

NATIONAL VETERINARY RESEARCH INSTITUTE, VOM

MISSION STATEMENT

*To be the foremost Veterinary Research Institute in Africa,
producing international quality standard vaccines and
offering services for the identification, control and
eradication of economically important livestock diseases,
through best practices, research excellence and applying
modern technology, with highly motivated, trained and
experienced personnel.*

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NVRI is a parastatal of the Federal Ministry of Agriculture & Water Resources

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INTRODUCTION



The year 2006 would go down in the history of NVRI as the singular year when the management and staff of the Institute were challenged by the arrival of the dreaded, highly pathogenic Avian Influenza virus (H5N1) in the country, rose to the challenge, and performed creditably in the control of the disease.

Consequently, many of the scientific publications in the year were focussed on the work done in the diagnosis and epidemiology of the outbreak in Nigeria. In addition the Institute's major scientific Journal, Vom Journal of Veterinary Science, dedicated a special Edition (Nov. 2006) to the efforts arising from the work of Vom researchers on H5N1.

Vaccine production continued with vigour in spite of constraints especially resulting from the breakdown of the liquid nitrogen plant and other factors.

Interest in ethno-veterinary medicine was sustained with work on the antimicrobial activity of *Azadirachta indica* (neem) crude plant extract.

The Vom kerosene incubator remains popular with requests coming in from across the country as 47 units were constructed this year.

The beautification of the Institute's environment received maximum attention such that staff and visitors alike continued to applaud the effort of management at enhancing the work environment to achieve even increased productivity.

Major construction works were in progress including a Quality Control Laboratory Complex, Central Vaccine Cold Store, Vaccine Freeze Drying and Labelling Units and Foot and Mouth Disease Research and Vaccine Production Laboratories.

It is envisaged that these would be ready for commissioning in the following year.

DR. (MRS) L.H.LOMBIN MFR
EXECUTIVE DIRECTOR



Haj. Ruwaiya M. Askira
(Board Member)



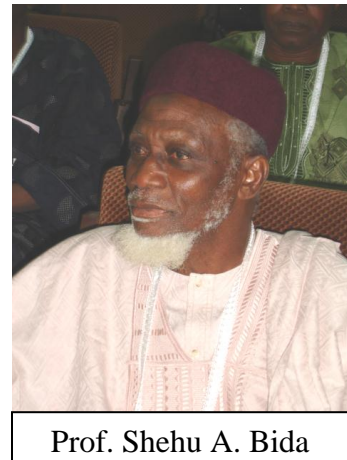
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RESEARCH REPORTS

The Effect of Plasmid based Genetic Materials on Biological Activities in Transfected Mammalian and Avian Cell lines.

The objectives of this research are to investigate the presence of virulence genes in the plasmid DNA of *Pasteurella multocida* and their ability to induce (or suppress) apoptosis in Chicken embryo cell lines, pig cell lines and other mammalian cell lines. Others are to determine if Plasmid DNA from *Pasteurella Multocida* could rescue the chicken embryo cell lines from programmed cell death when plasmids from *Pasteurella multocida* of both strains are co-transfected into the chicken embryo cells and to determine the degree of cell death rescue by comparing results with those obtained from co-transfection experiment using the anti-apoptotic proteins Bcl2 and Bclxl as one of the genes.

Work done, includes achievement of the marker gene-EGFP and the cloning vector-PcDNA3 from UK. Vero cells and chicken embryo cells were seeded on well plates by estimation. Transfection trials were carried out using 1ug, 2ug, 5ug and 10ug of EGFP expression constructs and pool of transfectants viewed under the inverted fluorescent microscope. Plasmids were successfully extracted using the Endotoxin-free mini-prep experimental procedures and kits. It was also possible to have bacteria stock in the institute containing the marker genes EGFP.

Isolation and Identification of Highly Pathogenic Avian Influenza Virus (H5N1) from suspected outbreaks in commercial and free-range chickens across Nigeria

This project was predicated on the report of a suspected outbreak of Avian Flu in Kaduna state, Nigeria in January 2006. The objectives of the study were to investigate

all reported Avian Influenza Disease outbreaks, isolate and subtype the virus and to generate data on the occurrence of Avian Influenza across the country.

Tissue samples were collected from various suspected outbreaks of Avian Influenza Disease across the country. The samples were processed and inoculated into 9-11 day-old chicken embryonated eggs of minimal disease free origin. A total of 603 tissue samples were received by the end of 2006 out of which 138 isolates were obtained using specific antibody negative embryonated eggs. The H5 sub typing of all the isolates was carried out using Haemagglutination inhibition test. Future plans include characterization of isolates by other tests (IVPI, ICPI and PCR), development of AI vaccine from indigenous strains and active surveillance across the country.

Surveillance for Avian Influenza Virus Antibodies in Local and Commercial Flocks across the country.

The objective of this study is to determine the prevalence rate of avian influenza (type A) antibodies in local and commercial flock.

Avian sera were collected from both local and commercial flocks in Plateau, Bauchi, and Kano States. The sera were assayed for avian influenza virus antibodies using agar gel immunodiffusion test (AGID).

A total of one thousand four hundred and twenty-nine (1,429) avian sera were collected and analyzed. 65,644 and 720 were from Kano, Bauchi, and Plateau states respectively. The samples were tested by agar gel immunodiffusion (AGID) test using positive avian

influenza (type A) ribonucleic protein (RNP) antigen and anti-serum.

All samples tested negative to avian influenza antibodies by AGID test. Future plans include the expansion of the investigation to other agro-ecological zones and sero surveillance of AI antibody in other species especially pigs.

Production and standardization of *Brucella* antigens for the diagnosis of brucellosis in Nigeria

Brucellosis is one of the most important reproductive diseases of livestock in Nigeria. The importance of this is due both to its economic impact on the animal industry and the hazard it represents to human health. Serological diagnosis of brucellosis is based on the detection of antibodies in serum usually by the serum agglutination test (SAT), rose Bengal plate test (RBPT), complement fixation test (CFT) or enzyme-linked immunosorbent assay (ELISA) and by milk ring test (MRT) in milk (Alton *et al.*, 1988; Macmillan, 1990). Presently, routine serological diagnosis of brucellosis in animals in Nigeria is by RBPT, SAT and MRT (Ocholi *et al.*, 1996). Currently the antigens for these tests are not available for use, both for routine laboratory tests and for commercial purposes.

This project is thus, underlined by the need for the availability of rose Bengal plate test (RBPT), serum agglutination test (SAT) and milk ring test (MRT) antigens for laboratory diagnosis of animal brucellosis, and the prospects for their commercialization. The antigens will be standardized according to standard techniques employed for this purpose.

The objectives of this project are to produce *Brucella* antigens for RBPT, SAT and MRT and to standardize the antigens to meet international standard.

The pilot studies on the project which involved the establishment of the laboratory

protocols for the production and standardization of the Rose Bengal Plate Test (RBPT), Serum Agglutination Test (SAT) and Milk Ring Test (MRT) antigens were done.

The procedures for the production of culture media, media inoculation and growth of the organism, harvesting, preliminary quality tests (sterility and purity tests), washing of cells, and staining were established.

Our next plan is to produce large quantities of the standardized antigens.

Determination of antimicrobial activity of *Azadirachta indica* (neem) crude plant extract

Dermatophilosis is considered by FAO as one of the four major bacteriological diseases affecting cattle and other domestic animals. It was placed second to contagious bovine pleuropneumonia (CBPP) at the Abidjan conference on Agricultural Research Priorities for Economic Development in Africa.

Lack of knowledge of the pathogenesis of the disease has hampered the effort to treat it. Native concoctions containing engine oil, medicinal plants, have been used by nomadic Fulanis. Some of these drugs have achieved temporary relief or cure but do not prevent reoccurrence. Of recent, a cure for the disease was invented at the National Veterinary Research Institute, Vom, named Lamstreptocide A & B and it showed promising results. The current project is aimed at finding more cures for Dermatophilosis.

Azadirachta indica (neem) plant which has been reported locally to have great potential for curing various skin conditions was the focus of this project. The plant was collected from Vom and Kanam and confirmed at herbarium of Federal School of Forestry. The crude

extract of the plant was analysed phytochemically for bioactive agents. Preliminary phytochemical screening showed that both plant had similar constituents: alkaloids, flavonoids, tannins, glycosides, resins, and saponins. The antimicrobial screening of the aqueous extract of the leaves, stem bark and fruits were carried out using the following bacterial strains from the stock culture of Bacterial Research Department: *Bacillus cereus*, *Salmonella paratyphi A*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and the fungus *Candida albicans*. Both cold and autoclaved were used. The autoclaved extract of the stem bark were more effective exhibiting a concentration dependent antibacterial and antifungal activity.

Various plant parts were pre-digested using perchloric, sulphuric, and nitric acids analysed for macro-, micro- and trace elements using atomic absorption spectrophotometer (AAS). The mineral element analysis revealed various levels in parts per million (ppm) of Zinc (Zn), Iron (Fe), Calcium (Ca), Potassium (K) and phosphorus (P).

Incidence of *Campylobacter* species in aborting and apparently healthy cattle in Plateau State

Campylobacter species causes a variety of diseases including abortion and infertility in cows, gastroenteritis in calves and sometimes in adult cattle. It also causes

abortion, septicaemia and gastroenteritis in humans, thus of public health importance.

There are limited reports on the isolation and characterization of *Campylobacter* in cattle in Nigeria, thus the need for this study.

The objectives are to isolate *Campylobacter* species from cattle in Plateau State, to characterize the isolates, and to determine the virulence of the isolates in laboratory animals.

Preliminary works involved the preparation of *Campylobacter* selective broth and *Campylobacter* selective agar. Twenty two vaginal swabs were collected from cows and cultured for *Campylobacter* out of which 1 (4.5%) was positive.

Sixty eight rectal swabs were collected from calves and adult cattle and cultured for *Campylobacter*. Those positive were 37 (54.4%).

Capacity for the isolation of *Campylobacter* was developed and isolation of *Campylobacter* species achieved

The future plan is to continue with more isolation work, characterize and determine the virulence of the isolates.

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DEPARTMENTAL REPORTS

Biochemistry and Molecular Biology Department

Routine activities of the Department include:

Biochemical diagnostic assays; Nutritional Chemical analyses of feeds, feedstuffs, food and foodstuffs; analyses of toxin levels in feeds, foodstuffs, water and mineral elements analysis; diagnosis of animal disease using Molecular Biology techniques, genotyping and characterization of animal disease pathogens; Routine biochemical analyses of the Institute's water treatment within the period under review. A total of 6,160 samples were analyzed, which was above the projected total of 5,000 samples. A total of 1,397.3 litres of distilled water was produced within the period under review. Consultancy services were also offered to feed millers, students and scientists by the various Sections.

NEF-NVRI Toxicology Internship programme, a collaborative training programme between the Institute and the African Education Initiative, a USA based NGO was organized and held for 3 months between May and August, 2006 in the Institute. The department contributed largely to the design, co-ordination and implementation of the programme.

Viral Research Department

Further work on the Serological Survey of Infectious Bursal Disease Virus (IBDV) Antibodies and Antigen in Local and Commercial Flocks in Nigeria which was reported in 2004 and 2005 was further expanded to cover outbreaks from Adamawa, Bauchi, Nassarawa, Kwara and Edo States. Tissue samples (bursae) were obtained from reported IBD outbreaks and processed and tested for IBDV precipitating antigen by AGID test. Ten (66.7%) out of the 15 tissue samples tested, were positive for presence of antigens.

Similarly, Two hundred and fifty-three (253) serum samples were collected from eleven (11) different commercial farms with history of IBD vaccination in Plateau state. Out of the 253 tested, 71 (28.06%) only tested positive for antibodies.

Bacterial Research Department

Preliminary work on the project on Antibiotic therapy of bovine infected with *Mycoplasma mycoides* subspecies *mycoides* (SC) was carried out. Isolates of *Mycoplasma mycoides* subspecies *mycoides* organism were recovered from animals and freeze dried in the laboratory for future use. Some of the isolates were also sent to France for Molecular typing and the results are being awaited.

Bacterial Vaccine Production Department

Momentum in production of safe and potent Bacterial vaccines which is the primary mandate of the Department has continued to be maintained expeditiously during the reporting period.

Working conditions and availability of raw material were above average with improved staff welfare. There was also an increased awareness on the part of the clients especially as it relates to use of *Brucella* vaccine. Whereas most of the wet vaccines recorded significant increase of 50 – 100% in production figures above the figures of 2005, production of the freeze-dried vaccines fell drastically in 2006 as a result of the on-going installation/renovation work in the freeze-drying unit, leaving the

Institute with only one low capacity functional freeze-drier. Thus the total production figures of 13,218,080 doses of the eight

vaccines showed a decrease of 24.9% when compared to 17,596,460 doses produced in 2005.

VACCINE PRODUCTION FIGURES FOR YEAR 2006: DOSES PRODUCED

MONTH	ASV	BQV	HSV	CBPP	FCV	FTV	HANTAVAC	TOTAL
Jan.	415,600	-	31,720	-	196,800	-	-	
Feb.	408,800	202,500	-	-		-	-	
March	-	-	-	-	267,000	-	27,000	
April	-	163,500	-	-	119,000	-	-	
May	-	292,500	72,360	190,600	107,800		14,960	
June	404,800	373,000	46,520	275,100	163,400	276,400	90,080	
July	-	-	47,440	574,300	125,800		-	
August	208,800	-	16,560	-	248,400	300,000	-	
Sept.	192,400	144,000	16,120	-	128,200	600,000	-	
Oct.	387,600	592,000	40,320	309,700	-	-	23,200	
Nov.	386,400	1,173,000	87,240	486,500	153,400	317,200	44,000	
Dec.	-	1,187,500	24,560	720,600	209,200	318,600	15,600	
Total	2,404,400	4,128,000	382,840	2,556,800	1,719,000	1,812,200	214,840	13,218,080

VACCINE DESPATCHED TO CENTRAL STORES IN 2006

MONTH	ASV	BV	BQV	CBPP	FTV	FCV	HANTAVAC	HSV
Jan.	-	-	-	474,100	-	194,400	19,920	32,240
Feb.	410,800	-	-	432,800	897,000	-	-	-
Mar.	-	-	196,500	-	-	262,200	-	-
April	-	-	-	-	-	-	26,520	31,240(O)
May	403,200	-	444,000	189,000	-	222,000	14,480	70,920
June	400,000	-	367,000	272,800	270,400	159,400	18,040	45,560
July	-	-	-	557,500	-	-	71,080	46,960-
Aug.	204,000	-	-	-	297,300	241,400	-	16,080
Sep.	187,600	-	139,000	-	-	251,400	-	15,640
Oct.	382,800	-	586,000	-	596,400	-	22,720	39,800
Nov.	381,600	-	406,000	484,000	1,000	151,000	12,880	53,720
Dec.	-	-	959,000	137,900	631,800	201,200	45,280	55,640
Total	2,370,000	-	3,097,500	2,548,100	2,693,900	1,683,000	230,920	408,059

Total doses dispatched = 13,031,479

Quality Control Department

The Department carried out regular batch release testing of vaccines in collaboration with the bacterial, Viral and Biochemistry Departments to ensure quality of products. Tests include sterility, purity, safety, potency and freedom from contamination with extraneous agents.

During the year 5 batches of viral vaccines: New Castle Disease Vaccine batch 1612006, Lasota batch 17/2006, Kamarov batch 08/2006; Infectious Bursal Disease Vaccine (Gumboro) batch 11/2006 and PPR batch 1/2006 were passed based on the acceptable viral content, purity and past batch performance for use in the field.

Bacterial vaccine batches tested included CBPP (4) ASV (4), DFTV(4), HSV(6), Hantavac(3) and FCV(4). The purity and viability of the vaccines were within acceptable levels and were passed for use in the field. The issue of low pH observed among liquid bacterial vaccines was discussed and appropriate action was taken by the Bacterial Vaccine Production Department.

The Quality Control Department paid regular visits to production units to check compliance with acceptable manufacturing practices and quality of the production environments.

In December 2006, two vials of suspect CBPP vaccines on the market were sent to the Department from our Zonal Office in Yola, for quality check. Tests carried out confirmed that the suspect 'CBPP' vaccine content was New Castle Disease Virus and contained no Mycoplasma organisms. A report submitted to the Executive Director on this case suggested that this act (exchanging CBPP label for NDV label) by quarks was to confuse customers who would pay more for CBPP vaccine. The CBPP

label used by the dubious marketers was also found to be faked.

Two staff of the Department Mr. Kwatjel Jephtha and Miss Bako Fatima completed their Internship programs (BMLS) in the Institute.

Epidemiology Department

The Microbiology unit of the department screened 660 specimens, from Avian (463), bovine (32), canine (32), caprine (11), pisces (5), laprine (33), ovine (2), porcine (79) and zoo animals (3). Out of the above samples, the most consistent isolates were *Escherichia coli* (166), *Salmonella species* (46) and *Klebsiella species* (94).

A total of 119 Necropsy cases under PACE-NADIS Projects were processed during the year under review. Other necropsy cases handled include 198 from within the Institute and 784 received from outside clients.

The histopathology unit processed a total of 172 cases made up of Avian (100), bovine (8), canine (6), caprine (6), ovine (5), laprine (25), equine (15), porcine (2), and zoo animals (4).

The parasitology unit received and processed 704 samples of fecal, intestinal, blood, skin scraping, brain tissue, urine and pericardial fluid of different species of animals. Some of the parasites diagnosed were *Eimeria species*, *Cowdria rumminatium*, *Fischoederius cobboldi*, *Schistosoma spp*, *Toxocara spp*, *Cooperia spp*, *Babesia spp*, *Anaplasma spp* and *Trypanasoma spp*.

The Small Animal unit of the department was able to realize the sum of N252, 300.00 from the sale of laboratory

animal during the period under review. Activities of the Epidemiology Unit in the year 2006 included animal disease surveillance and collation and analysis of data of the Avian Influenza outbreak.

The aquaculture unit offered services for the diagnosis of fish diseases, engaged in the Construction and stocking of experimental fish pond with 200 fingerlings of *Clarias gariepinus* and the construction and stocking of the snailry with 20 African giant snails. Fingerling (10), post-juvenile (6) and adult (17) *Clarias gariepinus* were examined postmortem. Organisms isolate include *Pseudomonas aeruginosa*, *Klebsiella spp*, *Aeromonas spp*, *Salmonella spp*, *Proteus spp* and *Streptococcus faecalis*. The wildlife unit of the department received carcasses of 6 different wildlife species. They were dwarf cattle, Derby eland, elephant, lions and spotted hyena. Also, 11 different species of wild birds were received for postmortem examination.

The Large Animal Experiment Station under the supervision of this department managed animals used for different experiments by the research staff of the Institute. Experiments conducted within the premises of the station within the year include re-characterization of working seed T1/44 (Bacteria Vaccine Production Dept), characterization of BQV seed culture (BVPD), vaccine seed Characterization (BVPD), validation of Fowl Typhoid Vaccine (Bacteria Research Dept.), oral vaccination of birds with *Pasturella multocida* vaccine (BRD), efficacy of Scabicur in the treatment of skin infection in animals (Parasitology Dept), biological revalidation of HSV/BV working seeds (BVPD), and pathogenicity studies of *D. congolensis* in cattle (BRD). Others were potency and safety testing of Fowl Typhoid vaccine (BVPD), Development of Capripox vaccine (VRD), Evaluation of Patho-

morphological changes in immunized and control chicks, challenged with a field isolate of *Eimeria tenella* (Diagnostic Dept.), Efficacy Trial of NTCOX on coccidiosis in domestic animals (Diagnostic Dept.), NEF – NVRI. Toxicology Internship projects and Fowl Typhoid Vaccine Validation (BRD). The Ambulatory Unit carried out 16 ambulatory visits to different farms in 2006.

NVRI Staff Primary School

The first term started on 19th September 2005 and ended on 16th December, 2005. The first term's examination was conducted from 5th - 9th December, 2005. The year was rounded up with Father Christmas and other Funfair from PRTV, Jos. The second term resumed on 9th January, 2006 and ended on 7th April, 2006. Examinations were conducted and reports given out. The third term started 2nd May and ended 28th July, 2006. During the session, the school lost five (5) pupils in various classes.

There were also open-days arranged for parents/guardians to come to the school to discuss the progress and problems of their children/wards with the class teachers and the school authority. There was a total of seven hundred and fifty one (751) pupils on roll but due to deaths and withdrawals, the total came down to seven hundred and thirty nine (739) at the end of the session (2005/2006). The school recorded the following performances during the session.

ACADEMIC

Internal examinations were conducted for all classes and results given to the pupils. The results were impressive in the three terms. External examinations taken by the pupils in primaries 5 & 6 were as follows:-

S/NO	NAME OF SCHOOL	NO. PRESENTED FOR INTERVIEW	NO ADMITTED	PERCENTAGE TAKEN (%)
1	NVRI Staff Sec. School Vom	41	31	76
2	St. Joseph's College, Vom	8	7	87
3	C.M.I. Zawan	3	3	100
4	B.S.S. Gindiri	3	2	66.7
5	G.H.S. Gindiri	8	5	62.5
6	St. John's Vianney Seminary B/Ladi	3	2	66.7
7	All Nation Academic Jos	2	2	100
8	St. Luis College Jos	2	2	100
9	St. Luke's College, Jos	9	5	59
10	Nigeria Military School Zaria	3	3	100
11	Command Secondary School, Jos	3	3	100
12	Airforce Girls Sec. Sch. Jos	4	2	50
13	Airforce Boys Sec. Sch., Jos	9	Missed out	
14	St. Rita's Sec. School, Vom	3	3	100
15	Federal Min. of Edu. Inter-state exchange programme.	1	1	100

Total Secondary schools = **15**

Cumulative Average of the results for the 14 schools received = **90.6%**

2006 FIRST JOINT ANNUAL SPEECH AND PRIZE AWARD CEREMONY

The 2006 Speech and Prize Giving Ceremony was jointly organized by both the Primary and Secondary Schools on the 26th July, 2006. This was well attended by the Institute's Management Board, the Schools Management Board, HODs, P.T.A. Exco, invited Guests, Parents/Guardians, Staff, Students and Pupils.

Speeches were presented by the Executive Director, Dr (Mrs.) L.H. Lombin (MFR), and the Director and Chairman of the

Schools Management Board, Dr. A.A. Makinde.

Two Guest Speakers presented papers. Prof. Elizabeth A. Abama, Director, Centre for Continuing Education, University of Jos, presented a Paper titled; "**Provision of Education and the Need for Quality Control Assurance.**" Col. Solomon Oke (Rtd), Special Assistant to the D.G. National Institute, Kuru – Nigeria also presented a paper titled, "**Functional Issues Affecting**

Education in Nigeria: the Way Out". Both papers were enriching and educative to both the staff and children.

In the Primary section, one hundred and thirty two (132) pupils graduated i.e. Forty four (44) pupils in primary six to various secondary schools and eighty eight (88) pupils in Nursery III to class one within the school. Prizes donated by the EDVR, Directors, P.T.A., Staff Unions, Parents, etc were presented to deserving pupils who excelled in academics and non academic activities. The occasion was very colourful and memorable to the graduands and parents.

NON ACADEMIC ACTIVITIES FINE ARTS COMPETITION

Though the school does not offer Fine Arts as a subject, a staff with interest and creative ability worked with two pupils and presented them for WORD SPACE, IN ARTS/DRAWING EXHIBITION held in Jos on the 10th October, 2005. The School came 4th position in the whole State. A cash prize of two thousand naira (N2, 000.00) and an Art textbook were given. The cash was given to the pupils as an encouragement on the directive of the Chairman of the schools Management Board.

SPORT

The school took first and second positions in the Invitation relays during the Corona Private School sports day held on the 26th November, 2006. The Girls took the first position while the Boys took second position.

END OF YEAR ACTIVITIES

In December, 2005, the school organized an end of year activity which was graced by Christmas Funfair with Father Christmas from PRTV, Jos in attendance. Various gifts were given to children by Father Christmas.

Total number of new intake in the first term was 118 pupils in all classes.

ITEMS PROVIDED TO THE SCHOOLS

The Institute provided a computer and its accessories to the schools.

The P.T.A. provided a photocopying machine and a stencil cutting machine to the schools. The P.T.A. also repaired the duplicating machine that was broken down.

REQUIREMENTS

The schools are in need of more teachers to handle certain vital subjects, repair of broken doors, windows, leaking roof, ceiling and desks. The School is also lacking in sports and games equipment. We will appreciate the re-introduction of computer programme in the school. Sponsorship of staff for training by the Institute is seriously needed. However, we appreciate the permission being granted to staff to undergo various relevant courses in the Universities during the long vacation.

NVRI Staff Secondary School ACADEMICS

The result of the students at the external examination has continued to improve. The performance of students presented for the 2006 are as follows:

- (i) WASSCE 92.4% pass level, 63.4% credit level
- (ii) NECO SSCE 95.2% pass level, 75.6% credit level

SPORTS

An SS 2 student, Bridget Gyang recorded some impressive performance in Athletics at the National Level as indicated below.

S/N	Competition	Position
1.	Athletic Federation of Nigeria (AFN) competition held at Abuja on 15 th February, 2006 (1,500m)	Silver Medal
2.	Nigerian National Petroleum Corporation (NNPC) organized Marathon race held on 20 th February, 2006	Gold and Silver Medals
3,	7th Nkoyo Ibori U-20 athletics championship tagged OGHARA 2006 in July, 2006	Silver and Bronze
4.	U-18 National Secondary School (Girls) games (800m and 1,500m) – October, 2006	2 Gold Medals

FIRST EVER JOINT SPEECH AND PRIZE GIVING CEREMONY

The School had a joint Speech and Prize Giving Ceremony with the Primary School on Wednesday 26th July, 2006. Deserving Students received prizes from individuals and corporate organizations. Worthy of note is the N100, 000.00 (One hundred thousand Naira) instituted prize from the Industrial Training Fund (ITF) to purchase prizes for the best graduating science student yearly.

STAFF NEWS

Miss Helen Azu was employed to teach social studies in the Secondary School section.

Two Teachers are currently on permission to attend post graduate courses in Education at the University of Jos. They are, Mr. M.Y.

Dawat (Mathematics) and Mrs. B. Ajibade (child psychology)

TEACHERS WELFARE

The NVRI Management has continued to encourage and motivate the staff for improved productivity. Several teachers are now car owners, courtesy of the furniture loan granted to them by the Management. The Teachers are highly appreciative of this kind gesture.

Planning, Monitoring & Evaluation Division

The Planning, Monitoring and Evaluation Division has the following departments and Units, (a) Planning Department with Tenders Board Unit, (b) Monitoring & Evaluation Department with Statistics Unit, (c) Information Technology Department with Cyber Café Unit, Computer maintenance Unit and Management Information System (DATABANK) unit, (d) Library & Documentation Department, and (e) Printing Press Department.

The Division was able to achieve the under listed in 2006:

- The compilation of Vaccine Data for the year 2006
- Facilitated research in the Institute and the Colleges by helping staff with statistical analysis of their data.
- Reproduced the Institute's Base Map through the National Centre for Remote Sensing (NCRS), Jos.
- Processed several data related to Human Resource Development such as Nominal Roll, Staff Bio-Data and Staff Training. The Data were sent to Bureau of Public Service Reforms, Federal Character Commission and other Government Agencies.
- Coordinated and supervised the expansion of the Institute's Intercom in addition to overseeing the functionality of Institute's Telecommunication facilities.

- Coordinated the registrations of Staff in Contributory Pension and National Health Insurance Schemes. Similarly, the Cyber Café Unit also undertook the on-line registration of Staff with the National Pension Commission.
- Coordinated the attachment of one hundred and ninety five Students (195) on Students Industrial Work Experience Scheme (SIWES) posted to the Institute in 2006.
- A total of seventy five dignitaries / Institutions visited the Institute in 2006 and their visits were coordinated by the Planning Division. Out of these, 41 % were from Tertiary Institutions, 46% from secondary schools and 13% were dignitaries from Ministries, Parastatals, Foreign visitors, etc. Below are a list of some of those who visited
 - Senior Executive Course No 28/06 Participants of the National Institute for Policy and Strategic Studies, Kuru on Wednesday 22nd February, 2006.
 - Nigerian Aid Group of Jama'atu Nasril Islam Plateau State Branch on Thursday 9th March, 2006.
 - Nigeria Defence Academy on Tuesday 28th March, 2006.
 - Cuban Agricultural Experts led by the Presidential Committee on Dairy Development in Nigeria on Friday 19th May, 2006.

The Assistant Director (Planning) who is the Head of the Division was appointed as the Institute's *Servicom Nodal Officer* and another staff of the Division as the *Servicom Improvement Officer*.

Livestock Investigation Department

The Livestock Investigation Department (Stock Farm) was established in 1925, to serve as source of animals for vaccine production and animal research. With the expanded mandate of the Institute, the department has continued the production of

animals for development, production and testing of vaccine and biological(s), research in all aspects of animal disease diagnosis, prevention and control, introduction of exotic animals for improved meat and milk production, development of pastures, forages, consultancy services and the training of Middle Level Manpower for the Nigerian Livestock Industry. Many visitors comprising livestock farmers or those interested in livestock industries, students of secondary or tertiary institutions came on short visits or Industrial Experience to the Institute and the Livestock Farm during the period under review.

Animal Population in 2006 was: Cattle 231, Sheep 76, Goats 101 and Horses 10. Other activities carried out include; Perimeter fencing and Paddock demarcation through planting of sisal hemp (2250m), planting of trees (2250m), stone fencing (1800m), paddock stone fencing (940m), pasture development, Liquid Nitrogen production, etc.

Veterinary Extension & Research

Liaison Service

The National Veterinary Research Institute (NVRI) reaches all livestock and poultry farmers in Nigeria through the Veterinary Extension and Research Liaison Service (VERLS) Department. The task is to disseminate proven animal health technologies for adoption. The aim is to improve livestock and poultry health and productivity, providing the much needed animal protein and disposable income to farmers.

Radio Programmes

A total of 160 radio programs on different aspects of livestock health, management and production were produced. Fifty six (56) were programs for "Itoju ohun osin"

on FRCN Ibadan, 64 for Muleka rugage, FRCN Kaduna and 40 for 'Ahu ike umu anumanu' (Igbo)/Animal health time (Pidgin English).

Print Publications done in 2006 included; Poster on Avian flu, Leaflets on Avian flu, NVRI Info and the first NVRI News Bulletin. Others that were in print included Flip chart on avian flu and the second edition of NVRI News Bulletin

The Department participated in three Plateau State ADP MTRMs, National Quail production workshop in Zaria and the first REFILS stakeholders' forum in Umudike.

During the year under review three new staff (Mr. Jatau, Mrs. Henry and Miss Mbok) joined the department.

Stores Department

In the year 2006 the stores Department recorded a steady improvement in the discharge of her mandate. The Department rendered uninterrupted flow of working materials to the operating function thereby enabling a continuous production of Animal vaccines to meet the demands of our teaming clients. Other noticeable achievements are: (1) Stock indexing for easy Identification and store management. (2) Updating of inventories in Laboratories, offices and quarters. (3) Collation of Inventories for computerization.

During the period under review, there was a noticeable decrease in the sales of vaccines. A total of 643,931.02 doses of vaccines were received from the production section and a total of 633,920.82 doses of vaccines were dispatched to customers. This decline could be attributed to the bird flu outbreak that ravaged the country in the year.

Printing and Publications Department

During the period under review the Printing and Publications Department was able to carry out many printing jobs. These could be classified into various categories, namely, (a) Vaccine labels (425,271 copies), (b)

Vaccine related jobs such as NVRI Extension Guide (500 copies), NVRI Posters on bird flu (4,000 copies), NVRI Treasury books (100 books), NVRI Vaccine sales guide (440 copies), NVRI Official Receipts (510 copies), Open and secret files for FCAH&PT (1,950 copies), (c) Other NVRI Publications such as Guidelines for Management (500 copies), Cyber Café Registration forms (1,000 copies), Vom Journal of Vet Science (300 copies), NVRI Mandate posters (100 copies), NVRI Mission Station posters (200 copies) NVRI Seminar Series (98 copies). There were still more publications made for the Institute such as Invitation cards for NVRI Board members (400 copies), NVRI Info (480 copies), NVRI Annual Performance Evaluation Report Forms (1,224 copies), NVRI Open & Secret files (5,750 copies), NVRI 2004 Annual Report (500 copies), NVMA programme & Lecture books (800 copies), EDVR letter headed papers (3,500 copies), FIFO ledger card for the Stores Department (1,000 copies).

Printing jobs received from customers from outside of the Institute was able to generate revenue to the tune of N2.8 million.

Dagwom Farm

A number of jobs carried out by the staff of this department include construction of 47 Kerosene Incubators, maintenance of rabbit cages, repairs of furniture for NVRI Police Station and Diagnostic Department, construction of galvanized drinkers and feeders, construction of wooden boxes for Institute's laboratories and the construction of candling boxes for LID. Other achievements recorded were; extension of rabbit management skills to many rabbit farmers, enlightenment program with PRTVC on

business opportunities in rabbit production and management. The sales of rabbits recorded within the year 2006 was, weaners (178), growers (223) and adults (76). The stock balance stood as; Does (55), Bucks (255), growers (194), weaners (72) and litters (68).

The Feed Mill Section produced feed amounting to 565.30 tons with 498.8 and 66.50 tons for poultry production department and research activities respectively. A total of 11, 040 litres of Soya oil was also produced and 10, 080 litres sold. This generated revenue of N1, 260, 000

Accounts Department

The Accounts Department has continued to record steady improvement in its activities. Its operations are wholly computerized now and geared towards greater efficiency and effectiveness.

The in-house training programme continued to hold fortnightly. Staff were rotated regularly to expose them to jobs in other sections and prepare them for greater challenges.

Appropriation for 2006 (₦)

Personnel Emolument	1,044,070,122.00
Overheads	285,000,000.00
Capital	<u>205,000,000.00</u>
Total	<u>1,533,070,122.00</u>

The Institute received the whole of the amount appropriated for Personnel Emoluments and it was sufficient. The same applied to Overheads and the amount was used in the repairs and renovation work in the Institute and other running expenses. This year we hope to get a little higher than what we got in 2006. For Capital, only 24% of the appropriated amount was actually released.

As at the end of 2006, the Institute had a staff strength of 950. In the course of the year 48 staff retired and 117 were employed. Many staff benefited from one type of loan or the other in the course of the year. The most prominent being the furnishing loan which has immensely assisted staff to develop themselves. Other loans enjoyed are rent advance, salary advance, car refurbishing loans etc.

Those who retired in order to enjoy the old pension scheme have had their pension deductions refunded to them. We have also resumed the National Housing Fund deductions to assist staff own their houses in future.

Accounts Department is dynamic and flexible in structure to suit changes. That is why a new unit has been created to handle staff pension matters with the introduction of contributory pension scheme.

The preparation of Accounts is wholly computerized as the Trial Balance, Income and Expenditure Account and the Balance Sheet are no longer done manually.

The movement of physical cash by Account staff either to or from banks has been stopped thereby reducing risk of money snatching. The various banks now bring and collect money to and from the Institute. Claims were speedily paid. The Petty Cash operation was also hitch free even though the float appears too small now in view of the volume of operation in the Institute.

Despite the effect of the bird flu outbreak in the early part of the year and the replacement of obsolete machines (Viral Vaccines Production) our sales of vaccines in particular and other products in general have recorded impressive results.

There have been improvements in Guest House and Printing Press with the use of dockets and costing of jobs. Efforts are being made to minimize credit sales and recover outstanding ones. The Cyber Café too is generating money and we hope more will be generated when we eventually digitalize our library and expand the bandwidth to cover the two colleges.

We have also worked out new modalities of vaccines sales for the Outstation laboratories which involve invoicing sales at zonal level and recording issues to outstations as transfers rather than as sales. In the latter part of the year a retreat was organized for the Veterinary Investigation Officers (VIOs) and their respective accounts staff to familiarize them with the new changes.

The under listed staff attended the Mandatory Continuing Professional Development (MCPD) programme organized by the Association of National Accountants of Nigeria. They are: Mr. Anebi Idoko, Mr. U.M. Mshelbila, Miss Ann Azu, Mr. Solomon Gabi, and Mrs. Rose Esilonu. In addition, the Chief Accountant also attended a similar programme on taxation in Abuja.

Internal Audit Department

The Internal Audit Department has a staff strength of four (4). The Department carried out Internal Audit functions in the revenue points of the institute such as; NVRI Staff Schools, Poultry, Dagwom Farm, Parasitology department, Dermatophilosis Centre and Cash Office.

Other duties undertaken by the department were Prepayment audit, Verification of purchases, checking of salaries and pension, post-payment audit and discarding/destruction of expired vaccines.

Reports on the observations made from the various departments have been forwarded to the Executive Director while some have

been discussed with the respective officers concerned.

The department is understaffed and will need at least five additional staff. There is need for an imprest account to meet minor expenses and replacement of old office furniture in the department.

Conferences attended by staff of the department include, 1) An overview of independent corrupt practices commission/anti corruption and transparency units in the sustenance of the fight against corruption in Nigeria, 2) Corrupt practices, factors that aid corruption and the way forward organized by the Anti-corruption and transparency units. Staff of the department also partook in the Workshop on Servicom conducted for Institute's staff members.

Library and Documentation Department

The Library remained a veritable department that propels and facilitates access to literature to meet the information needs of the research scientists and other clientele.

During the year, a total of 129 books and reports were procured and added to the Library stock. Out of this number, 61 books were purchased under the "Due Process" policy, while more books are still expected. 9 books and 59 reports were received from individual donors and Agricultural Agencies from within and overseas respectively.

Registration of student members was discontinued following Management decision to re-designate the Library for research purposes only, making the research scientists the substantial users of the Library. However, other clientele were accepted on referral.

In the Serial section, journals that were formerly kept in "Closed access" were

made “Open access” .This is to enable the researchers have free and quick access to the journals. With regards to journal subscription, the situation has not improved. However, trickles of some journals numbering 47 copies were received on gratis from some publishers.

Reference and bibliographic services were provided to research staff and other clientele on referral visits. 450 research queries were received and attended to.

Major re- organization in the Library to meet modern trend in information dissemination has led to the establishment of a Digital Library Unit which at present is being furnished and equipped with computers. The services to be provided include CD-ROM and On-Line information searches for effective service delivery.

Two members of staff of the department, Mrs. Lydia E. Lakan and Mrs. Lily Ezeala are undergoing Masters in Library and Information Science and Doctor of Philosophy in Information Science, respectively

Workshop Department,

The Department is saddled with the responsibility of maintenance and repairs of existing structures, construction and installation of new ones.

Nine (9) sections carry out these responsibilities.

The Electrical Section was able to carry out 239 different jobs within the institute and staff quarters with staff strength of 6 men.

The Welding section was able to perform 94 different jobs in the year under review with staff strength of 6 men.

The Masonry Section has only 4 men but was able to execute 26 jobs in the Institute and staff quarters.

The Carpentry Section with staff strength of 7 men carried out 12 major jobs and many other minor assignments in the Institute and staff quarters

The Plant maintenance section has the responsibility of maintaining, servicing and operating all the Institute generators and boilers. It made 8 different services on the Institute generators and other minor repairs such as over hauling, working on the AMF panel and replacement of transformer on the Institute boiler. It has a staff strength of 5 men.

Plumbing section has the responsibility of maintaining, repairs and installation of general water supply system of the Institute. The section also operates water pumping and water booster house. The section carried out 143 repairs of installations in the year 2006.

Other sections of the department which carried out their assignments efficiently for the smooth running of the Institute included: Driving Section, Mechanical Section and the Painting Section.

The department has an Engineer; Mr. Dauda Shok whose responsibility is to take charge and supervise the entire Institute’s new structures, maintain and repair the existing ones. Also, a Quantity Surveyor, Mr. Buleina Alhassan takes charge of quantifying and procurement of materials.

The constraint the department has include lack of working implements, shortage of staff particularly in the painting and masonry sections

Administration Division

The Division is charged with the responsibility of assisting the Management in the day to day Administration of the Institute. This includes matters relating to establishments, Staff Welfare, Maintenance of records, Appointments, Retirements, Security, etc.

LIST OF 2006 RETIREES

1	Mr. Bitrus Chung	Snr Works Supt.	8	24/3/06	W/Shop
2.	Mr. Clement Ujah	Higher Works Superintendent	7	20/6/06	„
3.	Mr. Williams W. Boyi	Chief Typist	12	3/8/06	Admin
4.	Mrs. Lucy C. Chukwudi	Snr. Med. Lab. Tech.	8	29/6/06	Viral. Vacc. Res
5.	Mr. Idris A Yakubu	Snr. Accountant	11	13/5/06	FCAH & PT
6.	Mr. Birus B. Maikidi	Chief Typist	12	1/8/06	Admin.
7	Mrs. Paulina John Ekpa	Snr. M.L.A	6	29/6/06	Parasitology
8	Mr. Mwankon Damutu	Chief Steward	4	1/8/06	G/House
9	Mr. James O. Ojah	Chief Typist.	12	1/8/06	Admin
10	Mr. Usman U. Buratai	Chief Ani. Sup.	6	1/8/06	LID
11	Mr. Thaddeus A. Okachi	Chief Typist	12	1/8/06	Admin
12	Mr. Abayomi Olarenwaju	A.C.T.O	12	1/8/06	Ibadan
13	Mr. Joseph Chomo	Chief Motor Driver	6	1/8/06	W/Shop
14	Mr. Adamu Dung	Head Gardener I	3	1/8/06	Environment
15	Mr Dauda Chomo	H/Laundryman	3	1/8/06	G/House
16	Mr. John Dung	Snr Foreman	6	1/9/06	W/Shop
17	Mr. Joseph Boniface	P.M.L.A	6	1/9/06	BVP
18	Mr. Manaja Umaru	Chief Motor Driver	6	1/8/06	W/Shop
19	Mr. Umaru Hussaini	Higher Stores Officer	7	1/8/06	Stores
20	Mrs. Esther A. Augustine	Chief Cat. Asst.	6	1/8/06	G/House
22	Mr. Lawal Babale	Motor Driver	6	1/8/06	W/Shop
23	Mrs. Ruth A. Ayandele	Chief Typist	11	1/8/06	Admin
24	Mr. Micheal Jah	Head Cleaner I	3	1/8/06	Enviroment
25	Mrs. Titi Joseph	Catering Officer	6	1/8/06	G/House
26	Mr. Bagudu Choji	Med. Lab. Asst.	3	1/8/06	VPVP

27	Mr. Mandung Juna	Chief Tractor Driver	7	1/8/06	LID
28	Mr. Usman Dabo	Snr. Animal Supervisor	5	1/8/06	LID
29	Mr. Ahmadu Mancha	Head Cleaner	3	1/9/06	FCVMLT
30	Dr. E. O.A Sokale	CVRO	13	1/1 0/06	
31	Mr. Alhassan Damter	Chief M/Driver	7	27/9/06	
32	Mrs. Stella I. Ibitola	Snr. Stores Officer	8	28/9/06	Stores
33	Mrs. Dinatu Kembo	Chief S/Keeper	6	28/9/06	„
34	Mr. Isa Ndamadu	Higher Store Offr.	7	28/9/06	„
35	Mr. John Onoja	Chief Store Keeper	6	1/11/06	”
36	Mr Joel K. Amessa	Prin Print. Supt.	9	28/9/06	Printing Press
37	Mr. Audu Achio	Head Cleaner3	3	11/10/06	Enviroment
38	Mr. Bitrus M. Gwong	Chief L/S Overseer	6	4/11/06	Poultry
39	Mr. Joseph A. Baiyegunhi	SEO (Admin)	8	4/11/06	Admin
40	Mr. Hassan Harap	Laundryman	3	1/10/06	G/House
41	Mr. Danjuma Dangyang	Snr Foreman	6	1/10/06	Enviro ment
42	Mr. Mwanvwang Badung I	Chief Ani. Superv.	7	4/11/06	Poultry
43	Mr. John A. Agada	Snr. Anim Supr.	6	1/10/06	Makurdi
44	Mr. Danladi G. Dung	Snr. Works Supr.	8	4/11/06	W/Shop
45	Mrs. Mary Pam	Snr. Cat. Asst.	4	3/11/06	G/House
46	Mr. Peter Gadi	Foreman	5	1/11/06	W/Shop
47	Mr. Badung Tengwong	Snr L/S Overseer	5	1/11/06	Poultry
48	Mrs. Esther Adedeji	Higher Med. Lab Assistant	4	16/11/06	Benin
49	Mr. Haliru Aliyu	Chief Livestock Overseer	6	19/11/06	LID

LIST OF STAFF ON TRAINING

S/N	NAME	RANK	TYPE OF TRAINING	DURATION	HATISS	REMARKS
1.	Dr Kamani Joshua	VRO II	Ph. D Ruminant Med.	3 Years(P/T)	9	
2.	Felicia V. Choji (Mrs)	CMLA	Med. Lab Tech.	9 Months	7	
3.	Samuel Ann Lohlum (Mrs)	ACRO	Ph.D Biochemistry	5 Years	12	
4.	Badung Mwankon T.	AEO	HND Accounting	24 Months	6	
5.	Dr Quader .M.	PRVO	Ph.D Vit. Microbiology	3 Years	12	
6.	Dr Tekki S. Ishaya	VRO II	Msc. Vet. Virology	24 Months	9	
7.	Dr Ngulukun .S. Sati	VRO II	Ph.D Vet. Pub. Health	3 Years	9	
8.	Dr Lanre K. Sulaiman	VRO II	M. Sc Vet Virology	24 Months	9	
9.	Mr Shittu Ismaila	RO II	M. Sc Virology	„	7	
10.	Dr J.F. Antiabong	VRO II	Biochemistry	„	9	
11.	Mr J.A Chinda	CCO	Public Admin.	2 Years (Full/T)	6	
12.	Dr. Aliyu A. Masdoq	VRO II	MVSC. Vet Medicine	„	9	
13.	Mrs Grace A. Nnaegbunam	Snr Typist	ND Secretarial studies	2 Years (full/T)	7	
14.	Dr Issa A. Muriana	VRO II	M. Sc Vet Microbiology	„	9	
15.	Dr Yakubu Dashe	VRO II	M.Sc Vet.Path & Microbiology	„	9	
16.	Dr Shedua N. Leo	VRO II	„	„	9	
17.	Dr Wilson J. Bertu	VRO II	Ph.D Vet. Pub. Health	„	9	

LIST OF DECEASED STAFF

S/N	NAME	RANK	HATISS	DIVISION	DATE OF DEATH
1	Mr Tobias Dung	Chief Med. Lab. Asst.	7	Epidemiology	2- 4-06
2	Mr Ibrahim Dungum	Hg. Tech. Officer	7	W/Shop	14 - 4 - 06
3	Mr Augustine Mutuah	Chief Med. Lab. Asst.	7	Kaduna Lab.	16 - 4 - 06
4	Mr Maikidi G. Hassan	Snr. Res. Officer	9	Biochemistry	4 - 5 - 06
5	Innocentia Voujung (Miss)	Head cleaner	3	Environmental	14 - 6 - 06
6	Ayinzat A. Asabe	Cleaner	1	Staff School	13 - 7 - 06
7	Joel Amesa	Printing Officer	9	Printing Press	15 - 8 - 06
8	Ekundayo O. Ayoola (Mrs)	Chief Typist	8	Poultry	12 - 9 - 06
9	Jacob Yohanna	Cleaner	1	Environmental	10 - 10 - 06
10	Sunday Mandung	Prin. Exec. Officer (Educ)	9	Staff School	8 - 12 - 06
11	Felix Duku	Hg. Exec. Officer	7	Staff School	31 - 12 - 06

STAFF PROMOTED - 96

NO OF CORPS MEMBERS ADMITTED - 13

NO OF STUDENTS ON INDUSTRIAL ATTACHMENT - 195

TERMINATION : NIL.

DISMISSALS : NIL



The 2006 Participants of the National Institute for Policy and Strategic Studies, Kuru



The Cuban Agricultural Experts with the Presidential Committee on Dairy Development in Nigeria