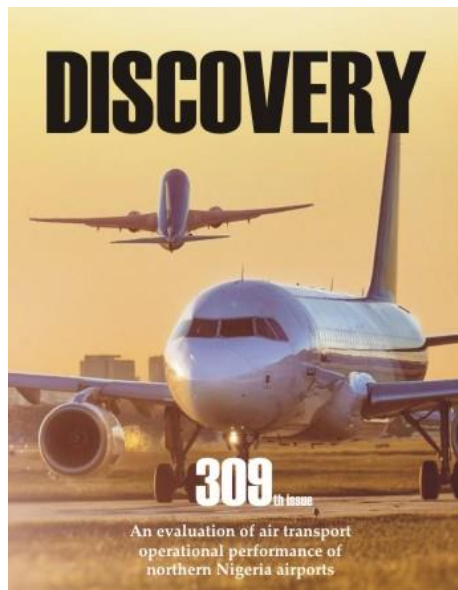


# DISCOVERY

## About the Cover



This study investigates the performance of selected airports in the study area from 2001 to 2018. Data used for the analysis include passenger throughput, aircraft movement, cargo throughput, mail throughput (output index) and terminal capacity, runway dimension, apron capacity, screening point, ground handling equipment & number of employee (input index) were sourced from FAAN headquarters for each of the airport selected. In the study, Domestic and International travelers were studied for all the selected Airports in the study area. Basic Data Envelopment Analysis (DEA) was used as a technique for the analysis. MaxDEA 7 Software used in running the analysis. Operational performance measures were carried out, showing the airports that are operating at a productive and efficient level amongst the selected airports. From the analysis, the result show that, the international wing of Abuja International Airport, the Domestic wing of Abuja International Airport, the International wing of Aminu Kano International Airport and the Domestic wing of Maiduguri Airport were operating at efficient level of 100% (=1) only in 2018 while the rest of the selected airports are not productive and efficient in 2018 because they were operating below the efficiency score of =1 which is not the ICAO standard in terms of airport benchmarking. Policy implications were made on how to regulate the aviation industry to meet the ICAO standard by benchmarking the inefficient airports using those airports that were operating at =1 (100%) efficiency score. (Ref: Ayinla AI, Rueben NO, Victor O. An evaluation of air transport operational performance of northern Nigeria airports. *Discovery*, 2021, 57(309), 676-684).

### Biocontrol of *Meloidogyne incognita* with Neem and Bt on Tomato Plant by Seed Dressing Treatment

Harjinder Kaur, Harpreet Kaur, Praveen Rishi

Root-knot nematode, *Meloidogyne incognita* is one of the major limiting factors affecting plant growth and yield. Currently, synthetic pesticides are principle means used to control the nematodes but organic amendments and biocontrol agents may provide a safer alternatives. A study was conducted to evaluate the nematicidal potential of neem and *Bacillus thuringiensis* in controlling *M. incognita*. 100% concentration of neem leaf extract, neem seed extract and  $1.1 \times 10^9$  CFU/ml of Bt formulations (WCS, CFS, CPR and SCP@ 10ml/ 50 seeds) were used as seed dressing treatment to control *M. incognita* infesting tomato plants. Significant increase in shoot length, root length and total plant length was observed in NLE treated tomato plants i.e. 142.0% (52.2 cm), 211.9% (23.09 cm) and 159.0% (75.2 cm) respectively as compared to the inoculated control. Carbofuran 3-G was also effective caused maximum increase in shoot weight, total plant weight and yield weight by 28.7% (14.8 cm), 40.6% (19.5 cm) and 286.5% (11.12 cm) respectively as compared to the inoculated control. Maximum root weight was observed in WCS+NSE i.e. 115% (5.10 cm) as compared to the inoculated control. NLE treated tomato plants showed significant increase in shoot length, root length and total plant length as compared to the uninoculated control. When CPR+NSE used as seed dressing treatment caused significant reduction 6.9% in number of galls/root system as compared to the inoculated control. Carbofuran 3-G and WCS+NLE caused 72.3% and 54% reduction in number of females/gall respectively as compared to the inoculated control.

*Discovery*, 2021, 57(309), 658-675

### An evaluation of air transport operational performance of northern Nigeria airports

AKOREDE Ibrahim Ayinla, NWAOGBE Obioma Rueben, OMOKE Victor

This study investigates the performance of selected airports in the study area from 2001 to 2018. Data used for the analysis include passenger throughput, aircraft movement, cargo throughput, mail throughput (output index) and terminal capacity, runway dimension, apron capacity, screening point, ground handling equipment & number of employee (input index) were sourced from FAAN headquarters for each of the airport selected. In the study, Domestic and International travelers were studied for all the selected Airports in the study area. Basic Data Envelopment Analysis (DEA) was used as a technique for the analysis. MaxDEA 7 Software used in running the analysis. Operational performance measures were carried out, showing the airports that are operating at a productive and efficient level amongst the selected airports. From the analysis, the result show that, the international wing of Abuja International Airport, the Domestic wing of Abuja International Airport, the International wing of Aminu Kano International Airport and the Domestic wing of Maiduguri Airport were operating at efficient level of 100% (=1) only in 2018 while the rest of the selected airports are not productive and efficient in 2018 because they were operating below the efficiency score of =1 which is not the ICAO standard in terms of airport benchmarking. Policy implications were made on how to regulate the aviation industry to meet the ICAO standard by benchmarking the inefficient airports using those airports that were operating at =1 (100%) efficiency score.

*Discovery*, 2021, 57(309), 676-684

### Waste trading: an emerging strategy of household disposal and management of solid waste in Delta State, Nigeria

Jomata Lucky Igben

This study explores the practice of waste trading as an emerging strategy of municipal waste management in Delta State, Nigeria. It aims to examine the socio-economic and demographic attributes of persons involved in the practice, typology of solid waste items traded on and the physical distances traverse by buyers. Primary data were collected from questionnaires administered on 250 sellers and 50 buyers of waste items. The multi-stage sampling technique was used to select sample of sellers. The first stage involved purposive selection of one settlement from 30 urban settlements. The second stage is the systematic random sampling of 250 households, and 50 buyers were selected by availability sampling. The questionnaire for the sellers contains information on the socio-economic and demographic characteristics of household heads and typology of solid waste traded on, while the second questionnaire covers the distance traverse by buyers. Data were analysed by use of descriptive statistics and Pearson Correlation analysis. The result revealed that a variety of solid waste items are traded on: iron/steel, aluminum and other metals (33%), plastics (32%), wood and furniture (17%), electrical and electronics wastes (13%), others (5%). In addition, there was positive and direct relationship between distance traversed by buyers and volume of waste items purchased ( $r=0.394$ ,  $p<0.05$ ). The study recommends enactment of laws to regulate the practice and provision of soft loans to buyers.

*Discovery*, 2021, 57(309), 685-694

### Study of chromosome morphology of venerid clam *Paphia malabarica*

Shaikh ALAH1, Mohite SA

Among the exploited bivalve resources of India, clams are by far the most widely distributed and abundant. Good clam fishery is reported from the Ratnagiri coast of Maharashtra, India. It is represented mainly by shortneck clams, *Paphia malabarica*. Present study done from February 2013 to September 2014, analysed the morphological characters and the karyotypes of *P. malabarica*. The chromosome formula derived from the present investigations for this clam was  $10m + 5sm + 4t$  ( $2n = 38$ ). The karyotype displayed a high number of metacentric chromosomes. The percentage of euchromatin observed in both the long and short arms of the

chromosomes of the *P. malabarica* was more compared to the heterochromatin, indicating active regions of replication and transcription.

*Discovery*, 2021, 57(309), 695-702

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### **Trypanosomosis in pigs slaughtered at Bodija Abattoir, Ibadan, Oyo State, Nigeria**

Ugochukwu P Okorafor, Cyprian R Unigwe, Sharon O Olukunle, Oluwasanmi B Odeyemi

This study investigated the prevalence of porcine trypanosomosis in pigs slaughtered at Bodija abattoir, Ibadan, Oyo State, Nigeria, between the months of March and May, 2017. Blood samples were obtained at the point of slaughter from 78 apparently healthy pigs of both sexes and different breeds and ages using standard field and laboratory techniques. 13 pigs were infected with trypanosomes representing an infection prevalence of 16.67%. *Trypanosoma simae* was the only species implicated. Age-specific prevalence in adults and growers was found to be 6.41 and 10.26% respectively. Prevalence according to breeds showed 14.10, 0.0, 0.0 and 2.57% for large white, Land race, Duroc and Hampshire respectively. There was a significant difference ( $P < 0.05$ ), in age and breed prevalence. Sex prevalence recorded 8.98 and 7.69% for male and female pigs respectively. This, however was not statistically significant ( $P > 0.05$ ). The study provides information on the trypanosomosis status of pigs that arrive for slaughter in the study area and has shown that more attention is needed in controlling trypanosome infection from the source farms.

*Discovery*, 2021, 57(309), 703-708