

JPRS 69231

9 June 1977

WORLD EPIDEMIOLOGY REVIEW

No. 83

WORLD

WIDE

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

20000317 080

U. S. JOINT PUBLICATIONS RESEARCH SERVICE

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

Reproduced From
Best Available Copy

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22151. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

BIBLIOGRAPHIC DATA SHEET	1. Report No. JPRS 69231	2.	3. Recipient's Accession No.
4. Title and Subtitle WORLD EPIDEMIOLOGY REVIEW, No. 83		5. Report Date 9 June 1977	
7. Author(s)		6.	
9. Performing Organization Name and Address Joint Publications Research Service 1000 North Glebe Road Arlington, Virginia 22201		8. Performing Organization Rept. No.	
12. Sponsoring Organization Name and Address As above		10. Project/Task/Work Unit No.	
15. Supplementary Notes		11. Contract/Grant No.	
16. Abstracts The report contains worldwide press and radio coverage of incidence, outbreak, and other aspects of human, animal, and plant diseases, insect pests and control, sanitation conditions, immunization and public health programs.		13. Type of Report & Period Covered	
17. Key Words and Document Analysis. 17a. Descriptors Worldwide Clinical Medicine Environmental Biology Hygiene and Sanitation Microbiology 17b. Identifiers/Open-Ended Terms 17c. COSATI Field/Group 2E, 6E, 6F, 6I, 6M		14.	
18. Availability Statement Unlimited Availability Sold by NTIS Springfield, Virginia 22151		19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 194
		20. Security Class (This Page) UNCLASSIFIED	22. Price PC A05

WORLD EPIDEMIOLOGY REVIEW

No. 83

This serial publication, based on worldwide press and radio reports, contains information on the epidemiology of human, animal, and plant diseases. Disease incidence, reported outbreaks, and various related epidemiological factors are included. Items are presented by country of occurrence rather than by country of original press report.

CONTENTS	PAGE
I. HUMAN DISEASES	
ANGOLA.....	1
AUSTRALIA.....	2
BANGLADESH.....	4
BRAZIL.....	6
BURMA.....	17
EAST GERMANY.....	21
ECUADOR.....	24
GABON.....	26
GUINEA-BISSAU.....	27
IRAN.....	27
MALAYSIA.....	28
NEW ZEALAND.....	30
PERU.....	32
REPUBLIC OF SOUTH AFRICA.....	37
RHODESIA.....	41
SAUDI ARABIA.....	42
SINGAPORE.....	48
SOUTH-WEST AFRICA.....	49
SPAIN.....	50
TOGO.....	52
TURKEY.....	54
UGANDA.....	55
ZAMBIA.....	55

CONTENTS (Continued)

Page

II. ANIMAL DISEASES

BRAZIL.....	56
BURMA.....	60
MOROCCO.....	61
NEW ZEALAND.....	64
PERU.....	71
UGANDA.....	71
ZAMBIA.....	74

III. PLANT DISEASES AND INSECT PESTS

GENERAL.....	75
AUSTRALIA.....	78
BRAZIL.....	80
COLOMBIA.....	81
IRAN.....	82
NEW ZEALAND.....	83
PERU.....	87
REPUBLIC OF SOUTH AFRICA.....	88
VENEZUELA.....	88

I. HUMAN DISEASES

ANGOLA

CASES OF CHOLERA FOUND

Luanda JORNAL DE ANGOLA in Portuguese 26 Apr 77 p 2

[Excerpts] The Epidemiology Department of the Ministry of Health of the People's Republic of Angola reported to the WHO five cases of cholera detected in the province of Benguela and confirmed by laboratory tests, announces a communique of that ministry released in this capital yesterday.

In addition to the usual public health measures which have been already adopted, according to the mentioned agency, it is necessary to alert the mass organizations in order to make known to the people the principles of hygiene and sanitary education which can prevent the spread of cholera.

There Is No Cause for Alarm

As the Ministry of Health points out, there is no cause for alarm. What is needed, after all, is to avoid filth. It is no secret to anyone that cholera is a disease of refuse.

The communique issued by the ministry is merely intended to apprise our people of a fact. It is not aimed in any way at creating a state of alarm. Nevertheless, it is a good indication of the promptness with which the Ministry of Health tackled the problem. It is the duty of the employees of that ministry, at all levels, to watch over the health of the people. And that is being done. But we must not forget that it is also the duty of the people to cooperate, pledged to their defense, by eliminating the sources of cholera in this case.

Luanda JORNAL DE ANGOLA in Portuguese 8 May 77 p 3

[Text] The Epidemiology Department of the Ministry of Health announced that on 6 May, 9 persons suspected of having cholera were sent to the isolation ward of Americo Boavida Hospital. In Lobito, there were 13 suspected cases. Since the outbreak of the cholera epidemic, there have been 24 cases positively diagnosed in Luanda.

AUSTRALIA

HEAD LICE EPIDEMIC IN MELBOURNE

Melbourne THE AGE in English 7 Apr 77 p 1

[Text] A head lice epidemic has broken out in Melbourne.

And doctors and health inspectors say migrants are being unfairly blamed.

Up to 50 schools a week, right across Melbourne are reporting infestations of lice in pupil's hair.

The Health Department has stepped in to coordinate an eradication programme because the School Medical Service is over-taxed.

Victoria's chief health officer, Dr. B. P. McCloskey, said last night that council medical officers had been told they could use reserve powers under the Health Act.

This included the power to "isolate" in their own homes the people or children who had repeated infestations of lice.

Dr. McCloskey said: "I wouldn't call it a plague, because that implies that there is a serious health risk.

"It's an epidemic which is pretty widespread. But it's only a nuisance value, it doesn't cause illness."

Lice are mites which grow to 32 millimetres in length and feed on blood by puncturing the scalp, causing an itch.

They lay eggs and cement them to the hair at the base.

The normal treatment is to wash the hair with malathion to kill active lice, then repeat the wash seven days later to kill any eggs remaining.

Two doctors and a council health inspector said the lice epidemic was causing friction between native-born Australians and migrants.

Dr. McCloskey said the epidemic was crossing all socio-economic groups throughout Melbourne.

"It can even be found in some of the best private schools," he said.

TYPHOID EPIDEMIC IN VICTORIA

Melbourne THE AGE in English 10 May 77 p 5

[Article by Jo Wiles, medical reporter]

[Text] A 60-year-old woman shop assistant has been identified as the source of Victoria's typhoid epidemic.

Tests yesterday revealed that the woman had been an unwitting typhoid carrier since catching the disease in England in 1949.

There are now 47 people, including five children under the age of six in the Fairfield Infectious Diseases Hospital.

All the victims had eaten food since Easter at a takeaway sandwich bar and coffee shop where the woman worked in the Eastland Shopping Centre, Ringwood.

Of the people admitted to hospital, 17 are being treated with antibiotics. A four-year-old boy is the most seriously ill.

The other 30 admitted, including 19 people taken to Fairfield yesterday, are suspected cases. Doctors predict the number of suspects will continue to rise.

The assistant chief health officer of Victoria, Dr. Graham Rouch, said yesterday it would be another fortnight before the total number of infected people was known.

Dr. Rouch said the Health Department believed people who ate at the shop between April 14 and last Thursday, when it was closed down, had been exposed to the risk of typhoid.

Symptoms of the disease, headaches and fever, would not appear until about 10 to 14 days after eating infected food.

Dr. Rouch said the main food suspect was chicken, either in sandwiches or as a takeaway food.

Dr. Rouch said the microbiological diagnostic unit at Melbourne University had confirmed yesterday that one of the shop's 17 staff was a typhoid carrier.

Tests were still being made on the others.

He said he believed the shop could be reopened later this week after all the remaining food had been destroyed and the kitchen equipment and surfaces cleaned.

He said the woman carrier had worked in food shops for many years without transmitting the disease.

She would be treated to eradicate the disease. If treatment did not succeed she would be registered as a carrier and would have to stop working in food shops.

Melbourne THE AGE in English 11 May 77 p 3

[Text] Doctors yesterday traced another 12 victims of Victoria's typhoid epidemic and expect to find more during the next nine days.

There are now 59 people, including five children, being treated for typhoid and suspected typhoid--20 of them being treated as definite cases at Fairfield Infectious Diseases Hospital.

The epidemic, which started last weekend was caused by food contaminated through contact with a typhoid carrier, is the biggest outbreak since 1953.

But is small compared to the Moorabbin epidemic of 1943 when there were 400 confirmed cases of typhoid, caused by contaminated milk.

BANGLADESH

SHIGELLOSIS DYSENTERY IN BANGLADESH

Kampala VOICE OF UGANDA in English 17 May 77 p 6

[Text] Improving water, nutrition and basic hygiene may provide the key to preventing outbreaks of shigellosis, a particularly serious, and sometimes deadly form of dysentery. In Bangladesh, a team of researchers participating in the Teknaf Dysentery Project have succeeded in establishing a link between water supply and the high incidence of the disease in the area. Until now, it has been believed that the disease was mostly transmitted by person to person contact.

In 1972 and 1973, Teknaf, a peninsula in the southernmost point of Bangladesh, was hit by epidemics of a mysterious disease that resembled dysentery but proved resistant to all available antibiotics. Hardest hit was the offshore island of St Martin where one-third of the people were

attacked. Most susceptible were small children: 40 per cent of those under the age of six did not survive.

In Dacca, the Cholera Research Laboratory was able to identify the mysterious killer as shigella dysenteriae Type 1 or Shiga's bacillus. An insignificant cause of dysentery before the 1971 war of independence, it now emerged on an epidemic scale in various parts of the country.

The government of Bangladesh was quick to act. A team of investigators from the Cholera Research Laboratory was flown to St Martin Island and, following their report, a centre was set up in Teknaf to study the disease. The centre is headed by Dr M. Mujibir Rahaman.

Because of its rural nature, lack of basic health facilities, its exposure to the disease and its physical isolation from the rest of the country, the area was considered an ideal location to study both the epidemiology and bacteriology of shigellosis and to develop means of prevention and treatment.

Funded initially by UNICEF, the Teknaf Dysentery Project received a three-year grant from Canada's International Development Research Centre in 1975. Even at this early stage the results are impressive. Dr M. Rahaman and his research team have deliberately kept their presence in the area as "low profile" as possible. A small building constructed of local materials houses the simple clinic where Dr Ebadul Huq examines dysentery patients-- in the first 18 months the team treated 1,700 cases of shigellosis and confirmed 700 cases of the mysterious Type 1.

In the same building laboratory technician Abdul Huq is able to culture samples with a kerosene powered incubator (there is no electricity in the area) and to make identifications on the spot. The same low-key approach is taken by the field assistants who visit all the villages in the area at regular intervals to chart the health of some 4,000 families. A complete census of the area carried out during 1975, at which time information was also gathered on family diet, sources of drinking water and hygienic practices.

A survey showed that families taking water from the tanks or ponds where people also bathe and wash their clothes had a significantly higher rate of shigellosis than those using the community wells. The implications of this discovery are important. Dr Rahaman explains: "Most scientists will tell you that shigella is not a water borne infection, but this has been disproved in this community at least. It now looks as if water is a much more important factor than person-to-person contact." The discovery has opened up several new lines of research.

The Teknaf research team is also studying the relationship between malnutrition and susceptibility to the disease. More than 1,000 children below the age of six are kept under continuing surveillance by the

researchers who keep records of their height, weight and general health in a constant vigil for signs of the disease. The link between malnutrition and mortality from the disease was confirmed in a nearby refugee camp where some 15 severely malnourished children were provided with a good diet of local foods. The mortality rate decreased dramatically.

An outbreak of measles in one of the villages provided the team with the opportunity to fit another piece to the puzzle. The infant mortality rate from measles was unusually high, and Dr Rahaman suspected that the disease was making the children more susceptible to shigellosis. His suspicions were confirmed by the village healer who had himself treated many of the sick children. The researchers are now trying to establish whether there is a definite relationship between measles and shigellosis.

One of the project team's main priorities is the prevention of disease. This involves providing some villages with adequate latrines, soap and a supply of clean drinking water. Above all is the need for education in matters of basic health and hygiene to ensure that the people understand the need for these practices. How effective these measures can be in the prevention of an epidemic will be seen only if there is another major outbreak.

That remains the big question for the research team in Teknaf and their colleagues in Dacca who are working to produce an effective and economical treatment for the disease under the project's co-leader Dr K.M.S. Aziz. Will there be another outbreak of epidemic proportions? If so when, and above all why? For Type 1 is indeed a mystery disease.

It was the same shigella organism says Dr Rahaman that caused a major pandemic in Central America in 1969-70. That outbreak spread rapidly, as far north as California and as far south as El Salvador. It infected some six to seven million people, about six per cent of whom died. Then the disease disappeared as mysteriously as it had come.

BRAZIL

HEPATITIS IN MINAS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 16 Apr 77 p 17

[Text] Belo Horizonte--More than 70 cases of hepatitis have been identified in Rio Pomba by the Minas Gerais Secretariat of Health. Rio Pomba is located about 40 kilometers from Juiz de Fora. This is the second time that Rio Pomba has been stricken by an outbreak of disease. According to the under secretary of health, Archimedes Teodoro, it is transmitted by the city's water supply. Miguel Januzzi, the regional education delegate, has announced that classes have been suspended in all Rio Pomba schools.

There are no plans to reopen the state college, the normal school or the three lower school groups attended by nearly 4,000 pupils.

RESEARCH CENTER TO SEEK CARRIERS OF ENDEMIC DISEASES

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 21 Apr 77 p 17

[Text] "In the work of combating the principal Brazilian endemic diseases traditional practices, such as the use of insecticides, are becoming more and more limited. Only an ecological study of the infected regions and biological research on the insects responsible for the transmission of illnesses like Chagas' disease, encephalitis or malaria can provide the definitive answers for the control of these diseases in the country."

This declaration was made by Health Minister Paulo de Almeida Machado during the signing of an agreement between his ministry and the College of Public Health yesterday in Sao Paulo. The agreement authorizes the creation of the Brazilian Center for Entomological Studies in Epidemiology.

The meeting was short and simple. The only persons present were the public health doctors of the college, its director, Odair Pacheco Pedroso, and the secretary of the National Secretariat for Basic Health Activities, Edmundo Juarez. The minister emphasized the importance of a national center of studies that will develop the most varied field investigations on the behavior of vectors that transmit illnesses like Chagas' disease, malaria, encephalitis and leishmaniosis (skin diseases that are most common in areas of dense vegetation).

The project will have a budget of 949,482.35 cruzeiros for this year and according to Minister Paulo de Almeida Machado, during the 5 years it will be in effect it may receive more funds depending on the programs to be developed. According to the head of the center, Osvaldo Paulo Forattini, chairman of the Department of Epidemiology of the college, many projects can be carried out with the financial aid of the Brazilian Center for Entomological Studies in Epidemiology.

Osvaldo Paulo Forattini emphasized also that in the first month of operations he will begin some research in Sao Paulo and will continue other studies that have already begun. An example of these studies is one on the ecology of mosquitoes involved in the transmission of malaria and encephalitis, in the region of the Ribeira Valley. The behavior of "straw mosquitoes," which transmit leishmaniosis, is being investigated in the region of the Serra do Mar. There the population dynamics of the blood-sucker (straw mosquito) are being studied.

In addition to those projects, Public Health is finishing a survey in collaboration with the Superintendency of Endemic Control (SUCEN) on the life cycle of the "barbeiro," the insect that transmits Chagas' disease,

in the region of Ribeir Preto, which was begun in 1970. It is also carrying out as a CNPq [National Research Council] project the National Inquiry on Barbeiros, where two species--panstrongylus magistus and triatoma sordida--are the most common.

Oswaldo Forattini also believes that the incentive for the research, with the creation of the center, will give an opportunity for the public health workers to identify a greater number of barbeiro species. This will permit numerous laboratory studies and, consequently, laboratory research on the evolution of those insects in colonies and on their genetics.

"In the meantime that will depend on the training of personnel disposed to go into the field to do that research," Forattini observes. For that reason, the center also plans to organize courses--such as the one to begin at the College of Public Health in August--in entomological specialization. It will be open to all university students in the biological sciences, and will have the objective of training technical personnel for those programs.

NATIONAL HEALTH POLICY TO BE SET IN AUGUST MEETING

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 22 Apr 77 p 13

[Text] Brasilia--A document establishing guidelines for a national health policy for Brazil will be submitted to the consideration of the Social Development Council by Minister Paulo de Almeida Machado after the Sixth National Health Conference in August. The document, entitled "National Health Policy," will be presented for discussion among the state secretaries and representatives of public organizations and ministries in the social field during the course of the conference, and, on the basis of the subsidies and suggestions offered by the participants, the Ministry of Health will formulate the final text of the policy.

The Sixth National Health Conference will be held in Brasilia on 1-6 August under the chairmanship of Minister Almeida Machado, and there will be about 300 participants--representatives of state secretariats and organizations concerned with health--from whom the Ministry of Health expects suggestions and collaboration in the formulation of the first health policy for Brazil. Jose Carlos de Azevedo, the minister's aide, will present the initial draft of the health policy whose formulation is the responsibility of the Ministry of Health, according to Law 6,229/75 which established the National Health System.

The national health policy must set forth Brazil's priorities with regard to health and medical assistance, guiding the operation of the federal, state, municipal and private organizations dealing with the protection, preservation, promotion and restoration of the collective or individual health in the sense of providing better sanitary coverage for the

population. Although up to now the country does not have a definition in that respect, Joao Yunes, the organizer of the conference, guarantees that the final document will not propound any closed and rigid policy which restricts the activity of the organizations constituting the National Health System.

According to Yunes, several aspects of the health policy of Brazil have already been defined by measures adopted by the present government, such as the program of Interiorization of Health and Sanitation Activities, which represents a definition of the government in terms of sanitary assistance to the rural population; the law for control of medicines, which is a policy of consumer protection; the program of psychiatric assistance, which applies to that segment of health care for out-patient treatment, putting an end to the hospitalization of mental patients; and other points of view which have already started defining the work areas and methods for the health organizations operating in Brazil.

It is the intention of the organizers of the Sixth National Health Conference to invite also the municipal health secretaries, at least of the capitals and principal cities of Brazil, to participate in the meeting in order that the involvement of the administrations with the health question will reach the level of the municipios, which are closer to the community, calling upon the organized sectors of the population to partake of the sanitary activities. On the other hand, it would be an additional group of people with power of decision to be made aware of the need to promote public health in Brazil, especially by bolstering the municipios.

In addition to the national health policy, the agenda of the conference includes a discussion of "the new basic legal measures approved by the government in relation to health," at which time the participants will be shown decrees and laws already enacted whose implementation and enforcement will be the responsibility of the states. Such is the case of the law for control of medicines, of the national immunization program, of the water fluoridation standards, and of other measures worked out by the Ministry of Health.

"Control of extensive endemic diseases" will also be included in the agenda, and, in its presentation, the Ministry of Health intends to make clear to the participants the progress made by Brazil in recent years in the control and eradication of malaria, schistosomiasis, Chagas disease, tuberculosis, yellow fever and other diseases. "Interiorization of the health services" will be another topic to be discussed at the conference.

The items of the agenda will be formulated beforehand and sent to the participants in the conference at least 15 days prior to its gathering, in order that the state health secretaries and representatives of other organizations of the sector can discuss them and also offer solutions and suggestions. Besides these topics, it is planned to deliver parallel lectures during the period in which the reports on the items of the agenda

are being worked out. The participants will be divided into four groups, each of them in charge of studying and submitting a report on one of the items of the agenda.

Among the lectures already confirmed are the programmatic guidelines on mental health by Josicelli Freitas, the coordinator of that field; a panel on the activity of the PRONAN [National Food and Nutrition Program?] will be moderated by the chairman of the National Food and Nutrition Institute (INAN); an outlook on the institution of the career of sanitarian in the public service will be offered to the participants; the Brazilian pattern of combating schistosomiasis will be the subject of another lecture, while a representative of the Ministry of Social Welfare will talk about the unification of the medical assistance services of the sector by means of the National Medical Assistance Institute of Social Welfare (INAMPS).

SELF-SUFFICIENCY IN VACCINE PRODUCTION BY 1979 FORECAST

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 23 Apr 77 p 14

[Text] Brasilia--Brazil will be self-sufficient in the production of all kinds of vaccines by 1979. The statement was made by Adm Gerson Sa Pinto, chairman of the Drug Center (CEME), when he announced that his agency will sign an agreement with the Butanta Institute of Sao Paulo in May to start producing anti-measles vaccines. According to him, studies have also been made to produce vaccine against poliomyelitis in the country.

At present, only those two immunizators are imported by Brazil, which already produces vaccines against meningitis, tetanus, tuberculosis, whooping cough, diphtheria and other diseases in the official laboratories of the Ministry of Health and other government-supervised enterprises. In the opinion of Adm Gerson Coutinho [sic], the Brazilian problem is not one of production, but of conditions to administer the vaccines, in view of the fact that a large portion of the doses are rendered useless by faulty handling.

The chairman of the CEME reported that 77 million doses of vaccines will be distributed to the state health secretariats this year for the continuous immunizations of the national program set up by the Ministry of Health. Some 43 million doses were supplied last year.

In an interview granted in commemoration of the fifth year of distribution of medicines to low-income people by the CEME, Adm Gerson Coutinho stressed that "although the vaccines against poliomyelitis and measles are imported, the CEME has been increasing the share of the national industry in the supply of medications: the purchases of the CEME last year broke down into 60 percent from foreign manufacturers and 40 percent from national laboratories."

Gerson Coutinho also said that although the CEME gives preference to the national laboratories in the purchase of their products, they still are far from supplying the Brazilian demand for remedies because the contribution of the national industry to the medicine market does not exceed 25 percent. On the basis of that argument, Gerson Coutinho said that the role of the CEME is to "harmonize" the national and international forces which contend in the pharmaceutical products market.

During the 5-year period, the CEME distributed about 900 million cruzeiros worth of medicines and vaccines, and intends to supply the equivalent of 603 million cruzeiros in 1977 alone. Despite the increase in the distribution programs initiated in the state of Bahia on 22 April 1972, the admiral explained that a reduction in the number of state laboratories, which at this time is 22 and shortly will be only 13 although more specialized and of larger capacity, is under study.

According to Adm Gerson Coutinho, "neither the government nor the national private enterprise can assume control of the medicine market, hence the deactivation of those official laboratories does not imply a de-emphasis of the national industry." He thinks that Brazil should go into the production of the drugs (basic ingredients) considered essential for the type medicine which it practices, as is being done by the CEME and the National Economic Development Bank (BNDE), which have joined international groups to bring to Brazil the technology needed to produce vitamin C, antibiotics and other products which are basic to the pharmaceutical industry.

Emphasizing that "the CEME is not merely distributing remedies," Adm Coutinho recalled that 15 million cruzeiros has been already spent in research projects financed by the center, and that another 57 million cruzeiros will be spent this year for the same purpose. Properly stated, distribution during the same period involved resources amounting to 1.5 billion cruzeiros.

National Indian Foundation (FUNAI)

The CEME is going to supply the FUNAI with all the regular medications of its product line, intended to maintain the medicine distribution program in the 170 native posts of the country which encompass almost 200,000 persons. The distribution agreement between the CEME and the FUNAI was renewed yesterday.

The chairman of the FUNAI, Gen Ismarth de Araujo, said that the main health problem among the Indians is tuberculosis, and he reported that he has already managed to vaccinate 98 percent of the population.

INFANT MORTALITY RATE OF CONCERN IN SAO PAULO STATE

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 26 Apr 77 p 20

[Text] Bauru--Bauru, Lins and Jau, cities located in the center of the state of Sao Paulo and which, with more than 38 satellite municipios, make up the 7th Regional Health Division (DRS-7), have an infant mortality rate considered to be "alarming" by public health specialists. An investigation made by the Bauru Health Center disclosed that the main causes of infant mortality in that area are infectious and parasitic diseases, undernourishment--as the basic or allied cause--congenital anomalies and birth injuries, as well as ill-defined morbid symptoms and conditions. The determining factors listed in the study are the low-quality life of the population, particularly among the inhabitants of the environs, and the untreated water.

Statistical data from 1974 to the first semester of 1976 confirmed the high number of deaths of children of up to 1 year of age in the area of the DRS-7. Some 15,205 children were born in 1974, of whom 1,904 died prematurely, or in other words, there were 72 deaths before the first year of life in each group of 1,000 births. Some 16,180 were born and 1,300 died in 1975, which represents 80 deaths per 1,000 births. There were 68 deaths in each group of 1,000 births in the first semester of 1976.

An employee of the DRS-7 in Bauru reported that "the occurrence of 50 deaths in each group of 1,000 live births is considered very high," hence what is happening in Bauru, Lins and Jau can be described as an "alarming" fact. The official privately commented that "if in a state like Sao Paulo and, particularly, in an area like the DRS-7, which is the most protected, the number of deaths is so high, imagine then what must be happening in the Northeast. Recife already reached 144 deaths per 1,000 live births."

IMMUNIZATION CAMPAIGN AGAINST POLIOMYELITIS IN RIO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 26 Apr 77 p 20

[Text] Rio--In spite of the rains, yesterday the Municipal Health Secretariat of Rio managed to start the vaccination campaign against poliomyelitis, which intends in 3 days to immunize in the city 350,000 children up to 4 years of age. The state secretariat started a similar campaign in Nova Iguacu, which will be expanded within the next few days to the whole state in order to vaccinate an infant population estimated as 2.4 million beings.

The municipal secretariat considers that the population was tolerant in relation to the small problems regarded as normal in a first day of

vaccination, but there were some complaints about the delay in the operation of the centers. Small lines of children, who were exposed to the rain, formed at some of them. Only the Sabin vaccine, specific against poliomyelitis, is being administered in this first stage, but in 30 days the second dose will be administered jointly with an anti-measles vaccine in the next stage, and a vaccine against tuberculosis will also be administered in the third stage scheduled for 3 months. The activity of the state campaign, which will be increasingly expanded to other areas, will shortly reach Nilopolis, Sao Joao do Meriti and Caxias.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 3 May 77 p 20

[Text] The municipal and state health secretariats did not manage to vaccinate the number of children predicted for the first few days of the campaign against poliomyelitis which is being carried out in the metropolitan area of Greater Rio. Only 265,000 children received the first dose in the municipio of Rio de Janeiro, where 400,000 were to be vaccinated on 25 and 26 April.

The Municipal Health Secretariat explained that a smaller turnout of children at the centers was caused by the rains which fell in Rio last week, and it has extended the vaccination period on that account.

In the Rio Lowland, the administration of the vaccine was started yesterday in Nilopolis and Sao Joao do Meriti, and it should be expanded to Caxias tomorrow. The smaller than expected turnout in the lowland centers was also attributed to the rains by the State Health Secretariat.

Campaign

All radio and television stations and 15,000 public address systems of the country will be activated by the Public Relations Assessor's Office (AERP) as of 31 May, to cooperate with the Ministry of Health in the National Immunization Campaign which calls for the compulsory immunization of children under 1 year of age with the triple, poliomyelitis, measles, Sabin and tuberculosis vaccines.

ANTI-ENCEPHALITIS CAMPAIGN TO BEGIN IN RIBEIRA VALLEY

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 Apr 77 p 16

[Text] Beginning on 28 May, exactly 55,000 persons should be vaccinated in the first phase of the vaccination program against encephalitis which the Health Secretariat will conduct in Ribeira Valley. That figure represents 86.2 percent of the population living in the first five municipios on the list--Pariquera-Acu, Jacupiranga, Iguape, Cananeia and Barra do Turvo--excluding minors under 3 years of age and pregnant women up to the fourth month of pregnancy.

All the details relating to the start of vaccination have already been discussed by the medical personnel of that area in a meeting that the coordinators of the Arbovirosis Activities Committee held in the city of Pariqueira-Acu 2 days ago, when all aspects of the 4-day vaccination period were analyzed and the data regarding the production of vaccines were completed.

According to information furnished by the coordinating committee, the need to assist the people in small, hard to reach communities required the establishment of a mixed system of vaccination which calls for 30 fixed centers and an additional 120 mobile units, still excluding Barra do Turvo, where only part of the city--the one closest to the road linking Cananeia to that place--will be vaccinated in this first phase.

In that manner, only Pariqueira-Acu, the first city to be visited, will have fixed vaccination centers exclusively (numbering 19), all located in schools, where the vaccinators will take care of the people without interruption from 0800 to 1600 hours. Jacupiranga, in turn, will have 6 fixed centers and another 40 locations to be visited in various parts of the city.

Iguape will be visited on 30 May, and it is the only city which will need more than a day's work to take care of the largest number of persons--22,757 inhabitants--with 54 vaccination centers. In the meantime, during half of the second day in which the vaccinators will be working in Iguape, they will also vaccinate in Cananeia and Barra do Turvo, small towns of 7,000 and 4,000 inhabitants, respectively.

To insure the promptness and effectiveness of the vaccination, the Health Secretariat will employ 24 vaccinators, all former members of the Smallpox Eradication Campaign (CEV), with experience in the operation of the Ped-o-jets type of device and already familiar with that area from previous field work. Some 96 injectors of that type will be used, in addition to 24 others kept as spares. Each vaccinator will carry the vaccine in isopor boxes, and it will be preserved at 4 degrees without any risk. According to technicians of the Health Secretariat, in addition to the personnel previously summoned--54 employees among vaccinators, sanitary instructors, assistants, male nurses and drivers--all the health centers of the area will be mobilized, and human resources will also be recruited in Ribeira Valley.

For the five municipios to be visited, the Butanta Institute has already placed at the disposal of the Health Secretariat 170,000 doses of vaccine, though only 149,000 doses will be needed to cover that first phase.

REASONS FOR SHARP DROP IN 1976 OF MAIN ENDEMIC DISEASES

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 3 May 77 p 20

[Excerpt] At the 30th World Health Assembly which opened in Geneva yesterday, specialists Edmundo Juarez and Oswaldo Lopes da Costa, of the Ministry of Health, will explain the Health Activity Interiorization Program (PIASS) in the Northeast, designed to provide basic medico-sanitary assistance to the northeastern municipios of less than 20,000 inhabitants, and the improvement of rural dwellings. According to Minister Paulo do Almeida Machado, that improvement of rural dwellings was responsible in 1976 for the sharp drop in the indices of the main endemic diseases in the country--schistosomiasis, Chagas disease, malaria, bubonic plague and others.

INITIATION OF EXPORT OF VACCINES POSSIBLE BY 1980

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 3 May 77 p 20

[Excerpt] Brasilia and Rio--By 1980, Brazil will be able to start exporting immunizators to American countries which have a dearth of vaccines against poliomyelitis, measles, meningitis, tetanus, tuberculosis, whooping cough, diphtheria and other diseases. At present, Brazil still imports vaccines against poliomyelitis and measles, but it will be self-sufficient in 1979 and able to start exporting by 1980.

That outlook will be revealed by specialists Edmundo Juarez and Oswaldo Lopes da Costa, of the Ministry of Health, at the 30th World Health Assembly which opened in Geneva yesterday. Health technicians of the American continent will discuss at the meeting the sanitary and quality-of-life problems of their countries and the delegates of the more developed countries will offer suggestions and recommendations which will serve to guide the official health programs in the disadvantaged countries.

WATERS OF NORTHEAST TO BE STUDIED IN FIGHTING SCHISTOSOMIASIS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 3 May 77 p 20

[Text] Brasilia--The Ministry of Health will begin an ecological study in September which will encompass an analysis of the waters of all the rivers and lakes of the Northeast where there are sources of the snails which transmit schistosomiasis. This will be another phase of the special program to control the disease, and, in contrast to the studies made last year which focused only on certain parts of the rivers, it will now be carried out to its full extent.

The studies will be conducted by the Oswaldo Cruz Foundation in cooperation with the Federal Ministry of Research and Technology of West Germany,

which will send Prof Harald Sioli, director of the Max Planck Institute of Limnology and an acknowledged world authority on the subject, to Brazil to follow the task. The Max Planck Institute of Limnology has been cooperating for a long time with the Amazonia Research Institute, to which it provides technical and scientific assistance.

HEPATITIS OUTBREAK MAY RESULT IN CORDONING CEARA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 5 May 77 p 34

[Text] Fortaleza--Sobral, the most important city of the north of Ceara, could have its limits closed as of tomorrow as a result of a violent outbreak of hepatitis which has already killed 3 persons and afflicted 378 others, and is spreading to other neighboring cities. A medical team of the Evandro Chagas Institute of Belem, Para, arrived yesterday in Sobral, which is located 220 kilometers from Fortaleza, to make a survey on the extent of the outbreak.

The Health Secretariat of Ceara will dispatch today three more doctors and six nurses to assist the Para team, and the interim health secretary, Jose Aires de Castro, said that he is awaiting a report to decide "on the closing of the city limits."

According to the secretary, the official news on hand is that there are 108 known cases and no deaths. "But if the extent of the outbreak is large," he asserts, "we will close all approaches to Sobral. We will keep the whole city in quarantine."

The doctors sent to Sobral still have not identified the virus causing the outbreak. But there are two suppositions: an infected person working in a restaurant, or contaminated water being supplied to the population. Jose Euclides Ferreira Gomes, the prefect of Sobral, yesterday telegraphed Aduino Bezerra, the governor of Ceara, to report that the outbreak of hepatitis has already reached other nearby cities. He said that he was aware of the occurrence of several cases of the disease in Carire, Meruoca, Santana do Acarau, Iraucuba and Massape. The Health Secretariat in turn telegraphed the prefects of those cities asking for more detailed information.

After their arrival in Sobral yesterday, the doctors of the Evandro Chagas Institute began the task of collecting blood, stool and urine samples from the patients. Classes have been suspended in the principal schools of the city, and the radio stations make insistent appeals to the population to report immediately any new cases of the disease.

The first samples collected will be sent to the main center of the institute in Belem for analysis. According to news reaching Fortaleza in this connection, the climate in Sobral is one of tension, and the city remains semi-paralyzed.

STATISTICS ON DEATH RATE CAUSED BY TUBERCULOSIS REPORTED

Rio de Janeiro O GLOBO in Portuguese 7 May 77 p 8

[Text] Sao Paulo--"One or two persons get infected every minute, a new case appears every 5 minutes, and a patient dies every 30 to 40 minutes of tuberculosis in Brazil. From these figures, the result of an investigation conducted by the National Tuberculosis Division, it can be reported that tuberculosis is not a vanquished disease."

The statement was made by Dr Anibal de Oliveira, coordinator of the Phthysiology Department of the Health Secretariat of Sao Paulo, when he announced yesterday the implementation of a new program to combat the disease propounded by the WHO.

BURMA

JAUNDICE RESEARCH TEAM FOR UPPER BURMA

Rangoon THE WORKING PEOPLE'S DAILY in English 7 May 77 p 1

[Text] Rangoon, 6 May--A medical research team headed by Assistant Director U Khin Maung Tin of the Medical Research Department will visit, within a few days, areas in Upper Burma where jaundice is prevalent to determine the type of the disease.

The team will include Dr U Hla Myint from the Medical Research Department and laboratory technician U Tun Khin. The team will extract blood samples from jaundice patients and test them in Rangoon.

Jaundice is more prevalent in the early monsoon period than in the dry season and is caused by virus. The disease may be contracted by eating food touched by the urine of rats or by crossing or wading in drains or ponds where rats urinated. It may also be contracted through the excreta of jaundice patients.

Jaundice is now prevalent in Mandalay, Sagaing, Myittha and Kyaukse and tests have revealed that the jaundice in Mandalay is caused by virus.

HIGH FEVER EPIDEMIC STRIKES VILLAGE

Rangoon THE WORKING PEOPLE'S DAILY in English 15 May 77 p 1

[Text] Mergul, 10 May--Ten persons including children are reported to have died of high fever which struck the entire population of Maliwan Village, about 25 miles from Kawthaung, beginning the first week of April.

Kawthaung hospital is overflowing with patients and three more women have died, bringing the toll to 13 up to time of report.

A health team led by Party Unit Secretary U Thaung Tin and U Thaw Nwe of the Township People's Council left for the village on 8 May.

CHOLERA OUTBREAK IN MYINGYAN CHECKED

Rangoon THE WORKING PEOPLE'S DAILY in English 17 May 77 p 1

[Text] Myingyan, 16 May--Cholera which broke out in the wards of this town and some villages in this township beginning 3 May has been brought under control on 15 May.

Altogether 45 persons were found with cholera germs and admitted to the hospital. Of them, four died.

Sale of food likely to cause bowel disorders was banned immediately and the annual festival of the 12-gate pagoda was stopped. Preventive inoculations were given to 42,354 people and 237 wells and ponds were disinfected.

DISEASES CONTROL COORDINATION MEETING

Rangoon THE WORKING PEOPLE'S DAILY in English 4 May 77 p 1

[Text] Rangoon, 3 May--"Top priority will be accorded to diseases with the highest death rate in combating diseases for raising the standard of health of the working people" declared Deputy Minister for Health U Khin Nyein speaking at the diseases control coordination meeting today.

The meeting was held at the Infectious Diseases Hospital, Rangoon, attended by Director-General of Health U Aung Thein, Directors of Health responsible for controlling diseases, deputy directors, head of Rangoon Division Health Department and other officers.

U Khin Nyein said the successful implementation of the annual Economic Plan targets would facilitate the achievement of health objectives in the social services sector. It would also be in keeping with the Lanzin Party's policy on health.

He disclosed that there were plans to open more hospitals and dispensaries and to appoint more doctors, nurses and other staff in the 1977-78 plan period. More traditional medical practitioners would be trained, more dispensary attendants and other traditional medical staff would be appointed and more traditional dispensaries would also be opened, he added.

It would be essential at the same time, he pointed out, to carry out special programmes to win the active participation of the working people in prevention and combating of scheduled diseases and communicable diseases.

He disclosed that priority would be accorded to those with the highest death rate in combating diseases for raising the standard of the health of the working people.

The meeting then discussed combating scheduled diseases such as malaria, tuberculosis, venereal diseases, leprosy, trachoma and filariasis and unscheduled diseases such as dengue haemorrhagic fever, viral hepatitis, cholera, plague and Japanese encephalitis.

The Deputy Health Minister participated in the discussion by stressing the necessity to combat in various prescribed ways malaria which is staging a revival. He also called upon the health workers to search for venereal patients including women who are trying to keep the disease to themselves in shame and to persuade them to come out for treatment.

Dealing with leprosy, he urged the health workers to induce the leprosy patients to register and receive treatment. He also urged the health workers to maintain the momentum of the success achieved in the control of tuberculosis, trachoma and filariasis.

Concerning the prevalence of dengue haemorrhagic fever, the Deputy Minister underscored the need for taking precautionary measures on the experiences gained in Rangoon and the townships last year and according to an analysis made whether there could be more cases of the disease this year.

He also dealt with the need for cooperation with the people and authorities in the regions concerned in combating viral hepatitis.

Then he spoke on the control of cholera and plague which showed a small increase in 1976 and in the early part of 1977 and the necessity to ensure that the Japanese encephalitis which cropped in Shan State did not return.

He said necessary measures should be taken so that the total elimination of smallpox from the country might be officially announced.

He also urged for drawing up the rights and procedures for Local Organs of State Power under the Public Health Law.

VIRAL HEPATITIS ON INCREASE

Rangoon THE WORKING PEOPLE'S DAILY in English 19 May 77 pp 1, 4 BK

[Excerpts] Rangoon, 18 May--The number of cases of viral hepatitis is on the increase in Burma, it was disclosed by Director of Health (public health) Dr U Kyaw Sein, chairman of the Viral Hepatitis Committee, at the first meeting of the committee held at the Central Epidemiological Unit today.

The Viral Hepatitis Committee has been formed by the Ministry of Health to study the viral hepatitis disease which is at present prevalent in Burma and to advise the Ministry of Health for its eradication. The committee is headed by Dr U Kyaw Sein, director of health (public health).

In opening the first meeting of the committee today, Dr U Kyaw Sein explained that the committee has been formed as the number of cases of viral hepatitis is on the increase in Burma.

Dr Khin Maung Tin (hepatitis specialist), assistant director of Medical Research Department, who had toured upper Burma towns including Mandalay where the disease is prevalent, spoke on the situation in those towns.

He said that the disease broke out in Mandalay beginning June and July last year and it reached the highest point in October that year. Compared with the previous year, the morbidity has now declined somewhat.

According to the reports received up to March and April this year, about 500 patients with viral hepatitis sought treatment at the dispensaries and hospitals in Mandalay every month.

A fairly large number of patients had hepatitis but they did not have yellow skin. There were also disease to other members of the families. [as published]

They had studied in 21 townships on their way to Mandalay and had found that it was most prevalent in Sagaing, Myittha, Kyaukse and Meiktila. The disease started in Mandalay and spread from there to other towns. In lower Burma towns, the morbidity rate was normal.

He disclosed that samples of blood had been taken from about 200 patients and laboratory tests were being carried out.

The meeting then deliberated on the points to be observed by the doctors, the points to be observed by the people for prevention of the disease and the points for advice to the Ministry of Health.

According to the statistics received by the Central Epidemiological Unit, 2,151 persons had the disease in towns other than Rangoon and Mandalay during the first 3 months of 1977 and 1,495 persons had the disease in Mandalay during that period.

EAST GERMANY

DISEASE PREVENTION PROGRAM DISCUSSED

East Berlin TRIBUENE in German 7 Apr 77 p 7

[Interview with Prof Dr W. Plenert, OMR (chief public health officer), director of the "Yussuf Ibrahim" University Children's Clinic, Jena, by Jutta Wolf]

[Excerpts] [Question] In the GDR vaccination against various infectious diseases is legally required. What are they?

[Answer] They are tuberculosis, poliomyelitis, diphtheria, whooping cough, tetanus, measles, and smallpox. In our republic the vaccination laws are established according to the latest scientific knowledge. Their rapid amendment or extension is therefore assured. They are set up in a legally required vaccination calendar, according to the most favorable time for each age group.

[Question] The completed vaccinations are noted...

[Answer] ...In the social security and vaccination certificate for children and young people, which has been available for some years. Along with the vaccinations received and their possible complications, the blood type, X-ray examinations, PKU test (a test for an inherited disease of the metabolism), weight, and treatments are also included. This "health pass" provides the doctor with important information--from the birth of his young patient to the beginning of a socially insured activity.

[Question] A baby gets a shot almost immediately after his first cry?

[Answer] Yes, the BCG inoculation against tuberculosis, which has been done since 1951 with the vaccine developed in Jena. More than 8 million newborn infants and children and youths were repeatedly immunized against tuberculosis between 1951 and 1975. While in 1949 there were still 107,227 new cases, in 1976 there were only 34 children who became ill with tuberculosis. The BCG inoculation at that time was the forerunner of many other mass inoculations.

[Question] Since 1962 there has been no further case of poliomyelitis. Can one say that this dread disease has been wiped out?

[Answer] For the territory of our republic that is true. The so-called live immunization was gradually begun in 1960 and continued since 1967 as a compulsory vaccination. The swallowed vaccine of the 1-2-3 type was developed in the Soviet Union.

[Question] Whooping cough is one of the most dangerous diseases of infancy. What is the present situation?

[Answer] Whooping cough is especially feared because of its complications. In 1959 more children died of whooping cough between birth and the first year than from diphtheria, poliomyelitis, measles, or typhus. The compulsory vaccination against whooping cough was introduced in 1964, and there have been no more fatal cases since 1969. In 1976 only 168 children caught whooping cough.

[Question] Of what importance is the combination vaccination?

[Answer] The obligatory vaccination against diphtheria and tetanus was introduced as a combination vaccination (double vaccination) for all children. Both diseases have a relatively high death rate. In the 19th century diphtheria still appeared as a pandemic (epidemic on a world scale), with a very high death rate of 20 to 60 percent. The last diphtheria case in the GDR was in 1973. Even today the death rate from tetanus is about 50 percent. Thirty to 50 adults still get it every year here. Since the introduction of the protective inoculation against tetanus our children have been safe. Since then there have been no further cases of this dreaded muscle paralysis among children and youths. Since 1968 there have also been compulsory immunizations of adults for specific year groups. The double immunization was expanded with the whooping cough vaccine in 1964 and included in the vaccination calendar as a triple vaccination.

[Question] Is the measles vaccination not favored by many parents because one occasionally encounters vaccination reactions?

[Answer] Many parents forget that light reactions, such as fever, mean that the immunization is successful. The defense mechanism comes into operation, the body "fights." Immunization with live vaccine provides long-lasting (probably lifelong) protection against this common disease.

[Question] The World Health Day in 1975 had the motto, "Smallpox Shall Not Return." On the basis of this worldwide smallpox campaign the WHO now estimates that the devastating infection has almost been stamped out. Is a smallpox inoculation then necessary at all?

[Answer] An end to this inoculation is envisaged because the danger of infection has sharply declined. The regulations are no longer so strictly applied as a couple of years ago. Changes in the inoculation calendar next year provide for dropping the booster shot in the 12th year. But persons who travel to smallpox-endangered countries for professional reasons will naturally have to be inoculated.

[Question] Internationally the GDR has attained a noteworthy level in the suppression of infectious diseases through inoculations. Have the shots also contributed to reducing infant mortality?

[Answer] The first contact with the causes of infectious diseases occurs in childhood. It is obvious that the earlier a child is inoculated, the earlier and more surely he is protected against the causes of disease. The life expectancy of infants has thereby also risen enormously. In 1976 we achieved an infant mortality rate of less than 1.5 percent. Inoculation of our children is an important component of the protection of children and youth in our state. In European countries 2 to 5 percent of all deceased children are under 4 years of age, compared in Latin America with 40 percent (Venezuela) to 48 percent (Guatemala). That means that every second person who dies in these countries is a child.

[Question] Where is research being concentrated in the near future?

[Answer] The clinical testing of a further developed mumps vaccine has begun in a trilateral research cooperation by the GDR, the Soviet Union, and Bulgaria. In the next few years, after successful testing, it is to be introduced gradually for all children in the GDR. A German-measles inoculation for girls engaged as child-care center nannies, kindergarten teachers or nurses is being considered. Influenza inoculation already has a firm place in our inoculation program. In the case of pandemic (world-wide) disseminations it is important to develop and produce appropriate vaccines as quickly as possible. In the future we will endeavor also to inoculate children against influenza. At present there is intensified research generally for the development of new types of combination vaccines which should more thoroughly eliminate the danger of inoculation gaps in the population.

[Question] Inoculation is not the sole prophylaxis, is it?

[Answer] Of course not. I am thinking especially of the giving of dekristol (Vitamin D) in infancy against the so-called English disease, rickets. It is given in the first week of life and later at specific intervals. Because of this strict organization--dekristol is given at the consultation with the mother or in the child-care center--rickets has completely "died out" here and in some other socialist countries.

[Question] Is there a vaccine against scarlet fever?

[Answer] Epidemiologically scarlet fever is caused by various streptococci, so that there is no single causal agent present. The causal agents of scarlet fever are nevertheless extremely sensitive to penicillin. Two shots are absolutely certain. Some 5 to 6 hours later the scarlet fever is no longer infectious. This infectious disease, which previously had to be treated for up to 8 weeks in a hospital, has thus lost its terrors. After a treatment of 1 week this childhood disease is overcome as a rule.

LOWER INCIDENCE OF DISEASE

East Berlin NEUE ZEIT in German 7 Apr 77 p 2

[Text] Measles: Compulsory inoculation against this childhood disease was introduced in 1970. Before that there were about 100,000 cases per year. Fifty children died of measles. In 1974 only 400 children came down with it, and the last fatal case occurred in 1972.

Poliomyelitis: The inoculation was introduced in 1960. Before that time there had been about 1,000 to 2,000 cases annually. The last case of poliomyelitis was in 1962.

Tuberculosis: In 1949 there were 107,227 tuberculosis cases among children and adults. In 1974 only 5,000 cases were still on the register, including 50 children. And in 1976 there were only 34 new cases among children.

Diphtheria: In 1946 there were still 96,573 cases of diphtheria, but in 1973 there was only one case among children, and in 1976 no new cases were registered.

ECUADOR

CONTAMINATED DRINKING WATER IN MANABI

Quito EL TIEMPO in Spanish 29 Mar 77 p 3

[Text] Portoviejo, 28 Mar--The population was alerted to the contamination of drinking water detected by the appropriate department of the Rehabilitation Center of Manabi. The problem has come up in all the sections served by the regional drinking water system of Poza Honda.

The water which is conveyed to the houses by pipes is totally turbid and has been found to be contaminated with bacteria. This serious danger was detected on the 2d of the current month, and consequently the consumers were warned to boil the water to protect their health and prevent epidemics which could originate as a result of the contaminated water.

Technicians expressed greater concern about the rural area inhabitants who make use of the system and drink the water directly, and for that reason issued a warning to boil the water in order to protect their health.

OUTBREAK OF GASTROINTESTINAL DISEASES REPORTED IN MILAGRO

Quito EL TIEMPO in Spanish 31 Mar 77 p 5

[Text] Milagro, 30 Mar--Dr Eladio Cervantes Alarcon, vice chairman of the Cantonal Council of Milagro, reported that a terrible and deadly epidemic of gastrointestinal diseases is particularly affecting the infant population, causing the death of tens of children to date.

The official points out that local doctors are powerless to counteract the illness because of lack of medicines, for which reason he asked the sanitary authorities of Milagro to appeal urgently to their superiors in the Provincial Health Office, as well as the corresponding ministry, to help Milagro save its infant population.

Cause

Dr Cervantes Alarcon said that the cause of this epidemic outbreak is the presence of sewage in the streets of the city for lack of a drainage system in good repair. Other factors having a direct bearing on the illness are the indiscriminate sale of food prepared under the worst hygienic conditions, the lack of treatment and control of the pressure of potable water, and the decay of garbage even in the main streets of the metropolis.

He emphasized that although the present municipal administration is concerned about eradicating these diseases, it will not be able to do so without the support of the appropriate agencies of the Central Government.

OUTBREAK OF TYPHOID FEVER REPORTED

Quito EL TIEMPO in Spanish 5 Apr 77 p 8

[Text] San Gabriel--An epidemic outbreak of typhoid fever took place a few days ago in the Jose Julian Andrade School of this city, affecting several students who are hospitalized at this time. The incident prompted the officials of the institution to suspend classes in order to forestall new cases of typhoid.

For the information of the public, it is important to point out that this epidemic was brought about by contamination of food, not the water.

The school has more than 1,000 students, who were subjected to compulsory vaccination in view of the emergency. The medical staff of the hospital is providing excellent care for the sick students despite the limited material resources.

GABON

MEASLES EPIDEMIC

Libreville L'UNION in French 27 Feb 77 p 5

[Article by Assam Tchassombo]

[Text] An epidemic of measles has broken out in the city of Koula-Moutou, seat of the province of Ogooue-Lolo. According to the statistics from this locality, 60 cases were registered. The latest epidemics noted in our country were detected in the settlement of Medouneu and in Port-Gentil.

Dr Joseph Abandja, inspector general of diseases widely endemic in Gabon, specified that the disease would not be serious in itself, were it not for the pulmonary complications which it can entail.

A single preventive measure is practical: vaccine. But this very sensitive vaccine is kept only in cold chambers in which the temperature is 20° above zero, which poses serious problems in the course of transport. These problems, however, according to what Dr Abandja says, have not prevented this area from receiving adequate doses of vaccine for the past several months.

The doctor of Koula-Moutou, with a view to broadening the vaccination campaign, arrived in Libreville on Thursday, 24 February 1977, to get supplies. It seems that the children stricken are generally those who were not vaccinated.

Measles, which is a frequent illness in tropical countries, generally attacks children suffering from deficiencies resulting from malnutrition and from a lack of sanitation in their environment.

On the whole, it is advisable to put the parents on their guard about the risks of this disease. The precautions to be taken are first, before symptoms appear, to have their children vaccinated. If a case is confirmed, the sick child is to be taken as rapidly as possible to the nearest hospital center.

GUINEA-BISSAU

CUBAN TECHNICAL EXPERTS PROMOTE HEALTH CAMPAIGN

Praia VOZ DE POVO in Portuguese 29 Apr 77 p 5

[Text] The Cuban technical mission in Guinea-Bissau is promoting a health campaign in the city of Bissau and the surrounding areas. The campaign, which began on 5 April, will last throughout the month of April. It is within the framework of the 16th anniversary celebrations honoring the Bay of Pigs victory in Cuba over imperialism in Latin America, and the 11th Youth Festival which will take place in Havana next year.

Wall posters are being made in all work centers where there are Cubans and Guineans, and a radio program is being produced for broadcasting plans and preventive health measures, thereby reflecting scientific and technical collaboration between the peoples of Guinea and Cuba.

As part of the same project, on 19 April, in one of the surrounding districts, a model latrine, built by the Cubans, was put into service. This was followed by the massive voluntary vaccination of the entire population of the same district on 23 April. At the inauguration ceremony, attended by hundreds of residents of the district and Cuban physicians staying in the capital, the advantages as well as the methods of construction of latrines were explained.

The voluntary blood donation campaign is proceeding very successfully. It has been going on since the beginning of the month at Simao Mendes Hospital in Bissau. According to statistics, there are presently more than 100 persons on the blood donation list. It is expected that this campaign will be extended beyond the originally projected time. Meanwhile, the State Commissariat for Health and Social Affairs is trying to organize a national commission to handle the blood donation campaign.

IRAN

PILGRIMS TO BE VACCINATED AGAINST INFLUENZA

Teheran ETTELA'AT in Persian 2 May 77 p 4

[Excerpts] Senator Dr Morshed, in a speech before the agenda, expressed his delight on the news of the founding of seven schools of medicine in the provinces. While thanking the Ministry of Science and Higher Education he cautioned against sacrificing quality for quantity.

In another part of his speech the senator said: "With the establishment of the committee for the pilgrimage to Mecca, I wish to ask the Ministry of Health, with the help of the university and the World Health Organization, to study influenza and its virus types which exist in the world. It is especially important to vaccinate the pilgrims against the flu before their departure, so that they could go on their pilgrimage with good health and not bring back and spread this harmful disease upon their return."

MALAYSIA

TYPHOID OUTBREAK IN SOUTH MALAYSIA

Kuala Lumpur NEW STRAITS TIMES in English 11 May 77 p 1 BK

[Text] Muar--Eighteen people have been confirmed as suffering from typhoid. Twenty-two more, in Sagil New Village and Kampung Sagil, about 23 miles from here, are suspected to have the disease.

Most of them have mild cases of typhoid. All 40 have been transferred to Tangkak District Hospital, for treatment and tests.

They would take about 2 weeks to recover.

Acting State Director of Medical and Health Services Dr D. H. S. Gill said all efforts were being made to contain the outbreak within the two villages.

There was no evidence at present of it spreading, he said.

He described the outbreak as a "localised epidemic" and said health officers in the area were taking all the necessary precautions to prevent the disease from spreading.

So far 1,126 people have been inoculated and the homes of all the 40 people in hospital have been disinfected.

The 77 staff of Tangkak Hospital attending to the typhoid cases have also been inoculated.

Health officers are making a house-by-house search for new cases and to advise the approximately 2,500 people of the two villages on health precautions.

An immunisation centre has been set up at the local council hall. It is open from 8 a.m. to 4 p.m.

Dr Gill advised residents to boil all water for consumption, avoid contaminated food and exercise personal cleanliness as the disease is food- and water-borne.

He said anyone with fever should see a doctor immediately as it was one of the early symptoms of typhoid.

"As the fever progresses, the victim may suffer from loss of appetite, may have diarrhoea [and] a slight stomach ache," he said.

He said complications such as the vomiting of blood might set in if the disease was treated early. [as published]

Dr Gill said investigations into the source of the outbreak were also under way.

At the moment the main suspect is the water supply. The residents had resorted to river water for daily consumption due to the prolonged drought.

Kuala Lumpur NEW STRAITS TIMES in English 12 May 77 p 12 BK

[Editorial: "Typhoid Again"]

[Text] The typhoid cases reported in the Johore District of Tangkak qualify as a sudden outbreak, obviously of a different category from the widely dispersed--and statistically predictable--cases which the word endemic implies. For the country as a whole an endemic classification would be fatal if it did not alert us to the nature of communicable diseases. The Tangkak outbreak is serious, and should be thus understood. Although the Johore health authorities are probably right in calling it a localised outbreak, nothing can be presumed until the source of infection has been isolated. The effect of standard precautions such as mass immunisation will not be apparent for a few weeks. Meantime, people mobility is a critical factor. Tangkak's nearness to Muar and Malacca--two high-incidence areas--tends to make premature, possibly harmful, any official statement that this latest outbreak is under control.

One hopes it is, although the fact that ten new cases have surfaced overnight (at last count, 50 confirmed or suspected victims) is an indication that the chain of infection may not have run its course. But whereas the Johore authorities have responded admirably, there are parallels in Tangkak's epidemiological pattern which suggest that it would not be alarmist to put out a nationwide alert. Tangkak's last major outbreak in 1965 recorded some 120 cases. Then as now conditions related to drought were thought to be responsible. Until disproved, contaminated water must be assumed to be the cause of the current incident. As there is drought in several parts of the country right now, the Health Ministry might do better to activate the national public health network than just giving assurances that matters are under control.

Kuala Lumpur NEW STRAITS TIMES in English 14 May 77 p 1 BK

[Text] Johore Baru--Thirteen more people were admitted to the Tangkak District Hospital today bringing the number of patients under treatment for typhoid to 68.

Twenty-two are positive cases while the balance of 46 are suspected cases.

NEW ZEALAND

LEPROSY CAUSING CONCERN

Wellington THE EVENING POST in English 7 Jan 77 p 9

[Text] A new kind of leprosy germ that is resistant to the usual anti-leprosy drugs has emerged. This was a serious setback in man's war against leprosy, said the secretary of the New Zealand branch of the Leprosy Mission (the Rev R. A. Alcorn) in his review of 1976. "A result of this was that the Leprosy Mission had to add \$80,000 to its 1977 world budget, to cover the much greater cost of the few very specialised drugs which are effective against this new strain," he said. However, there were also some bright spots in the year. The total of gifts and legacies to the mission in New Zealand was a record \$640,000. A breakthrough in leprosy research may have been made when scientists at the University of Hawaii grew the leprosy germ in the laboratory for the first time. And the Leprosy Mission accepted responsibility for leprosy control programmes in parts of India, Papua New Guinea, and Indonesia, bringing hope to more than 3 million people in those areas who are "at risk" from leprosy, Mr Alcorn said.

RHEUMATIC FEVER ATTACKS CHILDREN

Wellington THE EVENING POST in English 10 Feb 77 p 7

[Text] About 1,000 children lose 45,000 school days a year through rheumatic fever, a senior specialist in diseases at Wellington Hospital, Dr J. M. Stanhope, has found.

In an article published in the latest edition of the New Zealand Educational Institute's "National Education," Dr Stanhope said rheumatic fever cost New Zealand children 45,000 school days a year in time spent in hospital or convalescing.

Rural

About 1,000 children are affected each year.

A declining disease in many other countries, the illness is characterised by arthritis and inflammation of the heart. Most children recover after a lengthy convalescence, but some develop permanent heart damage and a few die.

The illness develops after a throat infection but it is still not known why only some are affected by it.

Dr Stanhope said national statistics showed the hospital discharge rate remained relatively constant in children from 1925 to 1971, and had declined in young adults since 1958. Maori death rates, although showing a similar decline were much higher than non-Maori.

The four East Coast districts of the North Island and Taumarunui showed the highest incidence of the disease he said.

"These areas are predominantly rural, with older housing, poorer water supply and sewerage and declining population."

Recovery

A survey of one secondary school in Wairoa--which has the highest incidence rate in the country--showed nine students with rheumatic fever and rheumatic heart disease alone--two to five times the number expected from United States studies, Dr Stanhope said.

TYPHOID CASE

Christchurch THE PRESS in English 12 Feb 77 p 19

[Text] Wellington--A Wellington abattoir worker is in hospital suffering from typhoid, according to the chairman of the Wellington City Council's abattoir committee, Mr J. L. Chapman.

Mr Chapman said meat possibly contaminated by the workers would have to be destroyed, although he understood it would be safe if it was cooked.

He did not know how the worker had been infected, but emphasised that there was no danger to the public because of the man's infection.

The Wellington Medical Officer of Health (Dr W. J. S. Barnes) said he was satisfied there was no risk to the public from the disease, because the man was working with meat which would always be cooked before consumption.

LISTERIOSIS KILLS BABY

Christchurch THE PRESS in English 28 Apr 77 p 2

[Text] A case of listeriosis, a rare infection which has a high death toll in the newborn, has been found in a Christchurch baby who was still-born.

The disease, reported in the latest Health Department figures on suspected notifiable diseases in the Christchurch district for the last week, is usually manifested as an acute meningo-encephalitis.

The infection, which is difficult to trace, can be caught from contact with domestic or wild animals, free-moving water, and mud.

In the Christchurch case, the mother could have been the carrier.

The disease, which is most uncommon, is more likely to affect the unborn shortly before birth, babies up to three weeks old and adults over the age of 40.

It produces fever, headaches, vomiting, delirium, and coma, and can lead to death.

Other notifiable diseases last week included three cases of infective hepatitis and one case each of serum hepatitis and food poisoning.

PERU

NATIONWIDE VACCINATION OF CHILDREN PLANNED

Lima EL COMERCIO in Spanish 7 Apr 77 p 1

[Text] More than 8,403,000 doses of vaccines will be administered throughout the country this year in a huge campaign intended to protect the population in general, and the children in particular, against contagious-infectious diseases.

The goal set up by the Ministry of Health requires 2.74 million doses of antismallpox vaccine, 2.16 million doses of BCG vaccine, 2.59 million doses of triple vaccine (against whooping cough, diphtheria and tetanus), and 913,000 doses of antimeasles vaccine, among the most important.

The announcement was made yesterday by the health minister, Peruvian Air Force Lt Gen Humberto Campodonico Hoyos, during the main ceremony in connection with the World Health Day held in the auditorium of that department.

He also said that the task mentioned will be channeled through hospital facilities, but that their human resources are inadequate to carry out a campaign of this magnitude.

"The large amount of population in Lima and other cities of the country, and the dispersion which exists in our rural area make it imperative that the mass of people participate actively in the vaccination programs," he said.

Gen Humberto Campodonico categorically stressed that "all the institutions of the country related to the sanitary effort are committed" to that arduous task.

He emphasized that such institutions must take cognizance of the fact "that the commitment they have with their beneficiaries cannot and should not be limited to the tasks of health recovery and rehabilitation."

On the part of those entities, he commented, there must exist the obligation, "not only legal but also moral and as a matter of fact, of cooperating in the planning, financing and implementation of programs of preventive and promotional nature."

Support of Teachers Asked

On the other hand, the minister also requested the cooperation of the teachers of the nation, adding that "their participation in the vaccination programs is indispensable, especially in places where the health sector does not have permanent personnel and there is only the teacher as the vanguard of culture and nationality."

With regard to this aspect, he announced that the necessary coordination with the Ministry of Education will be arranged shortly, "in order to institute a formal program which will permit the cooperation of teachers with one of the most important sanitary activities..."

However, he remarked that all that effort will be insufficient in the absence of a positive attitude on the part of the parents with respect to the programs which the health sector provides. They, he stated, must comply at the proper moment with the obligation of vaccinating their children, thus protecting them from diseases which, under certain circumstances, could inevitably lead into disability, if not death.

In the course of the mentioned act, which was opened with the national anthem, Dr Jose Neyra Ramirez, general director of health programs, and Dr Martin Vasquez Vigo, chief of the 4th Zone of the PAHO/WHO, also delivered speeches.

VACCINATION CAMPAIGN BEGUN IN FLOOD STRICKEN AREAS

Lima LA PRENSA in Spanish 7 Apr 77 p 2

[Article by Enrique Rodriguez Guzman]

[Excerpts] Chachapoyas, 6 Apr--Doctors coming from Lima and doctors of this city began today a vaccination campaign intended to prevent an outbreak of typhoid in the district of Churuja, severely affected by the flooding of the Utcubamba River and the torrential rains. Vaccinations were also given in neighboring areas such as La Florida.

NATIONAL PROGRAM TO PRODUCE VACCINES REPORTED

Lima LA CRONICA in Spanish 17 Apr 77 p 1

[Text] More than 12 million doses of vaccine designed to protect cattle against foot-and-mouth disease will be produced in the country in the course of the next 3 years, in order to protect livestock production and promote the development of animal husbandry.

The announcement was made by Dr Rafael Acosta Meza, general director of the National Health Institutes, who said that the institutes will produce this year 14.85 million doses of vaccine for human and livestock use, 4.5 million doses of which will be intended to control foot-and-mouth disease in the cattle-raising centers.

Dr Acosta Meza said that the national production of vaccines for human use has lowered the death rate resulting from poliomyelitis, measles, whooping cough, diphtheria and tetanus, and has eradicated smallpox for the past 10 years.

He called upon all professionals working in rural areas, especially teachers, to conduct educational campaigns on the significance of vaccination. On that score, he explained that the SECIGRA [expansion unknown] health program will perform a decisive role in creating awareness and a sense of responsibility among rural families in connection with the need for vaccination.

Acosta Meza made these statements after presiding over a ceremony to thank the German government for a donation of 20 million soles in equipment designed for the control of medicines.

OBLIGATORY VACCINATION ORDERED

Lima LA CRONICA in Spanish 20 Apr 77 p 1

[Text] The Revolutionary Government has decided to make vaccinations against poliomyelitis, tuberculosis, diphtheria, whooping cough, tetanus and measles obligatory throughout the national territory. It also authorized the Ministry of Health to decide on the compulsoriness of other vaccinations when it deems it necessary or in the case of an epidemic, and to establish penalties for those who fail to comply.

These provisions are contained in the new General Vaccination Regulation approved by Supreme Decree 006-77-SA, which governs preventive action against transmissible disease in the country.

The mentioned regulation specifies that the heads of families are under the obligation of having their minor children vaccinated in accordance with the vaccination programs put into effect.

It also establishes that the managements of public or private institutions engaged in preschool and elementary teaching are obliged to provide the necessary facilities for the vaccination or revaccination of the students.

The Ministry of Health will determine the actual or potential endemic areas of jungle yellow fever, and will ban from those areas people who have not been vaccinated against that disease.

It finally establishes that those who use the international vaccination certificate as a means of propaganda will be subject to a fine of 5,000 soles.

UNKNOWN DISEASE AFFLICTS PERSONS IN JUNGLE AREA

Lima EL COMERCIO in Spanish 20 Apr 77 p 8

[Text] Iquitos--A rare dental disease named noma is dangerously spreading in the settlement of Selva, asserted Dr Efrain Sueldo Rivero, who is here conducting a course on periodontology sponsored by the Odontology College of Loreto.

Noma, caused by bacteria (Gram-positive and Gram-negative), starts destroying the maxillary bones after attacking the teeth, finally producing death.

"This disease is growing because of the poor organic defense resulting from the deficient diet of a large portion of the jungle population," asserted the expert.

Sueldo Rivero explained that the mentioned disease was detected in jungle settlements of Colombia years ago.

"Preliminary studies made in Peru have uncovered some cases which must be taken into consideration, and consequently the investigations will be expanded," he stressed.

In his first lecture on caries and pyorrhea to a score of odontologists who work in this city, he reiterated that the role of odontology should be preventive rather than curative. "It would be useless to cure the patient if the same does not keep in mind that teeth need permanent care," he added.

He pointed out that 80 percent of the world's population is afflicted with periodontal diseases. "These diseases generally strike after the age of 30, and caries afflicts 90 percent of the population," he explained.

Dr Sueldo Rivero also talked about "plaque," a viscous mass of buccal bacteria found in saliva and food particles (sugar above all) which continually covers the teeth.

He pointed out that "plaque" is the source of all dental ailments, and warned that one often can be cured of caries and pyorrhea, but they can recur if one does not get rid of "plaque."

MALARIA, TYPHOID, HEPATITIS REPORTED IN PISCO

Lima LA PRENSA in Spanish 23 Apr 77 p 12

[Text] Pisco, 22 Apr--Outbreaks of malaria and epidemics of typhoid and hepatitis have cropped up in this city as a result of the abundant increase of stagnant waters which constitute the concentration points of flies, gnats and mosquitoes.

This situation makes it urgent that a campaign be conducted to do away with those illnesses, as Dr Humberto Cortez Cahuas, who furnished the information, told LA PRENSA. In connection with the outbreak of malaria, he said that two of the cases are youngsters.

Dr Cortez also explained that the principal agents of typhoid are flies, which transmit the germ on their legs when landing on food or other products consumed by people. As a precautionary measure, he stated, the people of Pisco should consume drinking water which has been boiled and never any other.

The source maintained that the top health authorities should coordinate activities and arrange whatever is needed to carry out the campaign against malaria, typhoid and hepatitis in a thorough, rather than haphazard, manner.

REPUBLIC OF SOUTH AFRICA

RESEARCH, SURVEYS TO FIND OPEN CASES OF TUBERCULOSIS

Walvis Bay NAMIB TIMES in English 26 Apr 77 p 4

[Text] Tygerberg--The Tuberculosis Research Institute of the South African Medical Research Council (MRC) has developed a cheap and effective method of finding the many open cases of TB which exist in the country.

The latest annual report of the MRC says that this method involves new procedures in sputum collection and the transportation, even from remote areas, of sputum samples, as well as simple mass culture. It is more rewarding than taking mobile X-ray units into country areas or waiting for sufferers to come forward for treatment.

During 1976, a random sample survey of 4,200 people in Lebowa was completed in cooperation with Lebowa's Health Department in the first of a series of tuberculosis prevalence surveys of the six major homelands. In this survey, lung lesions judged on X-ray to be active TB were found in only 0.8 percent adults and the annual risk of infection of children was calculated at 1.1 percent. The X-ray findings were confirmed by the sputum culture tests developed by the Institute.

Urban surveys of the risk of tuberculosis infection are also being carried out and during 1976, 24,000 schoolchildren were tested in Port Elizabeth, Durban and Kimberley. The data obtained will allow these cities to adjust their control methods, particularly their vaccination campaigns. In order to assess the trend of the disease, as well as for purposes of surveillance, follow-up surveys were firstly organized in Pretoria and Germiston and thereafter the Institute aims at including all major towns in this study.

REPORTER LOOKS INTO PAW-PAW MEDICINAL PROPERTIES

Walvis Bay NAMIB TIMES in English 6 May 77 p 7

[Text] Cape Town--Paw-paws are top news in London following healing of a kidney transplant wound by their use. Sales have soared as a result.

An enterprising Cape Town reporter delving into books on the medicinal use of plants in South Africa found six pages on the paw-paws and the use of its flesh, skin and seed.

Paw-paws according to botanists conquer disease worldwide.

In New South Wales they use the fruit to combat dysentery. In East Africa paw-paws are used for boils, in Tanzania for warts and in Hawaii for skin

diseases. In West Africa the fruit is used to purge horses and in Ghana it is found useful in treating piles.

Further uses are claimed in tenderising of meat, easing of rheumatism and clotting of milk.

In short according to the report paw-paws cure anything from in-growing toenails to yawning.

URBAN BLACKS DEVELOP 'WHITE MAN'S DISEASE PATTERNS'

Johannesburg THE STAR in English 16 May 77 p 12

[Article by Marais Malan, science editor]

[Text] Incontrovertible statistical evidence that urban blacks are beginning to develop some of the white man's disease patterns has been produced by a pathologist of the South African Institute for Medical Research, Johannesburg.

Dr Charles Isaacson, head of the department of histopathology, has made a comparative study of biopsies (tissues taken from living patients) and autopsies carried out in 1959/60 and again in 1976 at Baragwanath Hospital.

And his findings, particularly in respect of liver and heart disease, support the contention of Professor Harry Seftel, professor of African medicine at the University of the Witwatersrand.

Transition

Professor Seftel maintains that urban blacks are in a state of transition and thus exhibit a varied range of disease, including both the ancient afflictions of the tribe and the new diseases of the city.

The reason for the change, both of them believe, lies in the blacks' adopting the white man's way of life, his food--and his liquor.

The liver story is a case in point. Before 1962 when hard liquor became freely available to blacks, this group mainly drank Bantu beer.

"So when you look at biopsies of heavy drinkers from that period you notice at once the tremendous iron content of the liver which came from the utensils in which the beer was brewed," says Dr Isaacson, who was in charge of the SAIMR's Baragwanath laboratories at the time.

Deposits

But the 1976 liver biopsy slides tell a different story. Now the liver is riddled with fatty change, hitherto unknown in blacks and characteristic of the liver of whites who drink heavily.

In fact, in the younger generation the iron overload has diminished and replaced by fatty deposits. Both conditions may lead to alcoholic cirrhosis of the liver, a potentially lethal disease.

What is worse--iron overload or fatty change? Dr Isaacson says he believes the damage caused by the "white man's liquor" is worse, although there is no foolproof clinical evidence yet to support this view.

He has also found another serious liver ailment. In the 1959/60 series alcoholic hyaline, which occurs in the liver cells after long consumption of hard tack, was absent. In the 1976 series several cases were found, strangely enough mostly in women.

"Does this mean that we are now getting a group of bored Soweto housewives who drink secretly at home?" he asks.

The consumption of Bantu beer does not seem to play any part in the causation of primary liver cancer, the incidence of which is extremely high among blacks.

However, a third of all white alcoholics show signs of liver cancer at autopsy. The incidence of this tumour has begun to show a small decline in blacks but not among Soweto residents.

"Does this mean that by adding the burden of the white man's liquor to a population already prone to this lethal disease we are heading for a rise in the incidence of liver cancer in Soweto?" he speculates.

Coronary heart disease, virtually unknown among blacks in the past, has begun to show up among urban blacks.

"In 1960 I found one case at post mortem at Baragwanath--in 1976 there were 14," says Dr Isaacson. "This is still low by Western standards (700 whites a year can be expected to die in a comparable population group) but it shows that a definite trend is developing.

Treatment

"One can ascribe it to various causes but mainly the emergence of a black middle class who drive cars, don't take enough exercise, are overweight, can afford foods that clog up the arteries, and suffer from the stresses of modern city life."

But in at least one form of heart disease westernisation has had a good effect. Syphilitic heart disease has almost disappeared. This is probably due to early treatment with antibiotics. Usually syphilis has to remain untreated for some 20 years before heart disease develops.

Dr Isaacson says that high blood pressure, as Professor Seftel has pointed out, remains, after violence, the biggest killer of blacks. And among

blacks this condition occurs among younger people, is more explosive and has more serious consequences.

Although accurate figures are not available, the impression is that in rural areas the incidence is not nearly as high as in an urban complex like Soweto.

"Thus one can ask whether high blood pressure is the way the black man is reacting to the stresses of urbanisation," says Dr Isaacson.

TYPHOID SCARE IN SQUATTER CAMP REPORTED

Johannesburg THE STAR in English 24 May 77 p 5

[Text] Cape Town--The Divisional Council of the Cape's medical officer of health, Dr F. K. Mitchell, is concerned at the possibility of a major outbreak of typhoid fever in the Werkgenot squatter camp.

The way to prevent outbreaks of the fever in squatter camps would be to introduce adequate sanitary services, the council heard at its monthly meeting today.

Dr Mitchell said: "We had two cases during March at Crossroads and six cases in the Werkgenot section of the triple squatting areas in Bellville South."

About 4,500 people have been given the first dose of anti-typhoid vaccine--about a quarter of the total population in the camp--and second doses will be given later.

"While communities are endeavouring to establish some form of organised disposal of refuse and night soil by means of pits, it will not be long before there is no fresh vacant land on which to dig pits," Dr Mitchell said.

He said immunisation could achieve a partial reduction of the risk of a serious typhoid outbreak and the only effective measure would be the introduction of adequate sanitary services.

He stressed the urgent need for a basic health service directed at family planning and child health.

At present, squatters are carrying buckets a considerable way to fetch water from the University of the Western Cape building, the Coloured Representative Council building and the Bellville refuse disposal works. Dr Mitchell fears, however, that with the onset of the rains, people will take water for domestic purposes from rainwater pools which, due to lack of sanitary control, will lead to the spread of disease, particularly typhoid fever.

RHODESIA

GOVERNMENT URGED TO MAKE VD A NOTIFIABLE DISEASE

Salisbury THE RHODESIA HERALD in English 25 May 77 p 13

[Text] Bulawayo--The Social Services Committee of the Bulawayo African Townships Advisory Board has called on the city council's Medical Officer of Health to urge the Government to make VD a notifiable disease.

At a committee meeting on May 17 a board member, Mr A. C. Mutasa, said the statistics provided on venereal diseases were for Africans only. He felt the figures should include non-African cases.

It was possible that African girls were associating with non-African men and it was necessary to know the extent of VD in the European area, Mr Mutasa said.

The committee had before it a report from the MOH, Dr E. F. Watson, which said that African VD patients treated by private doctors were not included in his figures, as it was not a notifiable disease.

"For the same reason, the health department has no regular information on cases of the disease among the other ethnic groups," Dr Watson's report said.

He was therefore unable to provide these figures.

Asked to comment, Dr Watson said yesterday that he would write to the Ministry of Health giving the board's views.

"Nowhere in the world is venereal disease notifiable," he said. "But the Ministry is considering amending the Public Health Act to provide that it may make any of the various venereal diseases notifiable by regulation."

The object of making a disease notifiable was to control it, he said. He did not believe this object would be achieved. Such a move would "drive it underground."

"It is regrettable that modern medicine has made the fear of venereal disease negligible," he said.

To another question, Dr Watson said that in his last annual report he gave the number of African patients being treated at municipal clinics and the municipal hospital as 2,064 for syphilis and 4,538 for gonorrhoea.

In 1975 the health department tried to find out the overall number of people of all races suffering from VD in Bulawayo.

Not all private doctors would cooperate, but the results obtained were "startling," Dr Watson said.

SAUDI ARABIA

IMPORTANCE OF CHILD VACCINATION UNDERLINED

Jiddah AL-MADINAH in Arabic 9 Apr 77 p 2

[Interview with Dr Ahmad Shahir al-Tabba', the general director of preventive medicine, by Husayn 'Ali Hysayn]

[Excerpts] In a special interview on the occasion of the international health day, Dr Ahmad Shahir al-Tabba', the general director of the Preventive Medicine Directorate, said:

All countries of the world celebrate every year the international health day on 7 April (corresponding this year to 19-4-1397 of the Hejira) and the medical services pay special attention to vaccination against many serious diseases such as poliomyelitis, which is the target of the vaccination campaign this year. Every year special attention is concentrated on a certain disease.

This Year's Subject [Target]

[Question] What is this year's subject [target] of the international health day?

[Answer] This year's target will be to vaccinate children and the slogan adopted for the day is "vaccination protects your child."

The Six Diseases

[Question] Can you give us a brief idea about each of these six diseases [mentioned in an omitted passage]?

[Answer] Diphtheria which is an acute disease that affects the esophagus and the tonsils.

It is characterized by a fever accompanied by a distinct film appearing on the mucous membranes of these parts of the body. It rarely appears in other parts, such as wounded skin and the eyes. The poisons secreted by the microbes causing this disease lead to paralysis of the heart muscles and of the brain nerve centers. The fatality rate among diphtheria cases reaches 10 percent.

This disease is more common in autumn and winter.

Whooping cough is one of the communicable diseases of early childhood and it spreads at the end of the winter and the beginning of spring. It begins in the form of bronchitis with a rise in the patient's temperature, and after one week of incubation, the cough distinguishing this disease starts in the form of spells of successive exhalations interrupted by long inhalations accompanied by a distinctive noise. These spells may be followed by vomiting when they are severe and they occur especially after meals or when the child is in an emotional state.

Tetanus is a dangerous disease and it occurs most frequently in summer as a result of wound contamination. Cases may appear among newborn babies as a result of navel contamination resulting from failure to sterilize equipment and instruments.

It is a disease accompanied by high fever, severe muscle pains and muscle contractions, especially neck and torso muscles. It may lead to death. This is one of the clearly dangerous public health problems in the developing countries.

Measles is one of the prevalent diseases among young children. It spreads quickly and occurs in all seasons, especially in spring and autumn. Almost no unvaccinated child escapes this disease.

It is characterized by fever, the symptoms of a bronchitis attack, sneezing, coughing and redness in the eyes. The measles spots appear on the fourth day, beginning on the forehead and behind the ears and then spreading to the rest of the face and of the other parts of the body. This disease kills almost one of every 10 cases.

Poliomyelitis is an acute communicable disease which, when fully developed, is characterized by localized muscle paralysis which then spreads as a result of damage caused to nerve cells of the spinal cord and to similar brain cells. This disease is communicated orally through the consumption of food, milk and liquids contaminated by flies. The disease can be communicated by sputum spray.

Child tuberculosis attacks not a small number of our children and it hits the digestive and respiratory systems.

It might also hit other organs. It constitutes a big health problem, especially among children of poor and middle class families and children suffering from malnutrition.

Role of Preventive Medicine

[Question] What is the role of preventive medicine in regard to all these diseases?

[Answer] One of the first responsibilities of the Preventive Medicine Directorate of the Ministry of Health is to protect the citizens from communicable diseases and to protect the kingdom from the danger of the spread of such diseases. This directorate provides the vaccines and serums necessary for the various disease-fighting units. There is also a program to vaccinate children against these diseases, in addition to the other comprehensive vaccination campaigns organized by the Preventive Medicine Directorate, in participation with the other health directorates, to combat these diseases and other diseases which pose danger to the individual's health and to society, such as cholera, encephalitis and smallpox.

I would like to point out here that this directorate conducted a cholera vaccination campaign at the beginning of this month. It also intends to carry out a comprehensive poliomyelitis vaccination campaign as of the 21st of the month. It is also worth noting that the number of children vaccinated throughout the kingdom in 1396 of the Hejira against all six diseases amounted to the following:

Children vaccinated with triple vaccine -- diphtheria, tetanus and whooping cough -- totaled 165,326.

A total of 12,743 children vaccinated against poliomyelitis.

A total of 6,578 children vaccinated against measles.

A total of 83,966 children vaccinated against tuberculosis.

Prevention

[Question] Can you give us an idea about the role of vaccination in prevention?

[Answer] Though the aforementioned diseases pose an evident threat to children, it is fortunate that science has paid great attention to childhood diseases and similar diseases. In addition to the nutrition needed to strengthen the body, especially the body of a growing child, to bolster its immunity against microbe attacks as well as to strengthen the various defense mechanisms existing in different tissues of the body, modern science has discovered numerous vaccines that can create antibodies and that continue to protect the body and to be ready to repel any attacks, should they occur. Every microbe has antibodies existing in the blood to arrest the action of such a microbe.

For example, the triple vaccine protects the body against the microbes of three diseases, namely diphtheria, tetanus and whooping cough.

This vaccine is given intramuscularly and one injection is given per month for a period of three months. Three injections constitute a full dose.

The younger the child is vaccinated, the better the protection. Therefore, the child should be given the first vaccination dose at the age of one to 3 months.

Moreover, an active and easy to administer vaccine has been found for poliomyelitis. This vaccine is in the form of red liquid, two drops of which given orally, with milk or with a piece of candy that the child can suck, produce immunity of about 95 percent against the disease.

This vaccine is given at the same time as the triple vaccine and also in three doses.

To strengthen and activate the building of antibodies during the child's growth, another dose of the triple vaccine and of the poliomyelitis vaccine should be given to the child at the age of four, when he enters school, and whenever he is exposed to contagion until the age of 12.

There is also a vaccine for measles and it is given in one dose under the skin or intramuscularly.

This vaccination produces 95 percent immunity against the disease for a period of 15 years, and probably even for life.

Similarly, protection can be provided against childhood tuberculosis through vaccination with (B.C.G.) during the first year of the child's life.

With the increasing evidence of the success of the protection against these diseases, there is now an urgent need for extensive programs for the collective vaccination of children.

We should encourage the idea that the regular immunization of children must be considered a part of fundamental health care.

Implementation Problems

[Question] What are the problems that you face in your efforts to make these vaccination campaigns general?

[Answer] What is regrettable is that vaccination, which is one of the medical means which have the most significant effects in the field of health, has not been made available to all the children, as we have said in the reply to a previous question.

We find that millions of babies are born every year. These children need protection but they don't receive it because of the public's failure to appreciate the exorbitant price paid by their children's health as a result of these diseases and their consequences. Society's participation is essential and this participation can only come if there is confidence in

health care. We thank God for the great resources with which He has blessed this country and which have enabled us to provide health services in the various parts of the kingdom, such as health offices, hospitals, clinics and maternal and child care centers. The government of his majesty has provided the guarantees needed for the good health of children -- guarantees such as medicines and vaccines. The training of locals is proceeding actively in order to enable them to make vaccination more easily accessible to every child, in addition to providing the facilities needed to preserve and transport vaccines. All that remains is the determination by the people to protect their children and the determination to spread confidence in health care by the leaders of health work. It is also required that the information media concentrate on the health advantages of vaccination. All this will provide greater incentives for society to participate at all levels and for our protection and care efforts to reach our children, the mainstay of our future.

The Preventive Medicine Policy

[Question] What, briefly, are the other activities of the General Directorate of Preventive Medicine?

[Answer] The general policy of the preventive medicine is to protect society's health from the stage of childhood to the stage of old age, to protect the individual's physical and mental fitness, to combat diseases, especially communicable diseases, and to protect the kingdom against the entry of diseases from outside.

The General Directorate of Preventive Medicine exerts efforts through its administration and its various technical sections to implement this policy. These sections are:

1. The health offices section which supervises 23 offices in various parts of the country. These offices are in charge of implementing the preventive medicine policy in the different parts of the kingdom.
2. The environmental health section which supervises the safety of drinking water, the sanitary disposal of waste materials, environmental cleanliness, the safety of foodstuffs, insect and rodent control and all the means and construction projects affecting public health.
3. The malaria section which operates 15 major and subsidiary malaria control centers located in various areas and which is implementing a program for the eradication of malaria from the kingdom.
4. The bilharzia section which supervises eight bilharzia control centers, in addition to two guidance centers in Riyadh and Medina. This section also conveys comprehensive surveys to discover and treat bilharzia cases and to treat water purification plants that have snails in them. The

section continues its treatment of the cases until they are fully recovered in order to wipe out this disease which is becoming more serious with the ever-increasing number of agricultural and irrigation projects.

5. The protection and research unit which was created recently for the purpose of gathering, analyzing and classifying information pertaining to the different diseases, to provide the means of protection against them, to conduct surveys on epidemics and to engage in field studies.

6. The maternal and child care section whose purpose is to provide health and social care to mothers and children, to reduce pregnancy and delivery dangers, to reduce the infant death rate and to work for a strong disease-free and defect-free progeny. A total of 10 mother and child care centers have been put into operation since this section was established in 1395 of the Hejira. Three of these centers are located in Riyadh and the others are in the other major cities. Allocations have been made in this year's budget for four more centers.

7. The health education section which supplies the citizens with the fundamental information about diseases and health and about the means of prevention so as to change the people's concepts, tendencies and behavior toward a direction that would insure their safety. The section uses various audio-visual means to communicate with the masses.

8. The chest disease section which supervises 11 tuberculosis and centers in the various parts of the kingdom. This section diagnoses, treats and follows up tuberculosis cases and fights this disease.

9. The quarantines section which supervises the air, naval and land points of entry to the kingdom. It also checks passengers, foodstuffs and drinks arriving in the kingdom with the purpose of protecting the kingdom from any incoming diseases.

10. The social services and development section which supervises the health units in the social development centers existing in the villages. The ministry's plan provides for setting up five more centers this year.

11. The central vaccination group which is a special outfit that was formed in 1384 of the Hejira. It includes 10 teams to carry out smallpox vaccination. The number of the members of this group has doubled since it was formed and its activities have been expanded to include comprehensive vaccination campaigns following the eradication of smallpox from the country, God be thanked.

Advice to Parents

[Question] Would you like to address a final word on the occasion of this day?

[Answer] I advise parents not to neglect the vaccination of their children and to make sure that the children are given the full doses required for effective vaccination, in addition to the booster doses, keeping in mind that such vaccinations are offered free by the units of the Ministry of Health.

SINGAPORE

MASS IMMUNIZATION PROGRAM AGAINST INFLUENZA EXTENDED

Singapore THE STRAITS TIMES in English 20 May 77 p 15 BK

[Text] The Ministry of Health has extended, for the first time, a mass immunisation programme against influenza to all government and Statutory Board employees in view of the swine flu alert abroad and a slight increase in common flu cases here.

Shipments of the triple-flu vaccine--the A New Jersey isolated at Fort Dix last year (swine flu), the A Victoria, commonly isolated in Singapore and the influenza B Hong Kong, seen sporadically--have arrived in Singapore.

It is understood that the triple-flu vaccine will be available to commercial firms soon.

In a circular to government and Statutory Boards, the ministry advises employees "liable to contract influenza" and "those travelling abroad" to have themselves immunised.

A medical source said yesterday that the interest in flu vaccines came about as a result of an alert abroad to prepare countries against possible epidemics of the killer swine flu.

In Singapore, the immunisation programme provided on a voluntary basis was a kind of protection plan for key personnel in the ministries, the Public Utilities Board and the PSA [Port of Singapore Authority].

But as ample supplies of the vaccine are available, it has now been extended to all employees of government and Statutory Boards.

The source said no cases of swine flu--the virus of which was isolated in pigs and later found to be a similar strain as in human beings--have been reported in Singapore so far.

With immunisation, there is less chance of the flu spreading in case of an outbreak.

The vaccine could last a year, 2 years or even 3 so long as the virus strain remained the same, the source added.

SOUTH-WEST AFRICA

NEW DISEASES NOTED

Windhoek THE WINDHOEK ADVERTISER in English 20 Apr 77 p 3

[Text] Windhoek--Dr Bollar of the Katutura State Hospital said yesterday that the Kuachorcor and Merasmus Diseases were non-existent in South West Africa 20 years ago. However, they now frequently occurred and were often the cause of child mortality.

Often caused by malnutrition, the deaths of children were also caused by Rheumatic Fever, said Dr Bollar of the Pediatric Department in the Hospital.

He regretted that so many parents brought their children to hospital too late for the disease to be caught and cured, and he hoped that in future parents would bring their children earlier to receive treatment.

RABID DOG NIPS SOLDIERS

Windhoek THE WINDHOEK ADVERTISER in English 12 May 77 p 2

[Text] Pretoria--A number of soldiers were flown to 1 Military Hospital, Voortrekkerhoogte, for observation after coming into contact with a rabid dog at the weekend, a Defence Force spokesman said here yesterday.

He said there was no cause for concern or alarm and the next-of-kin of the soldiers had been informed.

The soldiers, who were all based at a unit in the Operational Area, played with a young dog and in the process received scratches and "light nips."

It was later established that the dog, which was given to the unit by a Sergeant-Major, had rabies.

It was not yet known how long the soldiers would have to stay in hospital.

The Suregon-General of the South African Defence Force, Lt.-Gen. C. R. Cockroft, was not available for comment.

SPAIN

OUTBREAKS OF MENINGITIS IN MADRID AND LUGO

Madrid YA in Spanish 22 Apr 77 p 22

[Article by A. del Rio]

[Text] The section of La Celsa, on the road leading from Villaverde to Vallecas Villa, is the site of the most bizarre shantytown of Madrid. Some 200 shanties, all of them inhabited by Gypsy families, stand on a veritable source of infection without piped water, with trash covering the windows and overcrowded to a really incredible degree. On several occasions, the Gypsy Development Association--devoid of political overtones or pursuits other than the reinstatement of the Gypsy to Spanish society--has denounced the sanitary degradation being endured by this settlement of La Celsa: the spread of contagious diseases not only because of the lack of means to combat them, but also because of an environment which favors their development. And now, La Celsa again leaps into prominence with the sad news of three recent cases of meningitis resulting in the death of two children. There is grief and sadness among the Gypsy families. The denunciations regarding their sanitary situation have never been heeded.

Some 43 percent of the population of the area is under 10 years of age, and, according to a study made by the Gypsy Development Association, the totality of the population harbors the meningococcus. As a result of the overcrowded conditions in which they live--families of up to 10 members in 20 square meters--contagion gets a favorable situation for its development. There is a scientific theory which explains the prevalence of meningitis among these groups of destitute people: weak rhinopharyngeal barrier and lack of defenses, antihygienic condition of the area, respiratory diseases which undermine the impermeability of the membrane, high degree of undernourishment.

Alarm and Helplessness

The Gypsy families of La Celsa are alarmed. Mothers who lost children appear totally helpless as to the possible contagion of other members of the family. There is fear, contagion psychosis and indignation because the sanitary authorities have done nothing to prevent the situation.

Someone described La Celsa as a Gypsy concentration camp. The ramshackle-house nucleus appeared approximately 10 years ago. The Gypsies got tired of their nomadic life, of being driven out from place after place by the Civil Guard, of wandering aimlessly. And they thought that, like so many other emigrants, they could build a new shantytown like many others which began to appear in the outskirts of Madrid. The largest number of Gypsy

families concentrated in Alegria and La Celsa. They were ordered to leave the place, but they resisted and asked the authorities to provide them with housing. The administration chose to ignore them, and the rejection left them mired in poverty.

About 2 years ago, at the time of the summer vacation and the end of the school term, the schools of La Celsa--barracks in very poor condition--were vandalized. The Gypsies were blamed and accused of having a vandalistic spirit, though nothing could have been more unrealistic because one cannot demand good citizenship from those who are treated uncivilly and unjustly.

The totality of the inhabitants of La Celsa over 50 years of age are afflicted with rheumatic and respiratory diseases. Dermatological ailments abound, and viral contagions constitute a real scourge.

We left La Celsa overwhelmed by a sense of pessimism and pain. The specter of meningitis continues to haunt the shanties. The pestilent smell of sewage goes unnoticed by the inhabitants. Barefoot children swarm over the garbage hunting rats--and it is not difficult--with a weary look, some of them feverish, while the parents returning from selling junk and flowers, or from begging, feel the foreheads of the youngsters. "He is not running a temperature, but he scared us last night. He was burning--must have been a cold, but we immediately thought of meningitis. Lord, they are letting us die...! Nobody gives us a hand. Look at the children--they are so sickly. My boy does not grow, and he is already 8 years old. He suffered from rickets when he was small..."

Madrid YA in Spanish 13 May 77 p 25

[Text] Lugo--Dr Candido Sanchez Castineiras, provincial health chief, has informed the newspaper EL IDEAL GALLEGO that 34 cases of meningitis have been recorded in Lugo in the past 4 months.

Dr Sanchez Castineiras points out that the incidence of meningitis is no cause for alarm, although it is similar to that of other years. He also emphasizes that the coastal zone of the province is where most of the cases are recorded.

He adds: "Among the factors which influence the epidemiology of meningitis, the climate is of considerable importance. Studies conducted in Africa, for example, have shown that when the relative humidity of the environment decreases, the number of cases increases. These cycles may also be observed in our province, although not in a definitive or marked form. In the coastal zones we have seen that when the humidity declines, some cases of epidemic cerebrospinal meningitis are recorded. In any event, this year--at least until now--the incidence which we have observed is less than that of last year."

TOGO

EXISTENCE OF CENTERS OF BILHARZIOSES IN KLOTO DISTRICT

Lome TOGO PRESSE DENYIGBA in French 22 Apr 77 pp 1, 5

[Text] A Brilliant Dissertation by Dr Agbo

The study of bilharziosis, which was reported to exist in Togo in 1925, has been taken up again, as it has since remotest antiquity, by a young Togolese man, Kossivi Agbo.

The study of this disease was submitted in a doctoral dissertation in medicine which was brilliantly defended by the author last 17 April at the University of Benin.

The topic: "The epidemiological study of centers of bilharzioses (*Schistosoma mansoni* and *Schistosoma haematobium*) in the Kloto district in Togo."

This research was carried out for two reasons. First of all, since the writings of former authors Le Gall and Gaud, the *Schistosoma mansoni* infection in that region has been described as being of minor concern in comparison with other centers such as that of Lama-Kara. But no systematic study of it has been made until today.

Secondly, the relative nearness of Lome allows samples to be brought back to the parasitology laboratory the same day.

Mr Agbo is the first Togolese person to defend his doctoral dissertation in medicine at the University of Benin, after having received his diploma in medical parasitology at the University of London (London School of Hygiene and Tropical Medicine). He qualified for his doctorate with Honorable Mention and congratulations from the jury.

The jury, which was chaired by Professor Mawupe Vavor, director of higher education [L'Enseignement du 4 Degre], was made up of the following professors who have passed the agregation examination: Pakai Nabede, pro-rector of the University of Benin, Afatchao Amedome, head of the Infectious Disease Service at the CHU [university hospital center] in Lome, and Jean-Claude Valcke, head of medical services at the CHU.

In his study which dealt with four villages in the Kloto district (Agbessia, Klonou, Yokele, and Tome), Mr Agbo wanted especially to bring the renewed outbreak of parasitosis in this area to the attention of the health officials.

Bilharziosis, Endemic Disease of Togo

According to Mr Agbo, bilharziosis is an endemic disease of Togo. The average proportion of vesical bilharziosis infection is 5 percent and that of intestinal bilharziosis is 0.5 percent.

The study carried out in this area of Togo allowed the parasitologist to obtain percentages of schistosoma mansoni infection of 4.30 percent, 35.77 percent, 28 percent and 25 percent respectively, that is to say an average of 23 percent intestinal bilharziosis. The following percentages were obtained for infection due to schistosoma haematobium: 7.7 percent, 59 percent, 13 percent, 36.50 percent or an average of 29 percent. Urogenital bilharziosis is thus more prevalent in this region than intestinal bilharziosis.

The age groups having the highest proportions of infection are 5 to 10 and 11 to 15, because the children swim in the river and thus come in contact with the water very frequently.

The study reveals that both kinds of bilharziosis exist in each village.

In Klonou: 7.7 percent vesical bilharziosis and 35.77 percent intestinal bilharziosis. In Agbessia: 59 percent vesical bilharziosis and 25 percent intestinal bilharziosis. In Tome: 13 percent vesical bilharziosis and 38 percent intestinal bilharziosis. Lastly in Yokele: 36.50 percent vesical bilharziosis and 4.30 percent intestinal bilharziosis.

The Hedzo River, which is known to be polluted, is the only water supply for villages such as Agbessia and Klonou. Klonou and Tome are located south of the Hedzo River, whereas Yokele is located along its tributary, the Danyi River, only a few kilometers from its source.

Complex Prophylaxis

According to Mr Agbo, the measures needed to prevent the spread of bilharziosis are complex. They consist of tracking down those who are infected as well as symptomatic carriers, fighting against mollusks and avoiding human contact with polluted fresh water. The third part of this prophylaxis is difficult to carry into effect with children.

That is why Mr Agbo stressed that the public be informed from the time they are in school by means of health education.

According to him, well-managed health education, plus a solution to the water and latrine problems, will diminish the proportion of infestation.

Furthermore, Mr Agbo pointed out that molluscicides are poisonous to fish and are very expensive. He made it clear that treatment of the afflicted must be supervised at the hospital because of accidents linked with medication tolerance, which makes mass treatment difficult and even risky.

He emphasized the necessity of a national policy in cooperation with the bordering countries, for, he said, the movement of people across the borders jeopardizes the success of these measures.

Moreover, emphasizing the socioeconomic aspects of the epidemic, Dr Agbo pointed out that, on the whole, bilharziosis is linked with the economic condition of a country. He added that it is a disease found in poorer countries.

In the opinion of this parasitologist, raising the standard of living will contribute greatly to checking the disease. Nevertheless, bilharziosis is ... [omission in French] biological, which is still in the realm of research. Mr Agbo specified that this consists of arresting the growth of mollusks, which are intermediary hosts of bilharziosis, by using other living creatures.

Until today, ducks, fish, and even other mollusks were used. All of these methods were used on too small of a scale to draw any general conclusions.

Today, Mr Agbo concluded, we still hope to use a parasite of the fluke class... [omission in French]

TURKEY

LEPROSY INCREASE INDICATED

Istanbul POLITIKA in Turkish 29 Apr 77 p 5

[Excerpts] Munster (Ankara Agency) DPA--Despite well developed methods of prevention and treatment, it is estimated that the number of lepers will double by the year 2000, reaching a total of 40 million. According to the West German Association for the Struggle Against Leprosy, the spread of this disease is linked with an increase in poverty in Third World countries. Medical experts note that no effective serum has yet been discovered. The association reports that it takes care of some 800,000 lepers in 62 countries, that similar organizations care for the needs of 3 million lepers, and that the remaining 17 million afflicted persons are left to their own destiny.

SUSPECTED LEAD POISONING DEATHS

Istanbul POLITIKA in Turkish 9 May 77 pp 1, 7

[Excerpts] Balikesir (THA)--Dr Ahmet Demir, head doctor at the Dursunbey district health center, has announced that 10 persons, 9 of whom were children, died from an undetermined illness in Sagirlar village during the

past year. He noted further that 20 women suffering from the same ailment have applied to the Dursunler Health Center for treatment; 5 of them were sent to the Balikesir state hospital, 7 were treated as outpatients, and 8 were treated at the health center. There are theories that this ailment was caused either by phosphorus poisoning or lead poisoning, because there are lead mines in the region, and oxide from the mines may have been present in the water used by the villagers.

UGANDA

TREATMENT FOR DISEASES

Kampala VOICE OF UGANDA in English 21 Apr 77 p 3

[Excerpt] A call to the people of Bamunanika Subcounty to keep their homes clean, construct proper latrines and take their children for immunization regularly has been made by the Director of Health Training, Rutete Health Centre, Mr Senkima-Mbaalu. During his health education programme, Mr Mbaalu told a crowd of people at Bamunanika Trading Centre to stop keeping animals in their houses and advised people suffering from leprosy, T.B. or venereal diseases not to fear going for treatment as these diseases are curable.

ZAMBIA

CONSIGNMENT OF ANTI-MEASLES DRUGS ARRIVES

Lusaka TIMES OF ZAMBIA in English 10 May 77 p 5

[Excerpt] Ndola council has received a consignment of anti-measle drugs from the Ministry of Health for their planned campaign against measles.

A council spokesman said that the consignment was received last week. "We may start our campaign in two weeks," the spokesman said.

Last month councillors expressed concern over lack of anti-measles drugs. The councillors resolved to pursue the matter with the Ministry of Health vigorously.

II. ANIMAL DISEASES

BRAZIL

FOOT-AND-MOUTH DISEASE INCREASE IN SAO PAULO EXPLAINED

Sao Paulo FOLHA DE SAO PAULO in Portuguese 12 Apr 77 p 30

[Text] "The foot-and-mouth disease situation in the state of Sao Paulo is not as serious as it is in Rio Grande do Sul, where the 'A-Bage' virus is spreading. It can even be considered as being under control." This information comes from veterinary doctor Luiz Pustiglione Neto, technical director of the Division of Special Animal Pathology of the Biological Institute of the Secretariat of Agriculture of the state of Sao Paulo.

The data gathered by the Campaign to Combat Foot-and-Mouth Disease indicate an increase in the number of focal points from 1975 to now. These are determined principally by the "A" virus. The Foot-and-Mouth Section of the Biological Institute received from the DIRA's [expansion unknown] in that year 326 specimens (epithelium of the tongue) compared to 646 in 1976 and 177 in the first months of this year. The "A" virus appears in more than 60 percent of the specimens.

The "A" virus that has been occurring in the state of Sao Paulo is not the same as the virus found in Rio Grande do Sul, however. Luiz Pustiglione explains that it is serologically different from the "A-24" virus that is put into the vaccines. "That serological difference," he continues, "constitutes an immunological difference, and causes the vaccinated animals to have the disease in a serious form. As there is no cross immunity between viruses in foot-and-mouth disease, the virus in the vaccine does not protect the animal against the virus in the field, when the wild virus is serologically and immunologically different."

Brazilian Vaccines

The foot-and-mouth disease vaccines produced in Brazil are controlled for efficiency by the Ministry of Agriculture. Only after tests for potency are they released to the consumer.

However, one of the problems that most affects the success of the campaign is the maintenance of vaccine in supply houses and on the ranches, according to an observation made by the veterinarian of the Biological Institute.

UNIDENTIFIED CATTLE DISEASE

Rio de Janeiro JORNAL DO BRASIL in Portuguese 14 Apr 77 p 18

[Text] Salvador--Two veterinarians and three technicians of the Bahia Biological Institute have gone to the municipality of Ibiui in order to investigate the causes of a disease that has already killed more than 70 cattle. The symptoms are fever, subnormal salivation, shivering, lack of appetite and debility. The first signs of the disease were noticed 1 month ago and laboratory tests revealed nothing. The outbreak has also reached the farms in the municipality of Itapetinga, the largest source of dairy products in Bahia.

470 MILLION CRUZEIROS ALLOCATED FOR FOOT-AND-MOUTH DISEASE

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 27 Apr 77 p 26

[Text] The federal government should spend this year about 470 million cruzeiros in a program to combat foot-and-mouth disease, which, mainly afflicting bovine herds, causes losses on the order of \$10 million annually in South American countries. In Paulinia yesterday, where he participated in a ceremony placing on the market a new type of vaccine against foot-and-mouth disease, Agriculture Minister Alysson Paulinelli said that about 60 million head of cattle are currently vaccinated every 4 months in Brazil under the National Program to Combat Foot-and-Mouth Disease. The national bovine population is estimated as 94 million head, and, according to the minister, "it is impossible to eradicate foot-and-mouth disease in the country. What the government is attempting to do is to maintain the disease under strict control."

Last year, according to Paulinelli, the federal government allocated funds amounting to 362 million cruzeiros to implement the National Program to Combat Foot-and-Mouth Disease. An outlay more than 30 percent higher will be needed this year because the program, which was mostly taking care of the bovine herds of the central-west section, must be expanded to the other regions, with the exception of a portion of Amazonas where cattle-raising activity is negligible.

The national program employs about 10,000 technicians of the Ministry of Agriculture who, besides helping to control the quality of the vaccines, provide assistance to the cattlemen. In the meantime, the technicians of the Ministry of Agriculture themselves concede that "that number of

employees still is insufficient to perform the task adequately." They said that the vaccines must be kept in refrigerating equipment. But in some cities of the interior, where supervision is not effective, dealers are in the habit of turning off the refrigerators over the weekend to save electricity, endangering the quality of the product. The minister of agriculture acknowledges that there are difficulties: "In the south of Bahia and the north of Minas Gerais, where there is no electric power, the federal government is installing ice-making machines powered by kerosene in order to preserve the vaccines."

Another problem denounced by the technicians is the attitude of some ranchers who, fearing the interdiction of their properties, do not report the existence of sources of foot-and-mouth disease, and this favors the recrudescence of the disease. According to official sources, the incidence of foot-and-mouth disease among the national bovine population, which was 3.8 per 1,000 head in 1975, rose to 6.5 per 1,000 head by the end of last year.

But the minister of agriculture considers that the results obtained by the program are satisfactory, and he said that "it is premature to talk about eradication of the disease in Brazil." He explained that "Europe has not eradicated the disease to date, and what can be done here is to control the illness, creating awareness among the ranchers and offering vaccines which are 100 percent effective."

The minister inaugurated in Paulinia the laboratory of the Rhoda Merieux Veterinary Institute, which has a short-term production capacity of about 15 million doses of foot-and-mouth disease vaccines. Yesterday, the enterprise released for consumption the first batch of 1 million doses, and according to representatives of the firm, "the new vaccine, named Aftobov, is as effective as any similar European product which will make it possible to control the disease with only one annual application." In Brazil, as a security measure, the Ministry of Agriculture compels ranchers to vaccinate bovines against foot-and-mouth disease three times a year.

Symposium

The members of the Technical Committee on Cattle Raising for Slaughter of the FAESP [expansion unknown] yesterday decided to set up a work group which, within a period of 120 days, must draft the agenda for the International Symposium to Combat Foot-and-Mouth Disease to be held in Sao Paulo at the end of this year. The work group intends to collect and catalog information on the problems brought about by the disease on the national bovine population, consulting with specialists on the subject, government authorities and representative organizations of the cattlemen.

DIFFICULTIES IN COMBATING FOOT-AND-MOUTH DISEASE DISCUSSED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 3 May 77 p 30

[Text] This year, the federal government should spend funds amounting to 470 million cruzeiros to combat foot-and-mouth disease, according to an announcement made last week in Paulinia by Agriculture Minister Alysson Paulinelli. The amount of funds, 30 percent above the total spent last year for the same purpose, is significant. But this does not necessarily mean that the spread of the disease will be better controlled in 1977 than in the previous year.

What can be gathered from the words of the minister is that the government is making all possible efforts to prevent any progress of foot-and-mouth disease, avoiding at all costs that the rate of recrudescence of the disease will keep up with the rate of vegetative [sic] development of the herds. But there are a number of contingent factors which prevent the government from effectively safeguarding the sanitation of the bovines, even though its financial and human resources are sufficient to take care of the tasks of the National Program to Combat Foot-and-Mouth Disease for a short term.

While the minister of agriculture reaffirms the government's intention to bolster the program, either by additional funding or by training technical personnel, his subordinates explain that a simple mistake in the manner of preserving or transporting the vaccines could seriously jeopardize the desired goal.

They also add that the appearance of a new virus causing the disease, as it recently happened in Rio Grande do Sul with the emergence of the A-Bage, could practically annul a job of prevention which took years to get into gear. To those factors are added others, such as the fear which the majority of the ranchers have about reporting the presence of afflicted animals on their properties. That happens because the technicians of the foot-and-mouth disease prevention service isolate the whole ranch when they are informed of the presence of a source (one or more bovines); not permitting the movement of animals, or even people, on the place. These are necessary preventive measures, yet difficult to understand by those who not always comprehend attitudes of this nature, viewed as oppressive. The periods of interdiction could last for months, and no one wants to suspend activities for that long.

Anyway, a good number of the ranchers follow the instructions of the Ministry of Agriculture, vaccinating the animals every 4 months. The veterinary products industry, supervised by official agencies, asserts that it can guarantee 100 percent effectiveness for the vaccines if the recommendations of the manufacturers are strictly followed.

But what no one can guarantee is that a small dealer of the interior will not turn off the refrigerator where the vaccines must be kept, in order to

save on electricity during the weekend. In order for its standard of quality to be maintained, the vaccine against foot-and-mouth disease must be kept at a temperature of 4 to 6 degrees Centigrade. On the other hand, the existence of ranching activities in poor areas, such as in the south of Bahia or the north of Minas Gerais, does not imply the availability of electric power and, consequently, of refrigeration equipment suitable for preserving the vaccines. This, however, does not impede the prevention campaign from reaching the place. The least of the evils: the vaccines are transported in isopor containers or preserved in kerosene-operated refrigerators. But once they reach the ranches, no one guarantees any more the 100 percent effectiveness of the product. What should be done then? "Invoke divine protection for the herds," says a laboratory technician specializing in the production of vaccines.

Less pessimistic, Minister Paulinelli affirms that it is possible to control the disease by promoting mass vaccination programs and making the ranchers aware of the importance of combating foot-and-mouth disease. At present, about 60 million bovines are vaccinated every 4 months in Brazil. But the national herds are estimated at 94 million head.

BURMA

OUTBREAK OF FOOT-AND-MOUTH DISEASE

Rangoon THE WORKING PEOPLE'S DAILY in English 7 May 77 p 1

[Text] Akyab, 4 May--The farmers here are facing with difficultues due to the scarcity of draught cattle essential for cultivation work. The price of a draught buffalo is K800 to K1,200 and that of an ox is K1,200 to K1,500.

In order to get draught cattle the authorities concerned went and bought cattle in Ramree and Manaung Townships where draught cattle is K350 to K400 per head. But when the cattle arrived in Akyab the animals were found to be infected with foot-and-mouth disease which again put the farmers off.

This foot-and-mouth disease in cattle is spreading quickly and the authorities from the Department of Veterinary and Animal Husbandry are requested to take a timely action to prevent the disease from spreading.

MOROCCO

FOOT-AND-MOUTH DISEASE IN KHEMISSSET PROVINCE REPORTED

Rabat L'OPINION in French 22 Mar 77 p 8

[Text] Like certain provinces around the country, Khemisset has also been declared a zone of foot-and-mouth disease infection.

As of 16 March 1977, 32 areas had been so declared, with 361 head of cattle contaminated and 95 stricken, distributed as follows:

Rommani Circle: 188 head contaminated, 59 stricken.

Tiflet Circle: 33 head contaminated, 13 head stricken.

Khemisset Circle: 149 head contaminated, 27 head stricken.

This disease was reported in the province on 31 January in Had Brachoua (Rommani Circle).

Important prevention measures have been taken by provincial agricultural authorities resulting in a vast vaccination operation (24,000 cattle vaccinated to date) and information has been spread throughout the province.

To make the fight against this alarming disease effective, a work meeting was held at the provincial seat, presided over by the governor and attended by livestock specialists, local authorities, the Royal Gendarmerie and the Regional Security. Many security measures have been taken, including the decree below regulating the circulation of animals and prohibiting herding them together in the province of Khemisset.

Cattle slaughtered: 52
Cattle vaccinated: 68,000
Cattle diseased: 140
Cattle contaminated: 370
Number of declared disease areas: 36

Moreover, here is a decree by the governor of the province drawn up for this purpose:

The governor of the province of Khemisset,

Considering the 27 Chaabane 1375 (20 March 1956) dahir [decree] concerning the governor's prerogatives,

Considering the 19 Chaabane 1332 (13 July 1914) dahir enacting the measures for protecting domestic animals from contagious diseases, as it has been modified and completed,

Considering the 18 Rejeb 1376 (18 February 1956) decree empowering the minister of agriculture to enact measures to protect animals from contagious diseases,

Considering Decree No 277-66 of 24 May 1966 by the minister of agriculture and agrarian reform prescribing the measures to take against foot-and-mouth disease,

Considering Message No 1045 of 28 January 1977 by the minister of the interior concerning foot-and-mouth disease,

On the proposal of the Khemisset provincial director of agriculture,

Decree

Article 1. The province of Khemisset, goats, pigs and camels infected with a disease legally recognized as contagious and called "foot-and-mouth disease." [This paragraph seems to be missing a line.]

Article 2. All animals belonging to the cattle, sheep, goat, pig and camel families, coming from provinces other than Khemisset will be herded together at the administrative limits of the province, with the exception of animals destined for slaughter and accompanied by a pass from the veterinary inspector at the place of origin.

Article 3. The exit of animals of the above-named families from the province of Khemisset is subject to the same conditions as in Article 2.

Article 4. Any circulation or herding (souks) of animals belonging to the cattle, sheep, goat, pig and camel families is prohibited except for those destined for slaughter (slaughterhouse and slaughtering center) and accompanied by a pass from the veterinary inspector at the place of origin.

Article 5. This decree is effective as of 4 February 1977.

Article 6. The local authorities, the gendarmerie, the police, the veterinary inspectors and the specialists from the Ministry of Agriculture are all responsible in their respective areas for the execution of the present decree.

RESULTS OF OUTBREAK OF FOOT-AND-MOUTH DISEASE

Casablanca AL-BAYANE in French 4 May 77 p 6

[Text] Proper Inoculation Requires a Booster After 2 Months and a Yearly Booster

A seminar on foot-and-mouth disease was held at the Hassan II Institute of Agronomy and Veterinary Science, bringing together technicians involved in animal science to take stock of the severe outbreak which had drastically afflicted our livestock in several provinces. For our part, we have always given coverage of this disease in news articles and proposals on the agrarian page.

The seminar began with a report tracing the history and development of the disease. It was recalled that on 4 January the epidemic was declared for the first time in the prefecture of Rabat Sale and the officials in charge of 128 centers were caught off guard. Ineffective administrative organization allowed the disease "phantom" to reach other provinces (Casa, Khemisset, Kenitra, Settat, Fes...).

In a state of panic due to such a disaster, the officials at that time called upon a committee of specialists to remedy the situation. This committee of veterinarians had its hands tied in face of the epidemic. Indeed, no preliminary structure had been set up to take the necessary steps. Even the texts regulating contagious diseases and their consequences had not yet been drawn up. Thus, they had to prepare a draft to make mandatory the declaration of centers of disease which are considered legally contagious, the isolation of afflicted and infected animals, and then their slaughter as quickly as possible in return for compensation to the stock-raiser.

In any case, during the prevailing disorder, 1,000 cattle were slaughtered and hopefully burned. This is to the tune of 250 kilograms per cow (considering the fact that our cows are very thin--which is hardly surprising with the current pastoral policy...). An equivalent of 200 tons of cattle, add to that the production losses due to the morbid effects of the virus--we must admit that this is by no means negligible for a country which is greatly lacking food products made from animals. From the standpoint of health, damages have been considerable. Several children who drank raw milk of cows with foot-and-mouth disease had serious enteritis and diarrhea.

Moreover, the health committee (which is a good initiative anyway) recommended that herding and contact among the animals be restricted--another measure which ended in failure, because those most directly affected, namely the stock-raisers, were not informed of the problem and thus were not motivated to cooperate.

All things considered, it is understandable why the number of centers of disease skyrocketed instead of diminished. In Morocco there were 850 centers of disease, despite the inoculation of a million cattle. Moreover, for inexplicable reasons, this number fell sharply in April to approximately 20.

Knowing that the officials have had a hard time (this has been very costly for the people), but that they might have a tendency to relapse into inattentiveness and to let things slide, the virus has reappeared even in the inoculated cattle. This keeps the officials on the alert and reminds them that a proper inoculation requires a booster 2 months, at the latest, after the initial injection as well as a yearly booster.

We hope that this lesson will be fruitful.

NEW ZEALAND

SHEEP DIE FROM SALMONELLOSIS

Christchurch THE PRESS in English 4 Feb 77 p 8

[Text] Vendors with sizeable lines of annual draft ewes should subject their sheep to as little stress as possible.

This advice was given this week following the diagnosis of an outbreak of salmonellosis in a line of ewes sold at Addington recently.

The purchaser of one "cut" of the line lost 16 ewes, and the buyer of another pen has also reported several deaths.

Salmonellosis occurs in sheep which have been mobbed up into confined areas, with a subsequent reduction in the availability of feed; in stock confined to holding yards such as at killing centres; and in stock subjected to long journeys prior to sale.

Some of the ewes in the recent outbreak were inspected by Mr R. C. Gumbrell, a veterinary investigating officer at the Animal Health Laboratory, Lincoln.

He explains that the salmonella bacteria live in the gut of affected animals, causing a persistent scour that has a characteristic foul smell. (The purchaser who lost 16 ewes added that this scour inevitably drew swarms of flies, and resulted in fly strike, even in recently shorn sheep.)

The scour eventually causes the animal to become dehydrated and die. Some animals die very rapidly; others may waste and scour for a week

before dying. Occasionally animals recover, but Mr Gumbrell says it is a long, slow convalescence.

Large numbers of salmonella are excreted in the faeces of infected animals, quite often for weeks after recovery. These provide a continual source of infective bacteria for susceptible animals.

Mr Gumbrell says that specialised culture techniques have shown that the gut is inhabited by a well balanced population of bacteria.

As well as assisting food digestion, they produce substances which prevent other bacteria, such as salmonella, from growing in the gut. However, they are susceptible to change: their numbers decrease in certain situations of stress, such as starvation, trucking or yarding. This results in the gut becoming more susceptible to infection with salmonella.

Mr Gumbrell says it has become apparent that some animals "carry" salmonella, and they continually or sporadically excrete salmonella into the environment.

This provides a source of infection for animals, whose susceptibility to infection has been increased by stress such as starvation. They become clinically ill, and may die, but the large numbers of salmonella they excrete provide a source of infection for other animals in the group.

Treating severely ill, scouring, dehydrated and debilitated animals is definitely a job for veterinarians, according to Mr Gumbrell. Its success will depend on the stage of the disease and the type and quantity of drugs used. This is usually dictated by the value of the animals.

Mr Gumbrell stresses that standard procedures, such as the isolation of affected animals and the efficient disposal of infected carcasses, are very important.

Cleanliness and heat are the best disinfectants, and should be used on infected equipment and premises.

Personal hygiene should be kept at very high standards, as man is as susceptible as domestic animals to salmonella infection.

Mr Gumbrell adds: "Animals are always likely to come in contact with salmonella bacteria. So it is important to prevent or keep to a minimum the stresses which predispose to infection. Protection measures, such as vaccination, are not usually necessary in the South Island.

"But farmers should be aware of its existence and not delay veterinary consultation too long in cases of chronic scouring, or sudden death in animals."

MODERN DRUGS FOR WORMS

Christchurch THE PRESS in English 18 Feb 77 p 7

[Text] The modern drugs that were available for killing worms were quite fantastic--the best were more active in general than an antibiotic-- Dr H. M. (Hugh) Gordon, who is president of the Australian College of Veterinary Scientists, said in Christchurch this week.

Dr Gordon, who is here for the annual conference of the New Zealand Veterinary Association, is a world authority on the worm parasites of sheep on which he worked at the McMaster Laboratory of the division of animal health of the Commonwealth Scientific and Industrial Research Organisation before he retired in 1974.

As well he was a part-time lecturer at the Veterinary School at the University of Sydney during the whole course on parasitology from 1937 to 1970, and in his retirement is still a part-time lecturer and demonstrator there. In this role he came to know many New Zealanders when they trained in Sydney to become veterinarians.

Dr Gordon said that the notable thing about modern drugs used for parasite materials, and this was in the nature of a warning or writing on the wall. [as published] While in practice this was not serious yet, he said that cattle tick control in the Northern Territory of Australia was in jeopardy because of the insect developing resistance and the general recommendation was to introduce some Brahman blood into a herd, where selection had not been done in British breed herds for animals that were more tick resistant.

Immunising animals against parasites was something on which a great deal of work had been done and it had promise, but so far there was really only one case where it had been successful and that was with lung worm of cattle. Use of irradiated larvae with cattle had resulted in perfectly sterile females but as yet it was a very expensive process and not necessarily effective everywhere.

A process had also been developed for immunising dogs and sheep against tapeworms, which showed a certain amount of promise where the incidence of such worms was high to bring down populations to a level where other methods of control might be introduced, but it was also relatively expensive in comparison with not feeding raw offals to dogs.

Dr Gordon said that pioneer work had been done in the C.S.I.R.O. in Australia in the epidemiology of parasites of sheep and cattle. This involved the whole study of such problems in the whole flock or herd, which was most important in the context of large animal veterinary practice. With worm parasites they had to deal with whole flocks with all of the animals affected and often with cattle as well because of cross transmission.

When highly effective drugs became available he said that they had been able to carry out intensive treatments which allowed them to measure better the loss that was attributable to parasitism.

In most cases the result of intensive treatments was a reduction in the numbers of parasites and even where the costs and benefits were similar he said that the parasites could still be causing a loss and there was then a need to find a cheaper treatment.

In Victoria he said that the C.S.I.R.O. had treated sheep every two weeks for parasites and this had remained profitable while prices for wool remained at high levels, but tended to be "dicey" when prices fell.

Like milk, he said that wool production was highly sensitive to such effects.

However, there were a number of spin-offs from such treatments, where sheep were virtually worm free. They did not scour and there were consequently no dags so they did not have to be crutched and they did not get fly strike. And at the end of the trial instead of there being up to a 20 per cent mortality they all survived.

Where in some trials there had been losses of up to 15 to 20 per cent of young ewes, Dr Gordon said that this involved also a loss of mothers of future lambs and in the case of stud sheep a loss of genetic potential as well.

Dr Gordon noted that losses avoided through such treatment could be just as useful as profitability that was gained.

Questioned about claims made by manufacturers for anthelmintics, based on trial work, which were sometimes viewed with suspicion by farmers, Dr Gordon said that this suspicion was often related to earlier recommendations that treatments should be kept to minimal levels and consideration of the labour costs involved, but thought had to be given to the point whether labour not put into drenching would be used more profitably in some other way and quite often it could be shown that drenching would be the most profitable use of labour. However, claims were made for anthelmintics that were extravagant and it was often a question of terminology.

But Dr Gordon said that one firm had done pioneer work on a property of its own in the North Island with an intensive system of treatment known as "suppressive treatment" to keep reinfestation at a minimum, and this had since been repeated in Australia on summer rainfall country in the northern tablelands and in winter rainfall country in western Victoria, and this was open to all interested people, including farmers, university and Government people and private veterinarians to go and see and to examine the figures. These were quite remarkable experiments and were all above board.

TIGHTENING OF TUBERCULOSIS ERADICATION SCHEME

Christchurch THE PRESS in English 11 Mar 77 p 9

[Text] There is to be a further tightening up of the tuberculosis eradication scheme. From April 1 all cattle in herds which have tuberculosis in them will come under movement control. They will only be able to leave the farm under a permit.

In the Christchurch region of the Ministry of Agriculture, which extends from the Waitaki River to Golden Bay and includes the West Coast, it is understood that about 4 per cent of herds could become "movement control" herds. The majority of these will be in areas where opossums with tuberculosis are a major contributory factor.

According to Ministry sources, the restriction on the movement of such herds has been introduced because only a minority of farmers have complied with the requirement that they notify the Ministry within seven days of the purchase of replacement stock. If most had done this movement control would not have been necessary.

The other reason for its introduction is to ensure that cattle from infected herds do not spread the disease to tuberculous-free herds or to tuberculosis-free opossums.

Movement control will apply from the beginning of next month to herds from which reactors have been slaughtered and tubercular lesions have been found after either of the last two herd tests, or where the disease has been found in cull cattle which have been slaughtered between the test before the last one and the end of March.

In dry stock herds which are not normally tested, movement control will apply where the disease has been found in cattle slaughtered during the previous year.

Movement control notices will be served on the owners of such herds and will last for six months and repeat notices will be issued where necessary.

The restrictions will remain in force in a herd until in two tests at an interval of not less than 60 days no reactors are found or the disease is not found in any reactors at slaughter.

Dry stock herds will be taken off movement control where no tuberculosis is found in two herd tests or the disease is not found in prime or cull cattle slaughtered in the following year.

Where herds are under movement control no cattle beast may be moved off a property without a permit from the Ministry of Agriculture.

Where cattle are going direct to slaughter, a farmer will only have to obtain a permit from the Ministry.

But where cattle are going from such herds to another farm, either directly or through a sale yards, the cattle concerned will have to be tested within 60 days of sale and have to be tagged with a distinctive Ministry tag and a permit will also have to be issued. Where the cattle are going straight to another farm one permit only will be needed, but where they are going through a sale yards one permit will be necessary for the cattle to go from the farm to the sale, and Ministry livestock officers will issue a further permit to cover the movement of the cattle from the sale yards to the farm of their new owner.

Upon arrival at the purchaser's property they will have to be isolated from the rest of his herd and they will have to be tested again not less than 60 days after the pre-sale test and not less than 30 days after arrival on the farm.

Special Ministry ear tags inserted during herd testing where animals are not already identified by the farmer's own easily-read tags, or in connection with movement control, cannot be removed by farmers or Ministry staff.

Movement control is authorised by section 5 of a 1976 amendment to the Animals Act of 1967, and a fine of up to \$1,000 may be imposed for an offence against the regulations.

The new system has been introduced partly as a result of the representations of farmers in the Wairarapa, where tuberculosis is a problem. They feel that prospective purchasers may be less concerned if they know that the cattle have been tested by the Ministry within 60 days of sale. The introduction of movement control has also resulted from the representations of farmers in an adjacent tuberculosis-free area.

Another change in the scheme provides for the testing of all beef cattle down to six weeks of age until such herds become accredited herds, when females will be tested at two years of age or over and all breeding bulls down to six months. This will close another loophole that has existed in the scheme in the past and has been introduced in part to comply with E.E.C. regulations.

There is also provision for testing dry stock herds or surveillance of these herds through animals going to slaughterhouses.

OUTBREAK OF FACIAL ECZEMA

Auckland THE NEW ZEALAND HERALD in English 25 Mar 77 p 2

[Text] Facial eczema, the annual scourge of livestock, has already struck in Northland, and dangerous conditions now exist there and in parts of South Auckland as far as the northern portion of Raglan County.

Officers of the Ministry of Agriculture and Fisheries yesterday reported a dramatic rise over the last 24 hours in pasture spores containing the eczema toxin.

In Auckland, a senior livestock officer, Mr I. S. McLaren, said that with hot, humid weather coming after the rain, spore counts on some farms had trebled to very dangerous levels.

A warning has been issued to farmers in Northland to take immediate precautions, and a warning has also been given to farmers in the central and South Auckland regions.

No reports of an alarm have yet been received from the Waikato or Bay of Plenty, but on Wednesday farmers were advised to be on the alert.

The disease, which is characterised by outward signs of eczema on the faces of sheep and lambs, has already shown up in the livers of some lines of lambs slaughtered at the Moerewa freezing works in Northland.

Farmers have been advised to remove stock from grazing likely danger areas and to spray at least some portion of their property with a fungicide to provide an area of safe grazing.

OUTBREAK OF FELINE ENTERITIS

Christchurch THE PRESS in English 1 Apr 77 p 4

[Text] Christchurch veterinary clinics are treating many cats for feline enteritis (cat flu) and snuffles.

The outbreaks appear in different areas of Christchurch and differ in their intensity. "There is an outbreak of cat flu in South Christchurch," said a veterinary surgeon in Somerfield. "We are getting a few cases every day, but the epidemic is not as big as some we have had."

A clinic in Bealey Avenue also reported a lot more cases at present, and another in Linwood said that a lot of cats were being treated daily but that the situation had not reached the epidemic stage.

Most cats in the Shirley, Avonhead, and Papanui areas seem to have escaped the virus so far.

Snuffles is a problem in many areas of Christchurch, especially in Avonhead and Shirley. Cats often contract snuffles when they are put in boarding homes during holiday periods, and so more cases were expected after Easter, said one veterinarian.

Symptoms for snuffles are sneezing, membrane across the eyes, refusal to eat, foul breath, and often a high temperature.

Cats with feline enteritis are usually off their food, may scour badly, are lethargic, and could also have a tenderness in the abdominal area.

Kittens may be vaccinated for snuffles and cat flu at three months. Older cats can be protected at any time.

"People would be wise to make sure that the vaccinations and boosters are up to date," said a veterinarian.

PERU

FOOT-AND-MOUTH DISEASE VACCINATIONS IN AMAZON REGION

Lima EL COMERCIO in Spanish 9 Apr 77 p 12

[Text] Iquitos, 8 Apr--The first vaccination against foot-and-mouth disease took place in this area this week. This first phase of the vaccination against foot-and-mouth disease for the current year was carried out in the sectors of the Momon and Nanay rivers, and the towns of Picuroyacu, Momoncillo, Sinchicuy and Indiana.

For that object, the owners or the persons in charge of cattle in the mentioned sectors built and mended corrals for the purpose of handling the animals more efficiently, facilitating the task of vaccination.

This vaccination was compulsory, and there are penalties for those who were remiss regarding this activity, which was conducted by technicians of the 8th Food Zone.

UGANDA

QUARANTINE LIFTED

Kampala VOICE OF UGANDA in English 19 May 77 p 3

[Excerpt] The new cattle disease quarantine restrictions that was imposed on Labongo Division, Chun County, East Acholi District have now been lifted.

The department of veterinary services East Acholi district notifies the public that movement of poultry and their by products is now allowed in and out of the division.

IMMUNIZATION PROGRAM EXISTS FOR DOMESTIC ANIMALS

Kampala VOICE OF UGANDA in English 28 Apr 77 p 7

[Article by S. K. Aruo]

[Text] Farmers who may have read an illuminating article by Dr Josephine Namboze on immunization of children against certain diseases (VOU April 7, 1977) might one day ask whether a similar programme exists against diseases of domestic animals.

The answer is, yes. A programme of immunization exists, not so much against diseases of young animals as such, but against diseases which are either of economic importance or are dangerous to man.

In Uganda, vaccines should be available or can be made available against the following animals diseases: anthrax; blackquarter or Blackleg; brucellosis; contagious bovine pleuropneumonia; foot-and-mouth disease; rabies; rinderpest.

Anthrax: Apart from being a disease of economic importance, anthrax is communicable to and is fatal for man. Though the disease affects any warm-blooded animal, in this country anthrax is important in cattle industry. In cattle the disease usually causes sudden deaths. Animals are just found dead. Although the disease could be treated with certain drugs, sick animals are not usually detected.

There is a vaccine against anthrax. The vaccine is given to cattle from six months of age. It protects vaccinated animals against infection for at least one year.

Since outbreaks of anthrax tend to occur during the rainy season it is recommended that cattle should be vaccinated a few weeks before the first rains start.

Blackquarter: In Uganda blackquarter is a serious and very fatal disease of cattle. The disease usually kills nice-looking well-grown, young animals two to four years old. It rarely kills miserable looking, thin or old animals.

Like that of anthrax, the vaccine against blackquarter protects immunized animals for one year.

There is usually a combined vaccine against anthrax and blackquarter. Only one treatment is enough against both diseases.

Brucellosis: This disease affects both animals and man. In cattle it causes abortions and infertility. Both syndromes are of economic importance. My personal experience with brucellosis is that it gives a more severe headache than malaria.

Two types of vaccine available. One type is recommended for heifers.

Contagious bovine pleuropneumonia: This is another deadly disease of cattle, but animals that recover natural infection may become chronic carriers. These are the animals that tend to spread the disease to other areas.

In Uganda the vaccine against this disease has been used only in Karamoja in the disease eradication programme. It is not used for routine vaccination. Government may make it available only when there is an outbreak of the disease.

Foot-and-mouth disease: This is probably the most important disease of cattle in Uganda today. It is also serious in pigs.

Though it does not cause many death losses, this disease is of economic significance. To a dairy farmer, it can cause a sharp drop in milk yields. Outbreaks of the disease cause closure of livestock markets and restriction in the movement of livestock and their products.

The disease is caused by at least seven types of the virus. Immunity against one type of the virus does not protect animals against the other types. At least five of these types have been diagnosed in Uganda.

To Ugandan farmers vaccines are available against the three common types. Unfortunately, the immunity obtained lasts only about six months. It is therefore, necessary to vaccinate the cattle every six months, which is quite a tedious exercise.

Rabies: This is the most deadly virus disease of domestic animals and man. In Uganda the disease has been reported in all domestic animals except the pig.

Two types of vaccines are available. One type is used on dogs, and the other on cats and cattle. Since the dog is the main transmitter of the disease, emphasis is on the vaccination of dogs. All dogs from six months of age should be vaccinated against rabies. Immunity lasts for three years.

Rinderpest: This is the most devastating disease of cattle. In a susceptible herd, the disease can cause 100 per cent mortality.

A very potent vaccine is available against rinderpest. In Africa vaccination has been carried out on regional basis in an attempt to eradicate the disease from this continent.

Because of its economic significance the fight against rinderpest is usually on national or international basis. The State meets the cost of vaccination. It is usually cheap, anyway.

Poultry diseases: For poultry farmers vaccines should be available against Newcastle disease, fowl-pox, and fowl-typhoid.

ZAMBIA

COPPERBELT ANTIRABIES VACCINE SHORTAGE

Lusaka TIMES OF ZAMBIA in English 10 May 77 p 5

[Excerpt] The Copperbelt is faced with a critical shortage of anti-rabies vaccine, Copperbelt livestock officer in the Veterinary and Tsetse Control department, Mr William Willima, said in Ndola yesterday.

It is understood, however, that the shortage is in fact country-wide.

Mr Willima said that Ndola had 50 doses which were exhausted last week. "The lucky ones had their dogs vaccinated with the few doses we had," he said.

He said that despite the shortage of drugs the tie-up order in Ndola was still in force. "Ndola is still a rabies-infested area and our earlier tie-up order still stands," Mr Willima said.

Mr Willima said that the Mazabuka research station had told him that new supplies would soon be in the country.

"I was told that it was not only the Copperbelt which was affected by the shortage, but the whole country," said Mr Willima.

MANSA DECLARED RABIES INFECTED AREA

Lusaka TIMES OF ZAMBIA in English 11 May 77 p 5

[Text] A 16-kilometre radius of Mansa in Luapula Province has been declared a rabies infected area and all dog owners have been requested to tie their pets with immediate effect. Provincial principal livestock officer Mr Chrisford Ntere said any dog found loose would be shot on sight. Meanwhile, Mr Ntere has issued circulars to all residents in Mansa advising about centres where they could take their pets for vaccinations tomorrow.

III. PLANT DISEASES AND INSECT PESTS

GENERAL

NAIROBI LABORATORY GETS BREAKTHROUGH IN TSETSE FLY FIGHT

Kampala VOICE OF UGANDA in English 29 Apr 77 p 5

[Text] Nairobi--A laboratory breakthrough in the fight against the tsetse fly carrier of a disease which kills humans and animals across four and a half million square miles of tropical Africa, could signal the beginning of the end of this scourge.

The disease the tsetse fly carries is called trypanosomiasis, which in domestic animals and game is known as nagana, and in human beings sleeping sickness. No effective control or cure has yet been found after 70 years of research.

The war against the tsetse fly has not been won, but the end is in sight as the result of remarkable work in Nairobi laboratory.

A group of young international scientists have developed for the first time a laboratory method of propagating and maintaining in cell culture an infective form of African trypanosome.

This raises hopes of developing effective control measures against the disease.

So far little publicity has been given to this achievement. But its results could be far-reaching in the battle for food production in Africa. Large fertile areas of the continent are paralysed by the presence of the tsetse scourge. Countless millions of cattle and game, which in some areas mix with cattle, are affected. It is estimated that some 35 million people are living at risk of catching the dreaded sleeping sickness with upwards of 10 million cases coming up every year.

The research team is working at the International Laboratory for Research on Animal Disease (ILRAD) in Nairobi. The team is led by a young scientist, Dr John Doyle of Glasgow University, and Japanese American Dr Hiroyuki Hirumi.

ILRAD was established a year ago. It is one of nine international centres supported by the Consultative Group on International Agricultural Research, which derives strong support from the World Bank in Washington.

Powerful support and encouragement comes from 30 donor agencies and countries, including the Rockefeller Foundation, Britain, the United States, West Germany and other countries in Western Europe.

The main aim of the group is to increase food production in Third World countries, many of which are well behind their safety targets. It has long been realised that the tsetse fly scourge on animals and man is one of the main factors holding back food production. Tanzania, Kenya, Zambia, Mozambique, Malawi, Zaire and many other countries are seriously affected.

Animals die horrible deaths from nagana. In human beings sleeping sickness is a wasting disease which eventually affects the brain.

The breakthrough was explained to me by American Dr James B. Henson, the Director of the ILRAD laboratory. He said that despite numerous attempts over the last 70 years it has not previously been found possible to cultivate the single cell organism called trypanosome. It is a blood parasite transmitted mainly by the tsetse fly.

"The inability to grow the blood stream trypanosomes has been one of the obstacles in the way of preventing a faster advance in the control of the disease in man and animals," he said.

Dr Henson said, "Dr Hirumi and his colleagues are now able to culture the infective blood stream forms of trypanosome brucei in the laboratory. The parasites grow successfully in the newly developed system and retain infectivity for mammalian hosts for 240 days being cultured."

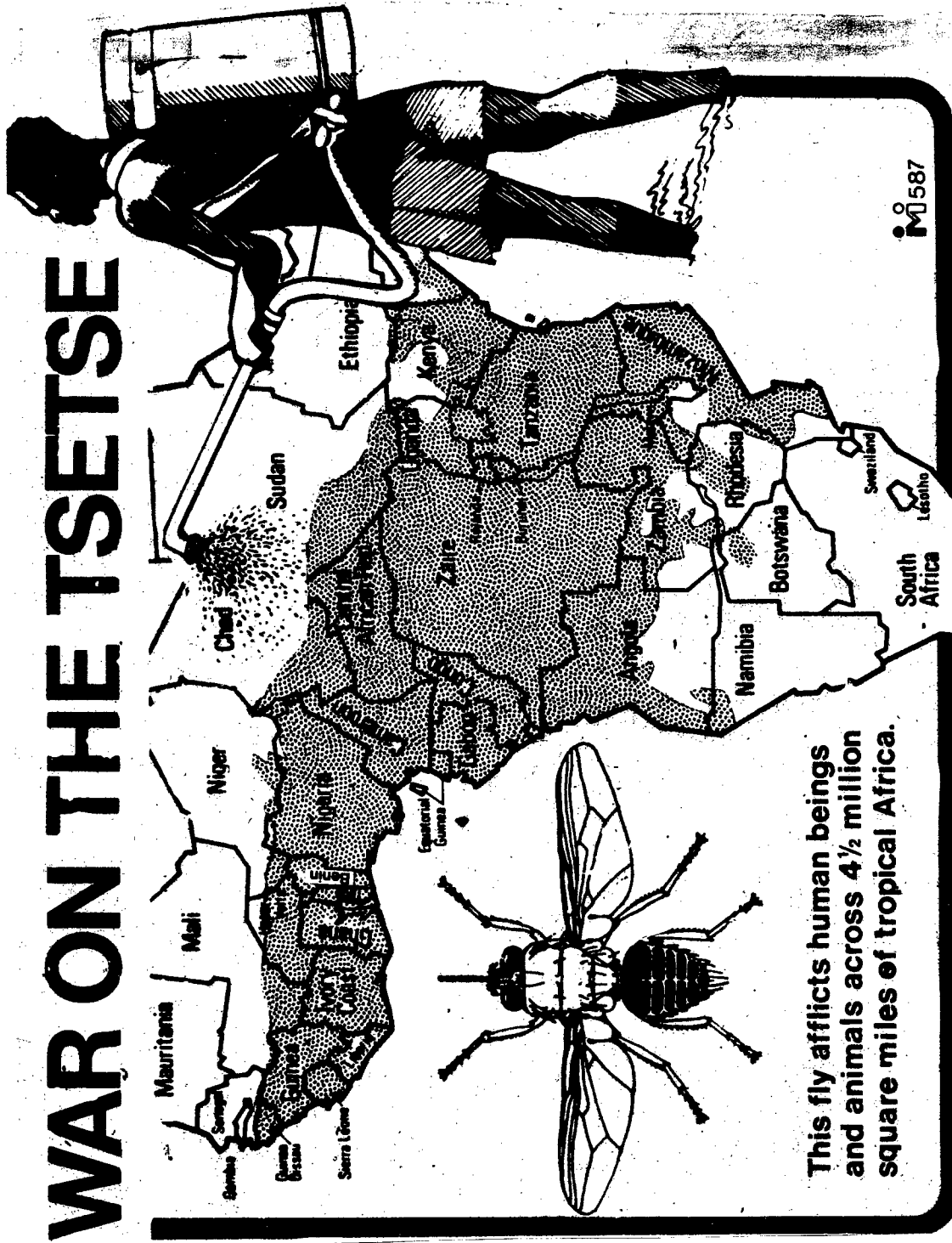
Dr Henson emphasised: "We are now mandated to find a control for trypanosomiasis."

Present controls are not very effective and extremely expensive, and there is no prophylactic treatment, which is why the disease is chronic throughout Africa.

Many scientists are working away on the disease, but are, as it were, in absentia; without benefit of a laboratory on the spot.

"We are at a great advantage in having access to people suffering from sleeping sickness and to animals affected, and we can also find the fly," said Dr Henson.

WAR ON THE TSETSE



This fly afflicts human beings and animals across 4½ million square miles of tropical Africa.

The work of the ILRAD team is soon to be given to the world through a paper to be published in SCIENCE. They believe that the more people working on the problem the nearer they will get to finding an effective and cheap control for the disease.

Dr Hirumi and Dr Doyle run a team of about 13 international scientists. They are not by any means hampered by money problems, for their laboratory's budget is five million dollars, which may soon be increased to six or seven million.

Land has been given for the laboratory by the Kenya Government and a building is being erected to house it. Up to the present the team has been working in old buildings, with the use of the Kenyatta Hospital laboratory.

Dr Henson said: "It is remarkable that the team should have come up with this important breakthrough in a year, working under very temporary conditions."

D. Doyle is one of Britain's leading experts in veterinary medicine, while Dr Hirumi did most of his studies in cell biological research in Japan, moving later to the United States.

AUSTRALIA

LOCUSTS ATTACK

Canberra THE AUSTRALIAN in English 13 Apr 77 p 6

[Text] A plague of locusts is hatching along the east coast grain belt from Queensland to the Victorian border, threatening winter wheat crops.

In Queensland the United Graingrowers Association has appealed for State Government assistance to growers who need poison and the association's executive has allotted \$2,000 to supply poison urgently.

Two officers of the Plague Locust Commission at Longreach in west Queensland, Mr Roger Fitzgerald and Mr Geoff Russell, are surveying the situation in Roma, 493 km from Brisbane, where the locusts are two deep, hatching across thousands of hectares of emerging wheat.

The State Department of Primary Industries entomologist at Toowoomba, Mr Peter Allsop, said yesterday: "The only practical time to control the locusts is now while they're hatching."

Brisbane THE COURIER MAIL in English 28 Apr 77 p 18

[Text] Roma--Australian plague locusts will pose a threat to southern Queensland's multi-million dollar grain industry next spring.

In the Roma district the weary spray plant operators and landholders have given up hope of controlling major locust hatchings.

After three weeks of continuous spraying--which wiped out "millions on millions" of locusts, huge swarms are now taking wing and dispersing over hundreds of square kilometres of country.

The Australian Plague Locust--which breeds in far western Queensland--usually migrates into New South Wales on prevailing winds.

The Roma outbreak is their closest eastwards migration in many years. Given favourable westerly winds, the locusts could spread into the Darling Downs within hours.

Last Plague

The last major plague of this species invaded the Darling Downs and southwest in the 1930's.

Primary Industries Department extension officer Roma, (Mr. A. Tiller) said yesterday the potential for a major plague from hatchings in August-September was "quite real."

The threat could be cut by a cold winter, heavy predator attacks, wind direction when they started to fly and other factors.

More than 50 per cent of "hoppers" unsprayed were now starting to fly. The cost of spraying them when dispersed could not be justified by the likely results.

Melbourne THE AGE in English 11 May 77 p 3

[Text] Brisbane--Australian plague locusts have taken wing in the Roma district, massing in swarms up to half a mile wide and 20 feet thick.

They are moving around the Mt. Abundance area, eating all crops in their path.

Mt. Abundance is 20 miles south-west of Roma.

BRAZIL

COFFEE TREES ATTACKED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 19 Apr 77 p 41

[Text] At least 40 percent of the 122 million coffee trees in the DIRA [expansion unknown] of Marilia are being attacked by the "Minas bug," which--according to technicians in that specialty--will seriously damage the harvest for the agricultural year 1978-79. The news was confirmed by the president of the coffee growers cooperative in that city, Orlando Fogaca. For that reason Mr Fogaca is preparing a course of orientation in the application of preventive measures for the producers. Although the appearance of the "Minas bug" is considered normal at this season of the year, the present outbreak is worrisome because of its intensity. As the greater part of the cultivation affected by the 1975 frosts is still recovering, the farmers did not exert themselves in applying insecticides. For that reason, it is estimated that the damage to production in the most affected areas--especially in the agricultural sub-region of Marilia, the principal producing region in the state of Sao Paulo--will amount to as much as 30 percent of the 1978-79 harvest in the infested areas.

DROP IN SAO PAULO COFFEE CROP FORECAST BECAUSE OF PEST

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 26 Apr 77 p 35

[Excerpt] The next coffee crop in Sao Paulo, estimated at 6.6 million bags, should suffer a drop of approximately 10 percent because of the incidence of the "Minas bug" pest in the state coffee plantations, the chairman of the Brazilian Coffee Institute (IBC), Camilo Calazans, disclosed in Brasilia yesterday, during the ceremony of the installation of the new solicitor-general of the organization, Jose da Costa Porto.

Calazans added that consequently the national harvest, still in bloom and estimated at 14.8 million bags, will also drop. In spite of that, he guaranteed again that the Brazilian consumer will not be affected and that the price of the product in the domestic marketplace will remain the same--2,000 cruzeiros per bag of 60 kilograms--until the end of the year. "If there is an objection on the part of the managers of the sector, other measures will be adopted," he threatened in an allusion to the possibility of restricting coffee for export.

COLOMBIA

RUST RESISTANT COFFEE STRAINS DEVELOPED

Bogota EL TIEMPO in Spanish 5 May 77 p 6-A

[Text] German Valenzuela, of the National Federation of Coffee Growers, has fully confirmed that this institution has at least two varieties of coffee that are resistant to rust.

One of these has already been planted experimentally, in order to test the productivity of the strain, in Valle, Quindio, Antioquia, Tolima, Caldas and Cundinamarca departments.

However, he said, tests made on at least three samples show that the new coffee strain produces the same quantities of beans as those traditionally raised in the country.

Valenzuela, who is the director of the Rust Department of the aforesaid institution, pointed out that the discovery was made after 18 years of work in the Center for Scientific Research on Coffee (CENICAFE) in Chinchina, Caldas Department.

The center is internationally recognized as the scientific organization that has done the most research on coffee and, therefore, knows more about this plant than anyone else in the world.

Valenzuela and several other scientists announced the news on a TV Channel 1 program, "Special Representative" ("Enviado Especial"), broadcast last night.

According to them, more than 15 varieties discovered through special crosses (hybridization) at Chinchina are resistant to certain strains of the rust. However, the two under discussion are resistant to "practically every known strain."

The coffee hybrid resistant to rust that the federation discovered is a cross between the Caturra and Timor strains.

The combination of the two strains possibly represents the most important discovery of the century for coffee growing countries.

Seeds

The federation's scientists warned that "although a resistant strain has been found," there are still no seeds available for distribution to the coffee growers. The federation's [experimental] farms will be able to do so, they said, only after about another year.

IRAN

AUSTRALIANS LOOKING FOR INSECT IN IRAN WHICH DESTROYS HELIOTROPE

Teheran ETELA'AT in Persian 25 Apr 77 p 4

[Text] Heliotrope is the name of a poisonous weed which abounds in the Middle East and the Mediterranean area. However, it is not known how the different types of this weed has found its way to Australia.

In Victoria and New South Wales heliotrope has become a serious problem for the Australian Government because it causes a great deal of damage to the sheep and cow herds. Since Australia is a large continent, it is not economical to control the weed through chemical insecticides. Furthermore, heliotrope is a perennial weed.

Therefore, for years biologists of the Industrial Research and Commonwealth Scientific Organization under the Ministry of Science of Australia have been trying to destroy heliotrope with the use of insects and other living species.

A few years ago this research was started by Dr Wapsher and Dr Hasan (Pakistani biologist residing in Australia). For this purpose they traveled to Iran, North Africa and southern Europe. After some time these two researchers found out that several types of insects could control the weed.

Most of the insects were found in Iran and taken to Australia by the researchers. After some time the imported insects destroyed some of the poisonous weeds. However, there are still certain types of heliotrope which have not been destroyed.

A few days ago Dr Wapsher accompanied by another scientist, Dr Hewber, came to Iran for further investigations. They are looking for insects and creeping animals which can destroy the rest of the heliotrope in Australia. In the next 6 months, they will look for the insects and creeping animals in several areas of Iran, especially the desert. Dr Hewber will handle the project all alone and Dr Wapsher will give him the necessary assistance and instructions in the beginning.

According to agreements between the Australian researchers and the agricultural college of Karaj, most of the tests will be done in the laboratories of that college. Dr Hewber will spend most of his time looking for insects.

ACREAGE SPRAYED AGAINST PESTS

Teheran ETELA'AT in Persian 3 May 77 p 33

[Text] Ten cropdusters successfully sprayed the wheat fields in Varamin, Esfahan, and Saveh. The second round of spraying will take place in the next few days.

The Department of Plant Protection which does the spraying operation against common pests free of charge, announced that in addition to planes, portable sprayers were also used in the wheat fields. On the whole more than 20,000 hectares of wheat farms were sprayed and pest damages were prevented.

The Saveh and Esfahan wheat fields were attacked more than other areas. The first round of spraying against the wheat aphid has destroyed the pest from the farms.

The Department of Plant Protection under the Ministry of Agriculture will shortly start its second rounds of spraying which will be the final fight against the pest.

Every year the grain pest comes to Iran from other countries. Recent actions and cooperation between countries has prevented the severe attack of this insect. Following this cooperation, in addition to freeing the country of the pests, the department sees to it that the pests do not spread to other parts of the country and abroad.

NEW ZEALAND

OUTBREAK OF POTATO CYST NEMATODE

Christchurch THE PRESS in English 11 Feb 77 p 3

[Text] A new outbreak of potato cyst nematode has been discovered on the outskirts of Christchurch. It is in the area skirted by Johns Road, Sawyers Arms Road, and Gardiners Road.

The nematode was found during the third national survey of potato-growing areas for the pest.

In Canterbury, the survey began on January 5. Mr N. A. Illingworth, a horticultural inspector of the Ministry of Agriculture, said yesterday that it was now about three-quarters done, and was expected to be completed this month.

Young people on vacation from university are being used in the survey. On average about 25 people are in the field every day.

Mr Illingworth said that the survey of the South Canterbury and Mid-Canterbury areas had been completed without any sightings of the pest.

However, in the survey of the Marshland-Belfast area of Christchurch, which had just been completed, 22 sightings had been made. Four of these were on new properties, but they were adjacent to original infestations, and could have been expected.

The other 18 were on properties where, on other land, the nematode had previously been found. This was regarded as being high-risk land.

The survey of the Harewood-Yaldhurst area was now in progress and it was in this area that the new infestation had been discovered. Mr Illingworth said that there had been one confirmed sighting and two suspected cases.

Still to be surveyed, he said, were the Central Canterbury and North Canterbury seed-growing areas.

Mr Illingworth said he had been very satisfied with the standard of work of the survey team.

Christchurch THE PRESS in English 16 Apr 77 p 2

[Text] The potato cyst nematode was confirmed to be present on 26 properties in Canterbury in the course of a survey carried out by the Ministry of Agriculture in the early part of this year.

Twenty-two of the sightings were in the Marshland district, in what were considered to be high-risk areas.

The other four were in the Harewood area, this being a new outbreak of the pest.

Mr N. A. Illingworth, a horticultural inspector of the Ministry, said that 1,100 hectares of crops across Canterbury had been surveyed. This had included all areas considered to be in the high-risk category.

Except in the West Melton-Sheffield areas, where all crops had been surveyed, Mr Illingworth said that 20 per cent of all seed crops had been examined.

In the case of table crops, all the crops in the Marshland-Belfast and Yaldhurst-Harewood areas had been surveyed, but in other areas 10 per cent had been done.

PRESENCE OF BLUE-GREEN APHID AND SITONA WEEVIL

Christchurch THE PRESS in English 18 Feb 77 p 6

[Text] Although the blue-green aphid has apparently disappeared from the areas in which it was abundant earlier in the season, it was, in fact, still present in low numbers everywhere and seemed to be increasing again slowly, Mr T. E. T. Trought, an entomologist in the insect control group of the Ministry of Agriculture, said this week.

In a review of the behaviour of the pest in the province this season, he said this week that in some areas where the pest was not present earlier there were high infestations now. This indicated that a build-up of predators, such as lady-birds, and disease, could have been a factor in the crash of the populations, but now as the predators started to find places to spend the winter the pressure on the aphids would diminish and Mr Trought said he believed that these populations would build up again.

The importance of a build-up late in the current season was difficult to gauge, but he believed, from experience here late last season and in the North Island, that a build-up could be serious if lucerne stands were not grazed. Last year heavy infestations in March and April caused yellowing and die-back. If the pest, under these conditions, was not controlled, early growth in the spring might also be affected.

Although conditions for harvesting hay this season had often been difficult, growing conditions had also been good all the year. Thus damage and yield reduction by the pest were often not obvious. However, all of the trials had shown a loss of 20 to 25 per cent of hay where aphids were in high numbers and in these conditions spray treatments were definitely beneficial on a cost basis.

Mr Trought said that farmers who had observed the dramatic reduction in populations of aphids may either have been glad they did not spray or may have felt that they had wasted their money if they had sprayed.

But he said he believed that the pest would be important again next season and if there was a dry spell in the spring or early summer it could cause greater losses than this season.

"I would suggest that a wait-and-see policy next year could result in serious losses in production," he said.

From one season's work, he said that they did not know enough about the effects of grazing in the presence of aphids on losses in production of lucerne. Trial results had shown early season losses of 15 to 20 per cent as a result of the lower populations present under grazing management. Thus even under some forms of grazing regime spraying might be necessary for maximum economic production.

There was evidence that heavily infested growing lucerne was partly unpalatable to stock. Hay from infested plots had also been set aside for comparisons later this year of the digestibility and palatability of this material and non-infested hay.

Although spraying against the aphid where the lucerne was for hay had been shown to be fully justified, the use of granular insecticides drilled with the seed to protect the seedlings was more difficult to justify. In trials where the seedlings had been artificially inoculated with the pest yield increases of 190 per cent had been obtained where seedlings had been protected and cut at the time of the usual first grazing.

However, this season flights of aphids early in the period had not been sufficient to cause a heavy infestation on the seedlings and growing conditions had been good.

In another season, not only might the flights be earlier but drier conditions might cause a greater setback from lower infestations. According to the season a spray treatment could be used as, and if, necessary.

In white clover seed crops Mr Trought said that trials had shown a loss of 17 to 20 per cent of seed in heads which came to maturity in the late November-December period. Again, this year, the extended flowering period of white clover would probably compensate for this earlier loss. Yields of the whole crop had still to be taken. Next year yields might be largely from the earlier developed heads, and spraying when aphid numbers on the seed heads started to rise would be justified.

No-one would be more pleased than himself if the pest was never to raise its head again, Mr Trought said, but his forecast about it was pessimistic.

Mr Trought said that there had also been a number of inquiries about the control of the sitona weevil, another pest of lucerne which was reported early last year to have been found in many places on Banks Peninsula.

He had seen a fair amount of damage caused by it but what it meant in terms of yield loss he was unable to say.

The larvae feed on the root nodules of the plants and adults on the foliage causing a scalloping of the leaves.

Mr Trought said that his work had been concerned with trying to find a chemical that would control the sitona and the blue-green aphid at the same time and in a situation where bees were also at risk.

He has come up with a combination of trichlorfon and bromophos, which he says does a fairly good job against both pests at the same time and which when applied in the evenings is safe for bees.

The suggested rates were a kilogram of trichlorfon and 0.28 kg of bromophos to the hectare, but this week a trial was to be put down; in which these rates were to be reduced to see if a lower rate was satisfactory.

At the rates suggested he said that the cost of the materials only was about \$15 per hectare, which was too costly if it was not certain whether the treatment was necessary or not.

PERU

DISEASE AFFECTS ORANGE TREES

Lima LA PRENSA in Spanish 22 Apr 77 p 1

[Article by Oscar Llerena Ponce]

[Text] Practically all of the 30,000 hectares of land in Peru dedicated to the growth of citrus, particularly oranges, is seriously affected by the dreaded virus known as "sadness," asserted engineer Rafael Franciosi, director of the Fruit Tree Program of the UNA [expansion unknown], in a press conference held yesterday at the Ruando Ltd No 2 Agrarian Production Cooperative (CAP).

Engineer Franciosi explained that the effect of this virus, a sort of cancer for the orange trees, has caused a considerable decline in the production of this fruit throughout the country for some years now.

He stressed that the first indications of "sadness" appeared some 10 or 15 years ago, and that the disease has evolved in such a way that it is expected that the orange trees will have practically disappeared in some 4 or 5 years.

Engineer Franciosi disclosed that he submitted 2 years ago a detailed report to the Ministry of Food warning about this imminent danger and suggesting measures which should be urgently adopted. Unfortunately, he said, that report went the rounds and never got an answer.

He said that there are many CAP's throughout the country where the cultivation of oranges has been practically discontinued in whole areas. As an example, he cited the Jesus del Valle CAP of Huaral, which had 48 hectares dedicated to that kind of crop and now they have been reduced in half as a result of "sadness."

The problem is also serious in Huando, he said, where the trees are producing only a third of their yield at this time.

Citrus is a family of such fruits as orange, mandarin, lemon, and so forth. "Sadness" is characterized by a reduction in the size and yield of the tree, whose fruit becomes increasingly smaller and deformed.

RUST THREATENS MADRE DE DIOS COFFEE CROP

Lima EL COMERCIO in Spanish 25 Apr 77 p 1

[Excerpt] A serious danger is looming over the coffee plantations of Peru and, in general, the Andean region. It is the yellow rust disease which, jointly with the freezes, has devastated the coffee crop of Brazil.

The plague in question is at the doorstep of Peru. After its appearance in the area of Bahia, Brazil, it covered all other plantations and now is found in the area of Acre, on the border between the department of Madre de Dios and Bolivia.

The uredospores or fungi deposited on the coffee leaves are transported by the wind, and in such circumstances, they could soon infect the plantations of Madre de Dios, followed by Cusco, Puno, central jungle and so forth until they reach Ecuador and finally Colombia, another country which produces this bean.

REPUBLIC OF SOUTH AFRICA

DOWNY MILDEW HITS VINEYARDS

Walvis Bay NAMIB TIMES in English 6 May 77 p 8

[Text] Cape Town--There could be a shortage of wine later this year.

Cape vineyards, particularly those in the Stellenbosch and Paarl areas, have been ravaged by downy mildew, which could cut the harvest by as much as 35 percent.

VENEZUELA

CORN VIRUS ISOLATED BY THE IVIC

Caracas EL UNIVERSAL in Spanish 1 Apr 77 p 1-12

[Text] At the IVIC [Venezuelan Institute of Scientific Investigations], scientists working under Dr Jose Ramon Lastra have successfully completed investigations initiated in 1892 by a Russian scientist.

The Plant Virology Laboratory of IVIC has been able to identify the four principal viruses affecting corn crops in Venezuela and to purify, for the first time ever, the virus called "Mosaic Virus" which causes the "Striped Dwarfism" in that plant.

The work was done by a team of researchers headed by Dr Jose Ramon Lastra who is one of the country's four plant virologists.

This scientific discovery is important not only because corn is the basic grain in the Venezuelan people's diet but also because the purification of the said microorganism opens a new field in this branch of virology by providing full knowledge of the first plant virus.

Corn Viruses

Corn is the most important grain cultivated in Venezuela. Some 462,383 hectares were planted in 1974 giving an average yield of 1,200 kilos per hectare, a yield five times lower than the one obtained in countries with a developed agriculture.

Endemic diseases, a group which includes diseases of viral origin, are among the many factors that reduce our yield of that grain.

Diseases of viral origin have a special importance in view of their serious harmful effects on the plants and the impossibility to fight the pest once it has attacked the plant.

It is not possible to control viral diseases with chemical products because these infective agents have a genetic element which, once it penetrates the plant cells, behaves as if it were an integral part of those cells. Therefore, any substance applied to eradicate the microorganism would have an irreparable effect on the cells of the plant.

This is the reason why the only known method to combat that type of disease is a preventive method.

The studies carried out by the IVIC show that four viruses--the Maize White Leaf, the Severe Maize Mosaic, the Sugar Cane Mosaic and the Maize Mosaic--are the ones mainly attacking our plantations. Of these viruses, the Maize Mosaic which causes the "Striped Dwarf" in the plant is the most common in Venezuela and, therefore, it has drawn special attention.

Significance of the Study

The studies carried out in this field by the IVIC Laboratory of Plant Virology are important in view of the future practical uses deriving from them and because there is now a chance to achieve full knowledge of a plant virus.

So far this has not been possible because of the difficulty of purifying plant viruses. Now, with the new advances achieved, the IVIC researchers hope to get to know all the characteristics of the Maize Mosaic within a year.

CSO: 5400

- END -