalaya Mohanty, Secretary, Sukhamaya SHG said that her SHG with 200 members got involved in millet mission in 2021 and at present they have reached many districts. They are producing 7 types of products. On Jan. 2023 their product was sent to Dubai through APEDA. She opined that customers need products in small size consumer packs. She has also visited Paris for promotion of their products and had contacted visitors from 123 countries. She thanked OMM and Mission Shakti for their help. They have also opened one outlet in the Secretariat.

Mrs. Minati Sabat, Soymasnigdha SHG described about the help from OMM and Mission Shakti in opening Millet café at Kalinga Stadium in Pitha programme. During World Cup (Hockey) their café was inaugurated by Hon'ble Chief Minister of Odisha. During 17 days of event they could earn a profit of 4.5 lakh.

Chairman's Remark

In the remarks by Chairman, Prof. P. K. Roul, Hon'ble VC, OUAT, briefed about the three days SLREC programme and modalities. He informed about the 3-layer filtration of the technologies through zonal research and extension council meeting, pre-SLREC and SLREC. He also emphasized on seed production, quality planting material production and make feasible use of fallow land. He advised to plan the programmes aligning with government policy and farmers' need.

VIII. Special Session– II: Industry Academia Interaction

Date: May 25, 2023

Time: 12:00 Noon

Venue: Dr. M. S. Swaminathan Hall, OUAT

Chairman: Prof. P. K. Roul, Hon'ble Vice Chancellor

Guest Speaker: Sri Bijay Sahoo, Group President of Reliance Industries Limited

Co-Chairman: Prof. S.K. Dash, Dean, CAET

Prof. S.K.Panda, Dean, CVSc & AH

Rapporteur: Dr. Sarbani Das, Asst. Professor, Dept. of Extension Education, CA, Bhubaneswar

Dr. Dipsika Paramjita, Scientist (Ag Engg), KVK, Puri

(i) Address by Prof. P. K. Roul, Hon'ble Vice Chancellor, OUAT

In his address, Prof. P. K. Roul, Hon'ble Vice Chancellor represented OUAT as an unified university across all the disciplines, carrying on three mandates i.e. teaching, research, extension and having presence in all the 30 districts of the state through research and extension network. In addition to this, OUAT is also offering courses starting from Diploma to Post-Doctoral programme to students.

He explained about the objective of the session is how the academia should reorient them so that it will be useful for industry. The idea to perceive this industry-academy interface is not only to orient the students as entrepreneur but also to orient our research activities for industrial benefit. The academia-industry linkage can be compared to supply-demand relationship or in botanical term a source sink relationship. Activity of industries like

demand survey of the product or feedback of their product can be taken up by the academic institution to provide required input to the industry.

OUAT has also developed a coordination cell for industry-academia linkage with a nodal officer in each college and regarding IFFCO & BPCL chair in OUAT. He also suggested for collaboration with industry for their chair in OUAT and provisioning of industry sponsored scholarships in the university as their CSR activity.

(ii) Address by the Dean of Research

Prof. S. K. Swain, Dean of Research mentioned that OUAT is working in different agri-industry sectors like farming, agricultural equipments, fertilizers, pesticides, wire house, cold chain, food processing, floriculture, dairy, apiculture, sericulture, seeds, fishery, poultry, animal husbandry, animal feed, bio-agriculture to orient towards industry with a its research network. Technologies released by research stations are validated by KVK in 30 districts of the state.

OUAT is going to setup a liquid bio-fertilizer unit which has already received license and order from state government to supply the products. OUAT has also got some industrial scope for crops like spices, jute, cotton, oilseeds, medicinal plants, tea, coffee, sugar and rubber etc. in which scientists are working to establish linkage with industry. Particularly, in case of seed production aspect since OUAT is producing huge quantity of seeds, this year it will provide to the farmers, NGOs in the brand name of OUAT Kalinga.

(iii) Address by the Guest Speaker

The Guest Speaker of the session, Bijay Sahoo, Group President of Reliance Industries Limited, in his address mentioned that research should focus on producing products which should be commercially viable to the farmers so that he can cultivate in his field. He told that farmers need right knowledge and information to produce his product and link with market.

He shared his experience on distress sale of tomato in Odisha. So he urged to establish a good market linkage which requires huge quality production as per the requirement of industry. He shared his work experience in Andhra Pradesh as the state is having multi location centres where farmers transport their produce to the centres and finally that come to collection centre for market sale. He advised to cultivate vegetables or commercially viable products on cluster approach may be by FPOs and at the same time, farmers may be facilitated to cultivate crops suited to agro climatic zone. He explained about role of Reliance industries in agriculture. Students can explore agripreneural initiatives in value chain and also can go for agriculture start up.

(iv) Views of Students:

Mr. Aniket Das, 4th Year B. Sc. (Ag), CA, OUAT, Bhubaneswar, who is pursuing his experiential learning programme (ELP) in client problem based project reports, shared his experience of RAWE programme and AIAP (Agro Industrial attachment programme) from which it can be learnt that it is necessary to do the root cause analysis of the problem of the farmer in order to mitigate the gap between farmer and consumer.

Miss Sushree Sangita Samal, 4th Year BSc (Ag), CA, OUAT, Bhubaneswar, who is pursuing her ELP in preservation and postharvest management of mushroom, informed the house about mushroom spawn production and preparation of value added products from mushroom can be taken up as an entrepreneurship.

Mr. Soumitra, 4th Year BSc (Ag), CA, OUAT, Bhubaneswar informed the house about taking vermi-compost production as an entrepreneurial activity.

Miss Ipsita, M Tech Student, Dept. of Farm Machinery & Power, CAET, OUAT-working on the project “Development of model for optimal farm power and machinery selection”, shared her views to take up production of small tools & implements as an entrepreneurial activity since many operations starting from land preparation to harvesting are not well mechanized.

(v) Address by Co-Chairmen

Prof. S. K. Panda, Dean, CVSc & AH mentioned that linkage with industry should be well established. Area like establishment of hatchery for production of poultry chicks, production of poultry feed, management support and marketing has already been explored but some revolutionary changes definitely build up a strong linkage.

Prof. S. K. Dash, Dean, CAET, in his address informed that the university is conducting industry sponsored trials and testing farm machineries and other equipment developed by industries. OUAT is also having entities like central instrumentation facility, Technology Management Cell, Agricultural Consequences Support Service Cell and Incubation Centres to establish linkage with industries and taking up as entrepreneurial activity. He also informed that an industry-academia conclave would be organized by OUAT very soon.

IX. Plenary Session

Date: May 25, 2023

Time: 4:00 PM

Venue: Dr. M. S. Swaminathan Hall, OUAT

Chairman: Prof. P. K. Roul, Hon’ble Vice Chancellor

Co-Chairman: Prof. S. K. Swain, Dean of Research, OUAT
Prof. P.J. Mishra, Dean Extension Education, OUAT

Rapporteur: Dr. A. Mohanty, AICRP on Vegetable, OUAT
Dr. B Mohanty, Sr. Scientist & Head, KVK, Dhenkanal

The plenary session started with a brief welcome address by Prof. S. K. Swain, Dean of Research, OUAT followed by presentation of Rapporteurs’ report for all the Sessions i.e. Inaugural Session, Technical Session-I to V, two special sessions on “Innovations in Millet Research & Extension” and “ Industry academia interaction” and one session on Seed Production. After the presentation of reports of each session by concerned rapporteurs, feedback and reaction of the house were recorded thorough discussion on the action points. The salient recommendations / suggestions which came out in the discussions are enlisted next page.

- The KVKs were advised to issue I-Cards to some identified / selected 20 progressive farmers who have a significant contribution towards agricultural development of the district.
- Seven KVKs namely Puri, Kalahandi, Dhenkanal, Sambalpur, Bhadrak, Nayagarh & Baragrh were advised to develop mobile app in next two months time so that the apps could be released during the University foundation day.
- DEE was advised to list out the common demo units which all the KVKs must have in their campuses. Some special demo units will be with some selected KVKs which are to be listed out.
- Recruitment of manpower in KVKs is being taken up at university level which will be over in next 2-3 months so that all the KVKs can be strengthened with adequate manpower.
- After recruitment of SMS in KVKs, Action Plans are to be revised as per the available additional manpower and approval from DEE is to be accorded with immediate effect.
- Video clips prepared by the KVKs are to be uploaded in OUAT website.
- Nine KVKs have been supported under MIDH this year. Other KVKs have to submit proposals to be supported under MIDH this year.
- Compilation of zone wise recommendation of ASM will be done by HOD, Dept. of ARGO and trial on ASM are to be conducted at all the KVKs
- The list of transferrable technologies is to be finalized for onward circulation to Govt. by 30th June 2023. A committee under the chairmanship of Dean Research and co-chaired by Dean Extension with Dr. S. K. Swain, Dr. A. Khuntia and Dr. B. Panigrahi as the members, will take up the activity.

Formal vote of thanks was proposed by Prof. P.J. Mishra, Dean Extension Education, OUAT and the Plenary Session of the State Level Research & Extension Council 2023-24 was declared closed.
