



IDRC FEATURE

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
Box 8500, Ottawa, Canada, K1G 3H9 • Telephone (613) 996-2321
• Cable: RECENTRE • Telex: 053-3753

Words: 560 approx.

COMBATTING ANIMAL DISEASES IN EAST AFRICA

by CLYDE SANGER

It was Monday morning routine in the corrals of the Muguga veterinary research station, a half-hour's drive out of Nairobi, Kenya. A research worker knelt beside a calf and hammered a small needle into its breastbone, the sternum, to extract a bone marrow sample. Once released into a larger corral the calf looked healthy enough to the unpractised eye. But it will likely die within a few weeks, a victim of East Coast Fever. In East Africa about 500,000 calves die each year from this tick-borne disease.

East Coast Fever and another parasitic disease, trypanosomiasis, are the reason why some four million square miles of Africa are virtually devoid of a significant livestock industry. Known in humans as Sleeping Sickness, trypanosomiasis is transmitted by the tsetse fly. The eradication of tsetse fly from the vast belt of tropical Africa south of the Sahara where it thrives, would open up enough land to support 125 million head of cattle.

The researcher taking the bone marrow sample is a member of a large international team attempting to break the cycle of these little-known diseases. Efforts to check these diseases in Africa generally centered on the control of the vectors -- the tsetse fly which transmits trypanosomiasis after biting an affected domestic or wild animal, and the tick which, gorged with blood, falls off an infected cow or buffalo and is picked up by grazing cattle. But these control measures have not succeeded in solving the problem.

.../...

In 1973, a number of organizations launched an intensive research program aimed at better understanding these diseases: how the trypanosomes multiply in the body system of cattle; how the deterioration of affected tissue progresses; how the animal's system attempts to combat the infection and why it does not succeed.

The bone marrow sample taken from the calf will be analyzed at the East Africa Veterinary Research Organization in Kenya. It should help scientists to understand the blood-forming tissues' response to infections by parasites.

A few months ago a group of 40 scientists met in Nairobi to review the work's progress. Significant results have been obtained during the first two years' research. One important finding, for example, is that a wide difference exists between two species of trypanosomes, one that dominates in West Africa, the other in East Africa. Previously trypanosomiasis had been considered as a single disease.

Research is also being carried out in other parts of the world. At Guelph University, in Canada, the immunological mechanisms of cattle are being studied to learn more about the animal's defense system against certain infections. The work done suggests that in the East African form of trypanosomiasis it is the antibodies produced by these mechanisms, rather than the infection itself, that destroy the red blood cells.

Elsewhere, researchers focus on the development of a vaccine that would protect the animals against East Coast Fever parasites.

Experienced researchers are in short supply, but the program, being supported by the International Development Research Centre of Canada, provides for the training of African scientists. The program will also benefit from the Special Research and Training Program on tropical diseases being set up by the World Health Organization. It is recognized that only a concerted effort will result in the control of these diseases, now a major obstacle to development.

END

IDRC-F12,e

IDRC FEATURE

Combatting animal diseases in East Africa



The bone marrow sample taken from this calf will be analyzed at the East African Veterinary Research Organization in Kenya, where an intensive research program is underway to combat the major animal diseases.

PHOTO: Neill McKee
IDRC-F12,e