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# 3rd International Conference on Agriculture, Chemical, Environment and Water Resource management

(ICACEW-2023)

August 26-27, 2023

Souvenir



International Research  
and Development Center  
for Publication (IRDPCP)

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3<sup>rd</sup> International  
Conference on  
Agriculture, Chemical,  
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IRDCP endeavors to promote global excellence in the field of research & development through diligent applications of advanced technology for the holistic development of society. Also, IRDCP is committed to motivate and persuade the researchers to take up the projects for the continuous development of human society and make this world a better place to live in. The IRDCP has a steadfast commitment be the fulcrum of the ocean of knowledge around which efforts of researchers move about.

## *About Conference*

### *3rd International Conference on Agriculture, Chemical, Environment and Water Resource management (ICACEW-2023)*

During the worldwide lockdown due to COVID 19 pandemic, a lot of important activities have come to a halt. However, when we look at the brighter side, all of us have more time for adding to our knowledge and insights.

With this aim, to keep contributing to learning and motivation International research and development Center for publication is going to organize a two-day International Conference with the title “**3rd International Conference on Agriculture, Chemical, Environment and Water Resource management (ICACEW-2023)**” on Aug 26-27, 2023 through hybrid mode.

We hope, this online mode of the conference in COVID-19 pandemic will be an appreciable step in promoting the research activities and new information between researchers, developers, students, academicians and practitioners working in and around the world by keeping the social distance in view to stop the spread of COVID-19 disease. This conference aims is to present the current researches being carried out in the field of social science and education development around the globe.

Prospective authors from academia as well as industry are invited to submit their abstracts that illustrate original/unpublished works and industrial applications describing advances and significant innovations in the field.

## **International Advisory Committee**

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- **Dr. Md Mahadhi Hasan**, Assistant Professor, Department of English, Southeast University, Bangladesh.

## Message

I am extremely pleased to share that International Research and Development Center for Publication (IRDCP) is organizing a two day “**3rd International Conference on Agriculture, Chemical, Environment and Water Resource management (ICACEW-2023)**” on Aug 26-27, 2023.

I am sure the state of art lectures from the invited experts and the research findings of researchers, academicians, utility engineers will enrich the knowledge of all the participants. It will provide an excellent opportunity for students to learn new ideas.

I offer my best wishes to the whole team of the organizing committee, the participants, and volunteers for the grand success of the conference.

Dr. Kiran  
Convenor ICACEW -2023

## Message

I am happy to know that International Research and Development Center for Publication (IRDCP) is organizing a two day “**3rd International Conference on Agriculture, Chemical, Environment and Water Resource management (ICACEW-2023)**” on Aug 26-27, 2023. I am sure that, this conference would provide an ideal platform for the academicians, scholars and experts to present and exchange their research findings and Ideas.

I wish the conference a great success.

Dr. Deepesh Malviya

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# **Abstract of ICACEW -2023**

# Field screening of sorghum germplasm against major insect pests

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**Abstract**— Two years of field study was carried out at RARS, Nandyal during 2021 and 2022 to screen the sorghum germplasm against major insect pests of shootfly, stem borer and fall armyworm. Thirty sorghum germplasm along with four standard checks IS-18551 Resistant check for shootfly, IS-2205 Resistant check for spotted shoot borer, DJ-6514 Susceptible check for shootfly and swarna Susceptible check for stem borer were screened for resistance. Among the germplasm screened AKR-150, NJ-2669, and NJ-2403 had recorded lowest shoot fly incidence of 3.0%, 12.0%, 4.50%, Stem borer incidence of 10.56%, 18.13%, 9.03% and fall army worm incidence of 10.57%, 16.63% 7.50% respectively. Biochemical studies conferring tolerance indicated that higher concentration of phenols and tannins were present in resistant germplasm as compared to susceptible germplasm, also phenols and tannins are significantly negatively correlated with pest incidence where as reducing sugars are positively correlated with pest incidence. Highest yield of 2600 kg/ha was recorded in entry AKR-150 which is significantly superior over all other germplasm screened

**Keywords**— Germplasm, Host plant resistance, biochemical factors, tolerance, Susceptibility

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# Effect of Mineral and Organic Fertilizer on the Performance of Cassava (*Manihot esculenta* Crantz) in the Pissa region of the Central African Republic

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**Abstract**— Inefficient and unbalanced use of fertilizer is some of the plausible reasons contributing to the significant cassava yield gaps in Sub-Saharan Africa. However, there is limited research regarding the responses of cassava to organic and inorganic fertilizers used in these agrological settings. We conducted a study in the Pissa areas with the participation of members of an agropastoral group to improve the cassava yield in rural areas of the Central African Republic. The experimental layout was a randomized complete block design (RCBD) with four treatments replicated four times and comprising 16 elementary plots of 25m<sup>2</sup> (5m by 5m). The treatments were randomly assigned from 1 to 4 (T1, T2, T3, and T4). According to the treatments, the variabilities between cassava's growth, yield, and economic productivity in pure culture were measured and quantified. The data were subjected to Analysis of Variance (ANOVA) using a linear model of R statistical software version 3.1.2. We performed Principal Component Analysis (PCA) on several parameters. This study shows that treatments T4 (cassava + NPK + cow manure) and T3 (cassava + NPK) resulted in plants that have better growth in heights and diameters, unlike T1 (control) and T2 (peasant practice), which have the lowest values. The PCA confirmed that the variability between the treatments is up to 52.12% on the two axes (1 and 2) and affirms that the yields obtained during the study show a highly significant difference. The treatment T4 (cassava + NPK + cow manure) gave the highest yield and generated a good profit compared to other treatments. There was no correlation between treatments in terms of growth and productivity parameters. The T4 treatment proposed by the International Atomic Energy Agency (IAEA) performed better on all the evaluations. Therefore, organo-mineral fertilization can contribute to the improvement of cassava production.

**Keywords**— Cassava, Fertilizers, Yield, and Cow manure.