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(SPSBIC 2021)**

Book of Abstracts

THEME:

**Innovative scientific research: A tool for socioeconomic
development and environmental sustainability**

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Niger State, Nigeria**

Mathematical model was used to analysis the effects of irrigation and nitrogen fertilizer on the upland rice during dry season in Badeggi environment, this is as a result of the demand for rice in Nigeria that has exceeded the production, due to ever increasing population and hike in the price of the rice. The mathematical model was used to analysis and to obtain optimal yield in upland rice production. The method of least square, R² (coefficient of determinat) and root mean square error (RMSE) was used to evaluate the rate of nitrogen (30, 60, 90, 120 kgNha⁻¹) and (7, 14, 21days). The result showed that the models were adequate and significant at 5%. The results also indicated that application of 90-120kgNha⁻¹ and 7days interval of irrigation enhanced upland rice yield during the dry season. It was also known that there was an increase in yield when there is frequent irrigation combined with application of nitrogen fertilizer (90-120kgNha⁻¹) Analysis of variance (ANOVA) was used for the data collected form National Cereal Research Institute Badeggi, Niger State, and computation of the data was adequate with R² above 50% and root mean square error (RMSE) was very small.

Keyword: Irrigation, Nitrogen fertilizer, significant at 5%, least square and root mean square error (RMSE)

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A SYSTEMATIC LITERATURE REVIEW OF DIGITAL FORENSIC INVESTIGATION METHODOLOGIES: TRENDS, FRAMEWORKS, TECHNIQUES, CHALLENGES, SOLUTIONS AND OPEN ISSUES

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Abstract

Digital forensics, pivotal in cyber security, garners attention from researchers and practitioners due to the escalating complexity of modern cyber-attacks. The need for multiple technologies in evidence acquisition amplifies this sophistication. Existing surveys delve into specific digital forensics domains, providing insights into individual advances. However, a global perspective is lacking. Addressing this, we conducted a qualitative review, synthesizing key topics and challenges from relevant digital forensics reviews. While diverse in topics and methods, common issues, primarily centered on evidence acquisition and pre-processing complexities, persist across domains. Our study extends beyond technical hurdles, shedding light on procedural concerns like readiness, reporting, presentation, and ethical considerations. This comprehensive analysis encourages collaboration among researchers and practitioners in various digital forensics domains. This systematic literature review utilizes the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method to thoroughly investigate Digital Forensic Investigation Methodologies. The exploration covers prominent journal libraries, including IEEE, ACM Library, Elsevier, Google Scholar, Research Gate, Science Direct, and Springer Link, with a focus on trends, frameworks, techniques, challenges, solutions, and open issues. Starting with an initial dataset of 505 papers, a rigorous application of the PRISMA method led to the meticulous selection of 60 papers deemed most pertinent for the review.

Keyword: Digital forensic, IoT, cyber, cybercrime, evidence, forensics