



AMHANRE'S PROFILE

Amhanre Idi Napoleon hail from Agadaga-Ewohimi, Esan South East Local Government Area, Edo State, Nigeria. He works in the Department of Microbiology, Faculty of Life Sciences, Ambrose Alli University, Ekpoma Nigeria. Currently he is a lecturer II. Mr. Amhanre Idi Napoleon's research interest include: water quality, environmental management, antimicrobial properties of some plants and others. He has published many, has some peer-reviewed articles on his research and his a member of the Nigerian society of Microbiology, Member, Institute of Corporate Administration (MCAI) and Fellow, Institute of Policy Management Development (FIPMD). Some of the responsibilities he held include Academic Adviser to 200 level student of the Department of Microbiology, undergraduate seminar coordinator, Secretary to the Departmental Board of Studies and Departmental Time-Table Officer. Mr. Amhanre Idi Napoleon joined the services of this university on October, 2007 as assistant lecturer.

Qualification

MSc (Environmental Microbiology), Ambrose Alli University Ekpoma, (2007)

BSc (Microbiology) Honour, Edo State University Ekpoma, (1999)

Research Focus

- Bio deterioration of gari and the effect of sodium benzoate alone and in combination with ascorbic acid
- Microbiological and physic-chemical quality of Odu River water in Ewohimi, Edo State

- Bio accumulation of organic compounds and heavy metals associated with crude oils pollution in marine, brackish and fresh water ecosystem in Niger-Delta region

Professional Affiliation

Member, Nigerian Society for Microbiology

Member, Institute of Corporate Administration (MCAI)

Fellow, Institute of Policy Management Development (FIPMA)

Social/Community Engagement

National Vice President, Ewohimi Community Development Association (ECDA)
2009-2014

Staff Adviser: Ewohimi Student Association, Ambrose Alli University, Ekpoma chapter from 2012 till date

Assistant General Secretary, Agadaga Youth Association Ewohimi, Benin Branch from 2012 till date

Publications

1. Amhanre, I.N., Okwu, G.I. Omebere, P.C. and Akpe, A.R. (2007): The effect of sodium Benzoate alone and in combination of gari international Journal of Research and Advancement in Bio science 12(1): 1-9
2. Okwu, Grace Ifeoma, Akpe, Azuka Romanus, Amhanre, Idi Napoleon and Ogbon-Ogieva, Edosa (2017): Microorganisms and Aflatonim content in Ready-To-Eat Groundnut paste from some market in Anambra and Edo

State, Nigeria. Global Journal of Scientific Frontier Research Biological Science 17(issue I version I 34-41) USA

3. Amhanre, I.N., Akpe, A.R., Omebere, P.C., Obezuru P. and Adewole, M.E. (2016): The incidence of antibiotics susceptibility of some microorganisms associated with Otitis media. International Journal of Bioscience 11(2):88-96
4. Amhanre, I.N., Omobere, P.C. and Obanar, O.K. (2016) Bacteriological impact of Brewery Effluent on a river. Internal Journal of Bioscience 11(2) 63-69
5. Nmorsi, O.P.G., Arimoro, F.O: Ehiwarieme, D.A. Ehirenh, A.H. and Amhanre, I.N. (2015) Fundamental of Biostatistics. Pon Publishers Limited, Ekpoma. Edo State, Nigeria.
6. Omebere, P.C. and Amhanre, I.N. (2014). The effect of extracurricular activities on the academic performance of secondary school studies in Oredo Local Government Area of Edo State. International Journal of Research and Advancement in Educational Methods. 11(3):29-39
7. Amhanre, I.N., and Omebere, P.C. (2014): Antibacterial studies of the black pear (*Dacryodes edulis* var *edulis*) seeds. Journal of Research in Bioscience. 10(1):132-136
8. Amhanre, I.N., Ogiehor, I.S. and Omebere, P.C. (2014): Microbiological Assessment of Odu River in Ewohimi, Edo State, Nigeria. Journal of Research in Bioscience. 10(1):52-62
9. Okhue, P.O., Omebere, P.C. and Amhanre, I.N. (2013): The effect of plasmid curing on the antibiotics susceptibility of staphylococcus aureus isolated from Nasal carriers. African Journal of medical sciences. 6(1):50-58
10. Omebere, P.C., Amhanre, I.N. and Ukhurebor, P.O. (2013). The effect of Toothpaste on the Oral microflora. African Journal of Bioscience. 6(1):30-38

11. Etinosa O. Igbinosa, Emmanuel E. Odjadjare, Isoken H. Igbinosa, Philip O. Orhue, May N.O. Omoigberale and Napoleon I. Amhanre (2012). Antibiotic synergy interaction against multidrug-resistant *Pseudomonas aeruginosa* isolated from an Abattoir effluent environment. *The scientific world Journal*. 8:2361-2368
12. Amhanre, I.N., Akpe, A.R., Adewole, M.E, Umanu, G. and Isiramen, A. (2011): Microorganism Associated with Municipal waste degradation Nigerian Annals of Natural Sciences. 12(1):32-37
13. Iyamu, M.I., Amhanre, I.N. and Ihimire, I.G. (2011): Bacteriological Quality of Abattoirs in Benin City, Edo State, Nigeria. *Journal of Research in Bioscience*. 7(1):128-132
14. Isibor, J.O., Samuel, S.O., Nwaham, C.I., Amhanre, I.N., Igbinovia, O. and Akhile, A.O. (2011): Prevalence of Bacterial and *Candida Albicans* infection amongst women attending Irrua Specialist Teaching Hospital, Irrua Nigeria. *African Journal of Microbiology Research*. 5(20):3126-3130
15. A.R. Akpe, P.O.A. Usuoge, O.I. Enabulelen F.I. Esumeh, H.A. Obiazi, I.N. Amhanre and O.M. Omoigberale (2010). Bacteriological and physico-chemical Quality of Wheaten White Bread Flour made for Nigeria market. *Pakistan Journal of Nutrition*. 9(11): 1078-1083
16. Iyamu, M.I; Amhanre, I.N. and Ohenhen, R.E. (2009). Microbial Assessment of Ground Melon Preserved with salt. *Continental Journal of Microbiology*. 31-12
17. Ogiehor, I.S., Okwu, G.I. and Amhanre, I.N. (2008). The inhibitory effects of different concentration of sodium metabisulphate on *Fusarium moniliforme*, *Penicillium citrinum* and *Aspergillus niger* in gari during storage. *Nigerian Annals of Natural Sciences* 7(1):37-48

PUBLICATIONS

1. Amhanre, I.N., OKWU, G.I., Omebere, P.C and Akpe, A.R. (2017). The effect of sodium Benzoate alone and in combination with ascorbic acid in the bioteriation of garri international Journal of Research and Advancement in Bioscience 12(1): 1-9.

THE EFFECT OF SODIUM BENZOATE ALONE AND IN COMBINATION WITH ASCORBIC ACID IN THE BIODETERIORATION OF GARRI

ABSTRACT

*The effect of various concentrations of sodium benzoate and the combination of sodium benzoate with ascorbic acid on the storage stability of garri produced from cassava (*Manihot esculenta* Crantz) was evaluated. Results for six months duration indicated that the microbiological, physic-chemical and organoleptic qualities of garri were fairly stable on samples treated with various concentrations (1%, 0.75%, and 0.5%) of sodium benzoate. However, colour change to brown, with market reduction in the carbohydrate, protein and lipid contents were detected in samples treated with combination of sodium benzoate and ascorbic acid. Comparatively, samples treated with ascorbic acid alone deteriorated in all the qualities evaluated with concomitant high bioload at the end of the storage period. These results could be useful in developing viable data and indices for the extension of shelf life of garri.*

Keywords: Biodeterioration, Garri, Sodium Benzoate, Ascorbic Acid, Preservatives, Organoleptic Quality

2. Okwu, Grace Ifeoma, Akpe, Azuka Romanus, Amhanre, Idi Napoleon and Ogbon-Ogieva, Edosa (2017): Microorganisms and Aflatoxin content in Ready-To-Eat Groundnut Paste from some market in Anambra and Edo states, Nigeria. Global Journal of Scientific Frontier Research Biological Science 17 (Issue 1 Version 1 34-41) USA.

ABSTRACT

This study was undertaken to quantitatively and qualitatively estimate microbial and aflatoxin content in ready-to-eat groundnut pastes sold in some markets in Anambra and Edo States, Nigeria. A total of 100 samples of ready-to-eat groundnut pastes packaged in plastic cans and low density polyethylene were purchased from some markets in Anambra State (Head Bridge, Ogbaru, Agulu, Mgbuka and Awka) and Edo State (Oba Market, Santana, New Benin, Uselu and Oregbeni). The samples were analyzed microbiologically and physicochemical using (ELISA). Bacteria species associated with the samples were identified as *Saphylococcus aureus*, *Bacillus cereus*, *Bacillus subtilis*, *Micrococcus roseus*, *Esherichia coli* and *Pseudomonas aeruginosa* while fungi include *Aspergillus flavus*, *Aspergillus tamari*, *Aspergillus niger*, *Aspergillus fumigates* and species of *Penicillium* and *Fusarium*.

3. Amhanre, I.N, Akpe, A.R., Omebere, P.C, Obezunu P. and Adewole, M.E. (2016). The incidence of antibiotics susceptibility of some microorganisms associated with Otitis media International Journal of Bioscience 11 (2): 88-96.

ABSTRACT

Otitis media is a major disease which is frequent in childhood and it is one of the major reasons why children visit the pediatrician. This research was borne out due to the prevalence of ear infections among children and adults in our society. Twenty (20) patients with symptoms of otitis media (ear infection) were examined and samples were collected at Ear, Nose and Throat (ENT) unit at the University of Benin Teaching Hospital, Benin City, Nigeria. The highest incidence was observed in the age group between 0-13 years of age, indicating that the infection is a childhood disease. The organisms isolated were *Pseudomonas aeruginosa*, *STAPHYLOCOCCUS AUREUS*, *Proteus* sp, *Escherichia coli*, *Candida albicans* and *Klebsiella* sp. The most frequently encountered was *Pseudomonas aeruginosa* the least encountered was *Klebsiella* sp. *In vitro* antimicrobial susceptibility test showed that 100% of the Gram positive organisms were susceptible to ciprofloxacin while 90% of the gram negative organisms were susceptible to gentamicin. Based on the result of this study, it is suggested that ciprofloxacin be used as antibiotics of choice in the treatment of otitis media infections.

4. Amhanre, I.N., Omebere, P.C and Obanor, O.K (2016) Bacteriological Impact of Brewery Effluent on a river. Internal Journal of Bioscience. 11 (2) 63-69.

ABSTRACT

Industrial effluent that enters water bodies represents heavy source of water pollution in most streams and rivers in Nigeria. This study was conducted to investigate the bacteriological impact of brewery effluent on Ikpoba River water quality using Guinness Nigeria Plc as a case study. Four water samples were collected from four different stations and subjected to analyses using standard microbiological methods. The results obtained showed that the total viable count ranged between 6.5×10^6 and 44.4×10^7 cfu/ml. the highest coliform count was 280 MPN/100ml which was noted in station 2 while the highest E. coli count was 9 MPN/100ml. seven bacteria general namely Escherichia, Klebsiella, Salmonella, Staphylococcus, Shigella, Enterococcus and Proteus were isolated from the water samples. Therefore, the water is contaminated due to the brewery effluent discharged into it which makes the water unfit for human consumption. Hence, the government should provide the residents with potable water while the river water should be treated before it is taken as drinking water to prevent the outbreak of water-borne diseases.

Keywords: Brewery Effluent, Pollution, Microbial Population, Pathogenic Organismss, Water Bodies.

5. Omebere, P.C. and Amhanre, I.N. (2014). The effect of Extracurricular Activities on the Academic performance of secondary school studies in Oredo Local Government Area of Edo State. *International Journal of Research and Advancement in Educational Methods*. 11(3):29-39

ABSTRACT

Research indicates that participation in extracurricular activities affect academic performance. More specifically, studies have been conducted in assessing the effects of specific extracurricular activities on academic performance. This study became imperative due to the poor performance of students in internal and external examinations over the years. The purpose of this study was to determine whether or not the activities in which secondary school students choose to participate have an effect on their academic performance. The study's survey instrument (questionnaire) was administered to two hundred (200) students in five selected public secondary schools in the Local Government Area after which chi-square non-parametric test was used to test the stated hypothesis at $p \leq 0.05$ level of significance. The result revealed that according to the students surveyed, watching television, playing of musical instrument; participating in community service, clubs, Organizations and Information Communication and Technology improves academic performance while participation in sporting activities does not improve academic performance. Based on this result, it was recommended that the Ministry and Boards of Education should conscientiously supervise and inspect schools to acquaint government with pressing school needs on extracurricular activities in order to enhance students' performance. Therefore, it was concluded that extracurricular activities affect academic performance and that the effect depends on the specific activities in which the student is involved in.

Keywords: Academic Performance, Effect, Extracurricular Activities, Students.

6. Amhanre, I.N. and Omebere, P.C. (2014): Antibacterial studies of the black pear (*Dacryodes Edulis Varedulis*) Seeds. *Journal of Research in Bioscience*. 10(1):132-136

ABSTRACT

This study was necessitated by the resistance of microorganism to the commonly used antibiotics and the quest for finding the treatment, cure and control of most microbial infections through alternative herbal remedy.

*The antibacterial effect of *Dacryodes edulis var edulis* (Black pear) seed extract on clinical isolates of *E.coli*, *Pseudomonas aeruginosa*, *Klebsiella aerogenes*, *Staphylococcus aureus* and *Serratia marcescens* was evaluated using the agar disc diffusion and broth dilution assays. Extraction was achieved using ethanol, petroleum ether, acetic acid, propylene glycol, acetone and 1% hydrochloric acid. The extracts had varied antibacterial activities on the test organisms. Antibacterial activities observed on acetic acid and ethanol were much more pronounced in all the test organisms. The minimum inhibitory concentration of the extract of the seed ranged from the 120ug/ml to 1,300ug/ml, while their zones of inhibition of growth of the test organisms ranged from 0-50. These findings suggest that extracts from this seed can be used in the control of mixed bacterial infections*

Keywords: Antibacterial, Black pear, Effect, Medicinal Plants, Seeds.

7. Amhanre, I.N. Ogiehor, I.S. and Omebere, P.C. (2014): Microbiological Assessment of Odu River in Ewohimi, Edo State, Nigeria. Journal of Research in Bioscience. 10(1):52-62

ABSTRACT

The microbiological assessment of river water is essential for use-related aspects such as drinking water production, recreation or irrigation purposes. The aim of this research is to determine the microbiological analyses were collected from six (6) sites between April and July, 2011; and were subsequently investigated using standard microbiological methods. The microbial load of the river water samples were very high and varied. The total heterotrophic plate counts (cfu/ml) ranged from 3×10^1 - 6.5×10^7 (cfu/ml). The total coliform counts ranged from 5-920/100ml while the E. coli counts ranged from <2-33/100ml throughout the period of study. The results revealed that the river water did not meet the WHO recommended standard for drinking water and the plate count of the heterotrophic organisms is statistically significant ($p < 0.05$), which indicates that the river water is not fit for consumption prior to treatment especially in the rainy season. Hence, the water should be boiled and filtered before drinking.

Keywords: Microbiological, Assessment, Odu, River, Water

8. Okhue, P.O., Omebere, P.C. and Amhanre, I.N. (2013): the effect of plasmid curing on the antibiotics susceptibility of staphylococcus aureus isolated from Nasal carriers. African Journal of Medical Sciences. 6(1): 50-58

ABSTRACT

This study became necessary owing to the resistance patterns exhibited by staphylococcus aureus against diverse groups of antibiotics. Subsequently, this research work was undertaken to determine the effect of plasmid curing on the susceptibility of staphylococcus aureus to antibiotics. A total of 110 nasal swab samples were collected from volunteered students of ambrose alli university, Ekpoma, Nigeria, and subjected to S. aureus screening using conventional microbiological methods. Antibiotics susceptibility tests were performed on the confirmed S. aureus isolated before and after plasmid curing. S. aureus was isolated from 102(92.7%) students. Antibiotics susceptibility of the 102 isolates before plasmid curing showed 100% resistance to amoxicillin, ampicillin, cloxacillin, ampiclox, chloramphenicol, tetracycline, lincocin and zinacef. After plasmid curing, there was a decrease in resistance to zinacef (80%) and cephalixin (67.5%). 100% sensitivity was observed in ciprofloxacin. Subsequently, resistance to ampiclox, tetracycline and chloramphenicol were the same as obtained before plasmid curing. Consequently, the determination of the antibiotics susceptibility profile of S. aureus will help treating clinicians for the first line treatment in referral hospitals. Further investigation should focus on using plant extracts in plasmid curing before antibiotics administration to patients.

Keywords: *antibiotics susceptibility, Nasal carriers, plasmid curing, staphylococcus aureus*

9. Omebere, P.C., Amhanre, I.N. and Ukhurebor, P.O. (2013). The effect of Toothpastes on the Oral Microflora. African Journal of Bioscience. 6(1) 30-38

ABSTRACT

This study became imperative due to the wide range of dental products available in the market which poses difficulty to people to choose toothpaste appropriate for their intended use while some persons are of the opinion that a single product is effective against different arrays of microbes. Consequently, this study was undertaken to determine the effect of toothpastes on the oral microflora and to compare of the mouth. Swab samples were collected from the oral cavity of six volunteered students before and after their normal oral hygiene procedure and subjected to screening using standard microbiological methods. After the microbial examination, four bacterial genera, Escherichia, Staphylococcus, Streptococcus, Lactobacillus and three fungal genera Aspergillus, Penicillium and Candida were isolated and identified fro the oral swab samples. The microbial load in the mouth of the various volunteers was high but reduced progressively with continuous use of the toothpastes, which exhibited varied degree of inhibition on the isolated organisms with time. Oral care practices should be given high priority since it is a prelude to reducing oral infections

Keywords: Oral Microflora, Toothpastes

10. Etinosa .O. Igbinosa, Emmanuel E. Odjadjare, Isoken H. Igbinosa, Philip O. Orhue, May N.O. Omoigberale and Napoleon I. Amhanre (2012). Antibiotic synergy interaction against Multidrug-Resistant *Pseudomonas. Aeruginosa* Isolated from an Abalair Effluent Environment. *The Scientific World Journal*. 8:2361-2368

ABSTRACT

Pseudomonas aeruginosa is an opportunistic pathogen in environmental waters with a high prevalence of multidrug resistance. In this study the synergistic efficacy of synergy antibiotic combinations in multidrug-resistant *P. aeruginosa* strains isolated from an abalair effluent was investigated. Water samples were processed using membrane filtration; pseudomonas was isolated with pseudomonas isolation Agar and confirmed using polymerase chain reaction with speice-specific primer. Susceptibility studies and in vitro synergy interaction testing were carried out, employing dilution and Etest procedure, respectively. Resistance was noted for clinically relevant antipseudomonal agents tested. Finding from antibiotic synergy interaction studies revealed that cefepime, imipenem, and meropenem combined with amikacin resulted statistically significant ($p < 0.0001$) in vitro antibiotics synergy interaction, indicating the possible use of this regimen in treatment of pseudomonal infections

11. Amhanre, I.N. Akpe, A.R; Adewole, M.E. Umanu, G and Isiramen, A. (2011); Microorganisms Associated with Municipal waste Degradation Nigerian Annals of Natural Sciences. 12(1): 32-37

ABSTRACT

The microbial load of environmental waste from eight different refuse dump sites in benin city and Ekpoma markets was investigated using standard microbiological method. The temperature range of the refuse dump site was determined to be between 27.2 and 31.6⁰C. the mean total viable counts for bacteria ranged from 3.8 x 10⁶ to 16.9 x 10⁹ cfu/g of the samples. Six bacteria genera were identified. They include staphylococcus spp, Escherichia coli, Pseudomonas aeruginosa, Klebsiella pneumonia, Escherichia coli, Proteus mirabilis, and Bacillus spp. The fungal isolates were Aspergillus niger and species of Penicillium and Mucor. The presence of these organisms revealed that they have ability to degrade the waste and use it as source of nutrients; all these isolates pose a threat to the health of the inhabitants of the surrounding environment since they are potential pathogens

- 12.Iyamu, M.I., Amhanre, I.N. and Ihimire, I.G. (2011): Bacteriological Quality of Abattoirs in Benin City, Edo State, Nigeria. Journal of Research in Bioscience. 7(1):128-132

ABSTRACT

Slaughtering of farm animal in open air or slaughter houses in cities is of public health, moral and aesthetic concern. This is the reason most abattoirs are situated on the outskirts of most towns and cities to reduce pollution. Four sample types taken from abattoir in Benin City, Edo State were examined for bacteriological quality. The mean total viable count for three sample types analyzed were 5.05×10^3 cfu/g, 6.18×10^5 cfu/ml for raw beef, stream water used and swab from abattoir table respectively. Five bacterial genera were isolated-Escherichia coli, Staphylococcus aureus, Vibrio cholera, Bacillus sp and Alcaligenes sp. Staphylococcus aureus, occurred in all the samples while Bacillus sp and Alcaligenes sp occurred only in the Environment and swab from abattoir tables respectively. The level of bacteria isolated from the abattoir table and the environment indicated poor sanitary condition of the worker, poor sterilization of instruments used and insanitary working environment. These are corroborated with the observed presence of Bacillus sp, a spore former. Hence, there is a strong need for adequate processing to avoid spread of associated diseases

Key: Bacteriological Quality, Abattoir, Benin City.

- 13.Isibor, J.O. Samuel, S.O., Nwaham, C.I., Amhanre, I.N., Igbinovia, O. and Akhile, A.O. (2011): prevalence of bacterial and candida Albrian infection

ABSTRACT

Bacterial and other pathogens often infect the female genital tract causing disease in most women, sometimes with severe complications. A number of vaginal infections present with few or no symptoms and yet could still be transmissible to sexual partners of infected persons. Poor socio-economic status, lack of diagnostic facilities and shortage of effective treatment all contribute to the high incidence of sexually transmitted and reproductive tract infections. In this study we investigated mixed bacterial and *Candida albicans* infections. In antenatal and gynecology attendees in Irrua Specialist Teaching Hospital Irrua, Edo State, Nigeria. Seventy-five high vaginal swab specimens were collected from female patients (18-49 years) attending ante-natal and gynecology clinics of the hospital. Specimens were collected from symptomatic and asymptomatic patients and were analyzed using standard microbiological methods. Wet preparations were examined microscopically for presence of white blood cells (WBC) which suggested an infection, and yeast cells. The swabs were inoculated on MacConkey, Blood, and Chocolate agars, incubated at 37°C FOR 24 h, as well as Saboraud Dextrose agar, incubated at room temperature for a few days. Of the seventy-five specimens analyzed, 56(74.7%) isolates were from symptomatic patients while 25(44.6%) were from asymptomatic patients. *C. albicans* was the most isolated pathogen with 35(47.7%) isolates, followed by *Staphylococcus aureus* with 25(29.8%), *E. coli*, 11(13.1%), *Klebsiella* spp, 5(6.0%) *Enterococcus faecalis*, 4(4.8%), *Proteus* spp 3(3.65%) and *pseudomonas aeruginosa*, 1(1.2%). This analysis revealed that candidiasis caused by *C. albicans* and infection with *S. aureus* is still the major health problems among females in this locality. The need for regular check-up at the clinics as well as personal hygiene is highly recommended in order to forestall avoided infections

Keywords: Bacteria, Candida albicans, infection, antenatal, gynecology, Irrua Nigeria.

14.A.r. Akpe, P.O.A. Usuoge, O.I. Enabulele, F.I. Esuimeh, H.A. Obiazi, I.N. Amhanre and O.M. Omoigberale (2010). Bacteriological and physic-

chemical quality of wheaten white bread flour made for Nigeria Market.
Pakistan journal of Nutrition. 9(11): 1078-1083

ABSTRACT

Bacteriological and physico-chemical quality changes in wheaten white bread flour made for Nigerian market were investigated during storage at room temperature for four months. During storage bacterial count decreased; between day 15 and day 105, count decreases from 45.0×10^3 cfu/g to 1.0×10^3 cfu/g for flour brand 1 and between day 60 and day 105, count decreases 12.5×10^3 cfu/g to 3.5×10^3 cfu/g for flour brand 3. Statistically, bacterial counts in the different brands of flour storage show a significant difference. Total coliform count in flour brand 1 decreases from 4.60 MPN/g (day 15) to zero (day 105) in storage. Significant count in coliform count was obtained for flour brand 1 and flour brand 2 but no significant difference was observed for flour brand 3 and 4 during storage. *Staphylococcus albus*, *Klebsiella pneumoniae* and *Bacillus subtilis* were detected and isolated. Lower pH of below pH 6.0 were recorded at day 105 for flour brands 1, 2 and 4 and the ash content of the various brands of flour was above 0.65% recommended for Nigerian flour with effect from day 90 of storage. Protein, gluten, fat, moisture, and carbohydrate contents were within the acceptable limit values for Nigerian flour.

Keywords: Bacteriological, physico-chemical, wheaten, flour, bread

15. Iyamu, M.I., Amhanre, I.N. and Ohenhen, R.E. (2009). Microbial Assessment of Ground Melon preserved with salts. *Continental Journal of Microbiology*. 3:1-12

ABSTRACT

Microbial assessment of ground melon preserved with some salts (sodium chloride, sodium citrate and a mixture of sodium chloride and sodium citrate) was evaluated. The results revealed that after 5 days, there were no changes in the microbial quality of the ground melon. However, both the preserved and the control (unpreserved) melon samples changed from milk to brown colour after 31 days. The melon preserved with 10% sodium citrate had the highest mean plate count of 8.0×10^3 cfu/g while the one preserved with 10% sodium chloride had the mean plate count of 5.0×10^3 cfu/g. *Staphylococcus aureus*, *Klebsiella pneumonia* and *Aspergillus niger* were isolated from the preserved and the control (unpreserved) samples

Key note: Microbial Assessment, Ground Melon preserved. Salt

16. Ogiehor, I.S., Okwu, G.I. and Amhanre, I.N. (2008). The inhibitory effects of different concentration of sodium metabisulphite on *Fusarium moniliforme*, *Penicilium Citrinum* and *Aspergillus Niger* in garri during storage. Nigerian Annals of Natural Sciences 7(1): 37-48

ABSTRACT

The inhibitory effects of different concentration of sodium metabisulphite (SM) on three fungi (*Fusarium moniliforme*, *Penicilium citrinum* and *Aspergillus niger*) deteriorogens of garri during storage at tropical ambient temperature ($29-5\pm 0.5^{\circ}\text{C}$) was evaluated for eight (8) weeks duration using standard microbiological procedures. Results indicates that different concentration of SM exerted various degree of inhibition on the various deteriorogens evaluated. Samples treated with 0.5%SM decreased the viable count up to the 14th and 12st day and thereafter no growth was detected for *Fusarium moniliforme*, *Penicillium citrinum* and *Aspergillus niger* respectively. While the viable count of samples treated with 0.3%SM decreased till the 21st day from 4.9×10^4 to 0.7×10^1 for penicillium citrinum and 35th day from 4.9×10^4 to 1.1×10^1 for Aspergillus niger and thereafter no growth was detected. However, samples treated with 0.1%SM decreased initially up till the 21st day and thereafter increased steadily till the end of the storage period. The non treated samples (control) decreases slightly till the 14th day and thereafter increased profusely till the end of the storage. The degree of inhibition of SM on the test organisms was in the order of *Fusarium moniliforme*>*Penicilium citrinum*>*Aspergillus niger*. Findings may be useful in designing strategies for controlling biodeterioration of garri during storage.

Contact

Email: idiahanre@gmail.com

Phone: 08059860913, 08136386042