**Performance of *Sorghum bicolor* in Crude Oil Contaminated soil amended with N.P.K Fertilizer**

**(20-10-10)**

**BY**

**OKUPA, ANTHONY OGBA**

**U2014/5545077**

**DEPARTMENT OF PLANT SCIENCE AND BIOTECHNOLOGY,**

**FACULTY OF SCEINCE,**

**UNIVERSITY OF PORT HARCOURT,**

**RIVERS STATE**

**OCTOBER, 2018**

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**A PROJECT SUBMITTED TO**

**DEPARTMENT OF PLANT SCIENCE AND BIOTECHNOLOGY, FACULTY OF SCEINCE,**

**UNIVERSITY OF PORT HARCOURT,**

**RIVERS STATE.**

**IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OFSCIENCE DEGREE IN PLANT SCIENCE AND BIOTECHNOLOGY**

**OCTOBER 2018**

# **DECLARATION**

I, **Okupa, Anthony Ogba** hereby declare that this research is my original work and other sources consulted are clearly indicated in my literature.

DR. EREMRENA, P.O OKUPA, ANTHONY OGBA

(SUPERVISOR) (STUDENT)

# **CERTIFICATION**

I, Okupa Anthony Ogba certify that this project work was carried out by me under the supervision of Dr. Peter Eremrena of the Department of Plant Science and Biotechnology and has been approved as meeting the requirement of the Faculty of Sciences, University of Port Harcourt for the award of Bachelor of Science.

**Dr. P.O. Eremrena**

Supervisor Signature Date

**Dr. F.B.G. Tanee**

Head, Department of Signature Date

Plant Science and

Biotechnology.

**Prof E.O. Chukwuocha**

Dean, Faculty of Signature Date

Of Science.

External Examiner Signature Date

# **DEDICATION**

This work is dedicated to The Almighty God and my Parents Mr and Mrs Okupa.

# **ACKNOWLEDGEMENTS**

My utmost gratitude goes to God Almighty for being the all sufficient God and keeping me to this very moment. My immerse appreciation to my supervisor Dr. Peter Eremrena for his support, guidance and contribution in making this project a success and also Dr. E.B. Ochekwu for taking his time to aid me through the course of this project. My deepest gratitude to my parents Mr and Mrs Okupa for their support, advice and prayers has aided me through this project. My appreciation goes to the Department of Plant science and Biotechnology, the Head of Department Dr F.B.G Tanee, the lecturers and staffs for their contributions in taking me to this great achievement. My sincerest appreciation to my friends Chioma, Beatrice, Kachi, Kemnele, Barizazi, Goodnews, Kess, Tina, Kaage, kute, chidera, franca and so much more for their support and assistance throughout this project and the academic program. My sincere gratitude goes to all my colleagues for making my experience in this great institution a wonderful one.

To all I say THANK YOU.

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**ABSTRACT**

Performance of *Sorghum bicolor* (NG/AA/Sep/09/160) in a crude oil polluted soil amended with N.P.K fertilizer (20-10-10). This study was carried out at the University of Port Harcourt Green House. The contamination levels of 2% (T2), 4% (T3) and 8% (T4) v/w were used, while amelioration treatment was carried out by adding inorganic supplement (N.P.K) at the rate of 3.05kg per 20.34kg of soil to the various levels of crude oil contaminated soil with uncontaminated soil samples control (T0) and 0% with amendment (T1). The growth parameters examined were: plant height, number of leaves, fresh weight and dry weight. Based on the results, the growth parameters were not significantly different at P≤0.05 on the polluted soil compared with the control and amended treatments with the control doing better than the other treatments. However, the performance of the polluted soil amended performed well when compared with the control and unpolluted amended soil. Therefore, this study suggests that application of N.P.K fertilizer on polluted soil was effective for remediation of crude oil polluted soil where *Sorghum bicolor* is cultivated.