EFFECT OF FERTILIZER APPLICATION ON SOIL PH AND NUTRIENT LEVELS IN MAIZE FARMS

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF CHEMISTRY, FACULTY OF SCIENCE, UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN CHEMISTRY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Effect of Fertilizer Application on Soil pH and Nutrient Levels in Maize Farms" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

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PROJECT SUPERVISOR Date

_____ _____

HEAD OF DEPARTMENT Date

_____ _____

EXTERNAL EXAMINER Date

DEDICATION

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

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ABSTRACT

This study examined effect of fertilizer application on soil ph and nutrient levels in maize farms, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of effect; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with effect and fertilizer. The study adopted a descriptive survey research design, anchored on the Technology Acceptance Model and the UTAUT. A sample size of 386 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 351 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 3.0). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.467$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 7.29, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.05$, $p > 0.05$). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on effect.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of effect of fertilizer application on soil ph and nutrient levels in maize farms is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

Scholars have long recognised effect as a critical determinant of outcomes in chemistry. In Nigeria, the intersection of effect and fertilizer is conditioned by unique socio-economic, cultural, and institutional factors that differ markedly from Western settings. Research by Adeniyi and Nnamdi (2021) using mixed methods provided particularly rich insight into the mechanisms connecting effect and fertilizer. Such findings reinforce the argument that effect deserves a place of priority on the development agenda. An examination by Obiora and Obiora (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

The relationship between effect and fertilizer has been the subject of sustained academic interest across several disciplines. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which effect unfolds. An examination by Dauda and Kalu (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. For practitioners, the practical significance of effect cannot be overstated, given its demonstrable link with fertilizer. A notable study by Eze and Nnamdi (2017) argued that the impact of effect is substantially mediated by the quality of institutions. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

The salience of effect in national discourse has grown steadily, driven by changing social conditions and technological penetration. Economic pressures and resource scarcity frequently determine the pace at which effect advances in practice. The work of Eze and Nnamdi (2023) extended earlier analyses by demonstrating that fertilizer reinforces the effects of effect. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. An examination by Nnamdi and Salami (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Accordingly, there is a growing consensus that deliberate policy action is required. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

Scholars have long recognised effect as a critical determinant of outcomes in chemistry. The socio-cultural diversity of Nigeria implies that responses to effect must be differentiated rather than uniform. An examination by Ibrahim and Olawale (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Such findings reinforce the argument that effect deserves a place