

INSIDE

RINDERPEST

Disease surveillance and rinderpest epidemiology in Pakistan 2

AFRICAN SWINE FEVER

African swine fever in the United Republic of Tanzania 3

African swine fever outbreak in Zambia 4

Over 400 pigs die in outbreak in Kenya 4

FOOT-AND-MOUTH DISEASE

Foot-and-mouth disease outbreak in Zimbabwe 5

VECTOR-BORNE DISEASES

Bluetongue virus 8

West Nile virus 9

Points of interest 9

TADINFO

Next version of TADinfo under development 11

CLASSICAL SWINE FEVER

Plan under way to eradicate classical swine fever in the Americas by 2020 12

NEWS

Manuals 14

CTVM course closure 15

Tunisia 2002: World Veterinary Congress 16

News@RADISCON

RADISCON workshop on sheep pox eradication programme in Tripoli 17

EMPRES address list 20

FAO Regional Officers 20

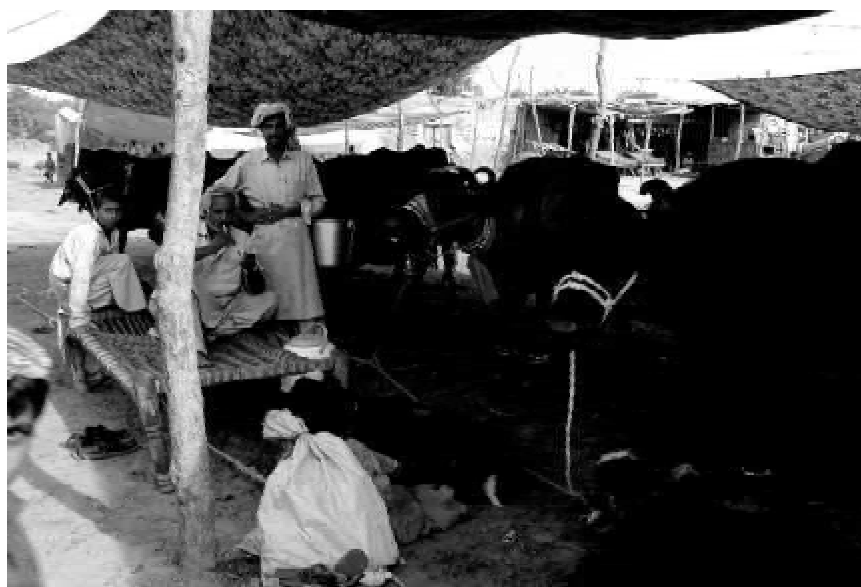
Joint FAO/IAEA Division 20

OAU/IBAR – PACE 20

RADISCON address list 20

RINDERPEST EPIDEMIOLOGY IN PAKISTAN

Epidemiological data point towards the continued circulation of rinderpest in Pakistan. Rinderpest was detected on three occasions on intra-urban dairy farms in Karachi during the year 2000. These were the first confirmed outbreaks in Pakistan since the 1997 outbreaks in Punjab and they indicate that the rinderpest virus has circulated in Pakistan, despite an absence of disease detections for almost three years (see page 2).



Buffalo market in Pakistan

PHOTO COURTESY OF PETER ROEDER, EMPRES

NEXT VERSION OF TADINFO UNDER DEVELOPMENT

EMPRES is currently developing the second generation TADinfo (Transboundary Animal Disease information system) software. While the first generation was developed in MS Access and relied on ArcView geographic information system software for its mapping capabilities, the new TADinfo will reflect some important innovations (see page 11).



PLAN UNDER WAY TO ERADICATE CLASSICAL SWINE FEVER IN THE AMERICAS BY 2020

A plan to eradicate classical swine fever (CSF) in the Americas is currently being prepared. The proposed plan is the result of a discussion during a recent FAO workshop between specialists in the disease and various official veterinary services of the region, taking into consideration their experience in the control and eradication of CSF (see page 12).

RINDERPEST

Disease surveillance and rinderpest epidemiology in Pakistan

Epidemiological data point towards the continued circulation of rinderpest in Pakistan. Rinderpest was detected on three occasions on intra-urban dairy farms in Karachi during the year 2000. These were the first confirmed outbreaks in Pakistan since the 1997 outbreaks in Punjab and indicate that the rinderpest virus has circulated in Pakistan, despite an absence of disease detections for almost three years. Analysis of the situation suggested that a suboptimal rate of routine vaccination was masking the presence of disease without achieving eradication. The vaccination programme appeared to suppress epidemics, thus leading to few formal complaints. The federal and provincial veterinary services of Pakistan, in partnership with FAO, have reviewed the situation and decided to shift away from institutionalized vaccination to a strategy of focused vaccination in response to epidemiological intelligence.

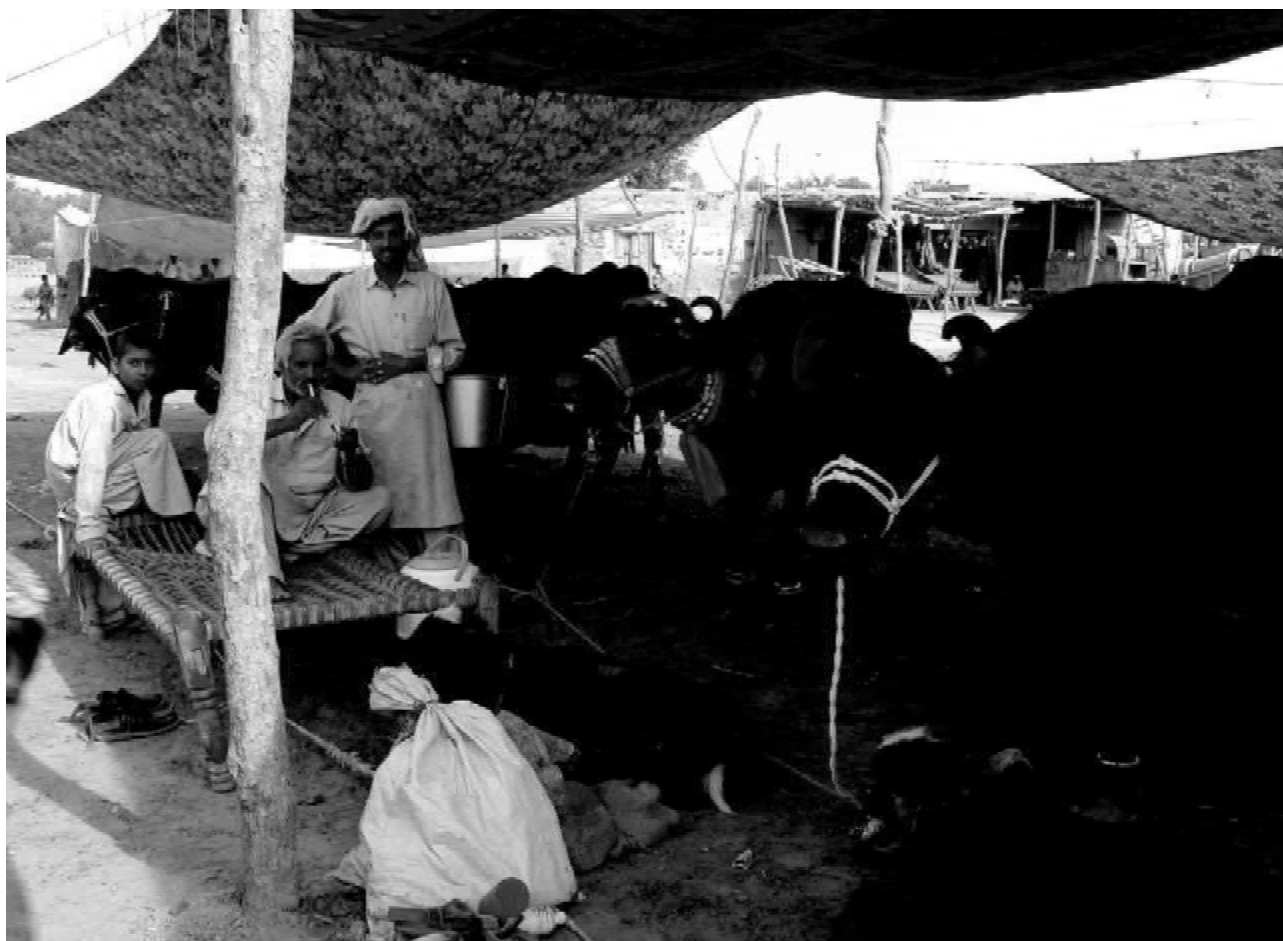


PHOTO COURTESY OF PETER ROEDER, EMPRES

Buffalo market in North-West Frontier Province, Pakistan

Pakistan has been working to strengthen disease reporting and introduce active disease surveillance measures with the assistance of an FAO TCP project (TCP/PAK/8923: Epidemiological analysis of rinderpest and development of an eradication strategy). The objective of the project is to identify how rinderpest has escaped detection and to set the stage for full eradication. Assistance from FAO will continue in the form of a Trust Fund project funded by the European Community (GCP/PAK/088/EC: Support for emergency prevention and control of main transboundary animal diseases in Pakistan) signed in July 2001.

Initial active surveillance brought to light unreported rinderpest events in the interior of Sindh Province. FAO fielded a consultant in participatory epidemiology, Dr Jeff Mariner, who supported actions to develop further the database on the epidemiology of rinderpest. The objectives were to identify the extent and underlying mechanisms of rinderpest persistence at both the epidemiologic and socio-economic levels.

First-hand reports from livestock owners of their encounters with rinderpest indicate that the disease has been routinely circulating among smallholder farms in the rural areas of Sindh. The spatial pattern of disease reports was consistent with the pattern of vaccination in recent years. Both farmers and veterinarians believe that rinderpest originates from the Karachi dairy industry, yet this assertion has proved difficult to verify. The difficulty lies primarily in the process of triangulation. Despite a concerted drive on participatory disease searching in Karachi, there are only a few specific reports of disease occurrence from the city's commercial dairy industry.

Plans are being made to define the strategy for the final eradication thrust. Active and passive surveillance activities will be structured so that adequate attention is paid to the high-risk farms. Ultimately, eradication will require focused vaccination initiatives that involve the high-risk segments of the population in effective immunization activities.

AFRICAN SWINE FEVER

African swine fever in the United Republic of Tanzania

Background information

African swine fever (ASF) was first reported in the United Republic of Tanzania in 1914. Another outbreak followed in 1962, yet the years 1963–1972 registered no incidents, according to the country's Veterinary Department reports.

In 1987 and 1988, major epidemics with their attendant economic losses in the Mbeya region and in Arusha and Kilimanjaro regions, respectively, were certified as ASF positive by the Animal Disease Research Institute Laboratory (ADRI) in Dar-es-Salaam.

The recent (May 2001) ASF outbreak in the capital city, Dar-es-Salaam, is currently a top priority for the Tanzanian authorities. The reasons are twofold: first, the pig population in Dar-es-Salaam has recently increased to an estimated 7 200; second, and more importantly, pig production is fast becoming a profitable means of household income and family subsistence. This is particularly true in Dar-es-Salaam. It should also be noted that the pig population in Dar-es-Salaam consists predominantly of exotic breeds.



PHOTO COURTESY OF DAVID NYAKAHUMA, EMPRES

Exotic swine breeds in Dar-es-Salaam



PHOTO COURTESY OF DAVID NYAKAHUMA, EMPRES

Permanent and semi-permanent swine dwelling in the United Republic of Tanzania

All the pig farms in the area have good housing, ranging from permanent to semi-permanent, mainly wooden, structures. Feeding practices vary widely, with maize meal being the most common feed. Untreated swill feeding can also be found in some farms.

FAO has been providing assistance to the Tanzanian Government through a project entitled "Emergency surveillance of rinderpest and other transboundary animal diseases" (TCP/URT/0067). In order to control the ASF outbreak and assist in determining the extent of spread and the exact areas at risk, approval has been given to extend the project to cover the ASF incidence.

The target: control as against stamping out

Since no stamping-out exercise was carried out during the current outbreak, nor is now envisaged, other alternative control measures such as a rapid response approach are being encouraged. These measures aim to control and contain ASF by removing the chances of susceptible pigs becoming infected and eliminating the spread of infection within and between pig holdings. This ASF action plan will benefit from the intensive pig production system in Dar-es-Salaam.

The implementation of the project has just started and is proceeding in earnest. The project will undertake to realize an epidemiological survey to ascertain the source of infection and its possible spread, and boost ASF surveillance capacity and the designation of infected areas. Other activities include facilitating slaughter mechanisms and carcass disposal, bringing the central laboratory's diagnostic capacity to an optimal level and training veterinary staff in ASF control. To maximize results through greater public awareness, a robust and effective public education programme is planned.

Issues at stake

Reports indicate four ASF outbreaks in March, in the Mbeya region, none for April, two in May and five in June. Information on the status of ASF was not published during the months of July and August.

In terms of emergency preparedness, it is hoped that the initiatives taken so far in response to the ASF outbreak will lead to the formation of an interministerial disease emergency committee and the creation of a contingency plan.

So far, 12 reaction teams have been trained and equipped with the necessary materials required to mount a rapid response when an ASF case is suspected. The teams are based at the three districts in ASF-affected areas of Dar-es-Salaam, six veterinary investi-

In terms of emergency preparedness, it is hoped that the initiatives taken so far in response to the ASF outbreak will lead to the formation of an interministerial disease emergency committee and the creation of a contingency plan.

gation centres (VICs), the Epidemiology Unit and the Laboratory at ADRI. The training and supply of materials having been implemented, it is now hoped that the concepts and practical details will be put into action.

A major workshop, "Training of Trainers" (TOT), with a discussion session, was recently organized in Dar-es-Salaam. During the workshop, an EMPRES guide on transboundary animal disease, *Recognizing African swine fever: a field manual*, was discussed and an FAO video on ASF shown before being distributed to each participant. The participants will share their knowledge with other people in their districts and investigation centres. Other information materials such as pamphlets and posters were also produced and distributed.

In recognition of the vital importance of local languages in the project implementation, the information materials described above were translated into Swahili, the official language of the United Republic of Tanzania. This work enjoyed the support and active participation of the end users, i.e. field staff and farmers. During the course of the TOT workshop, a plan of action against ASF was elaborated, based on sanitary measures, confinement and disinfection as means of controlling the spread of disease. It is against this background that the reaction teams are expected to act in response to ASF outbreaks.

On the other hand, a survey identified the reporting system in use as a critical factor in ASF control. Accordingly, efforts were targeted towards strengthening the disease reporting system. The key elements envisaged are enhancing the speed and detail of reports to the Epidemiology Unit. The absence of an organized farmers' forum was also noted, which could militate against the sensitization programme.

African swine fever outbreak in Zambia

ASF has been confirmed in the eastern province of Zambia and is said to be endemic, with occasional outbreaks in the midlands (commercial sector).

On 6 August, two ASF outbreaks were recorded. In all, 20 cases have been reported, with 16 deaths, while 431 pigs have been destroyed. Movement control and surveillance are being enforced.

Source: International Office of Epizootics (OIE) information bulletin.

Over 400 pigs die in outbreak in Kenya

A report from Kenya indicates that 430 pigs have died in an outbreak of ASF in the Kenyan districts of Kiambu, Nairobi and Thika. The incidents occurred in September. Although the disease was not immediately recognized, the respective districts' veterinary authorities have identified the disease as ASF. The laboratory tests were conducted at the Onderstepoort Veterinary Institute, using polymerase chain reaction (PCR), virus isolation and enzyme linked immunosorbent assay (ELISA). So far, 460 animals have been destroyed. The source of infection is yet undetermined but an investigation is under way.

The veterinary department has instituted a quarantine in four of the five divisions in Kiambu district and the other districts affected. It has also banned the movements of pigs and their products in the affected areas.

Farmers in the area have been advised to avoid rearing pigs in the coming months. Earlier, measures such as the disinfection and slaughter of infected pigs were introduced.

The movement of pigs from uninfected areas is also being checked, through the issuance of movement certificates.

Source: OIE information bulletin.

FOOT-AND-MOUTH DISEASE

Foot-and-mouth disease outbreak in Zimbabwe

All outbreaks to date have been caused by the same virus type, SAT 2.

Foot-and-mouth disease (FMD) was clinically detected recently in Zimbabwe, a country known as an exporter of meat. The outbreaks have adversely affected the meat industry. The estimated economic loss will be in the region of Z\$ 100 billion (US\$1.8 billion) per year if the disease is not controlled. This was the first incidence after the reported cases of nearby South Africa and Swaziland (see *EMPRES Bulletin* No. 15/3-4 – 2000).

FAO is currently providing emergency assistance to the Department of Veterinary Services, through a project entitled "Emergency assistance to control foot-and-mouth disease outbreak" (TCP/ZIM/0168).

The disease was first detected on 16 August in a cattle feedlot in southwestern Zimbabwe. Infection was caused by the SAT 2 virus.

A new outbreak was recorded on 8 September at Dibilashaba communal lands in Gwanda District, Matabeleland South Province. Seventeen properties were infected, mostly in Matabeleland North and South Provinces, situated in the northwest of the country. The virus type was again confirmed as the (FMD) SAT 2. However, the situation has since stabilized and infection remains confined to the quarantine zones instituted around the 17 infected premises.

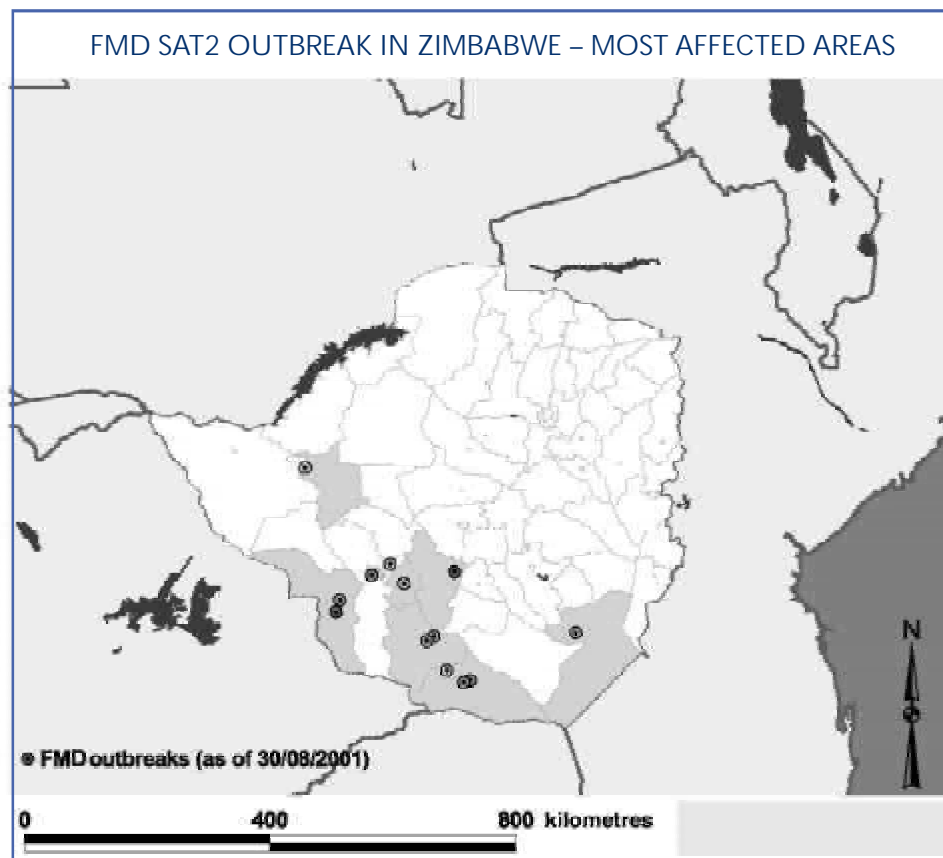
Two virus strains suspected

Emerging indications point to the fact that there are two sources of infection in the Zimbabwe outbreaks, both originating from the African buffalo species.

The virus strain from Sobendle dip tank in the Lupane district of Matabeleland North Province was earlier suspected to be the cause of all the outbreaks. However, laboratory analyses indicate that the outbreak strain isolated from samples of infected cattle at Sobendle dip tank, near the Mzola forest Chirisa/Chizarira safari areas and housing African buffaloes, is marginally different from other isolates submitted from the Bulawayo/West Wicholson/Beitbridge infected areas. The blood samples for FMD serological screening were taken from the different locations of Willsgrove feedlot (Bulawayo district) and Sobendle dip tank (Lupane district), both found in Matabeleland North province. Samples were also taken from the Jopempi resettlement scheme (Beitbridge area, Matabeleland South Province), where suspected FMD was reported on 27 August. The laboratory analyses were conducted at the Onderstepoort Institute for Exotic Diseases.

Infection is believed to have spread through the illegal movement of cattle by motor transport through the area of Sobendle dip tank to the more lucrative market around Bulawayo.

Escaped buffaloes from the wildlife areas where surrounding fences had earlier been damaged are also suspected. Previously, buffaloes had been moved from Chirisa/Chizarira safari areas in the north to the game sanctuaries in the southern parts of the country, as a restocking exercise following the 1991/92 drought. A few wild African buffaloes, which are suspected to have escaped from nearby wildlife areas, have been observed in the vicinity of the outbreaks. Efforts to capture and obtain probang samples from these buffaloes are continuing. Also continuing are serological investigations into the source of the West Wicholson/Beitbridge outbreaks mentioned above.



The authorities fight back

As a control measure, a quarantine zone was instituted around all properties infected in Matabeleland North and South Provinces and at Triangle feedlot in Masvingo Province. In view of the above, the authorities in Zimbabwe have proposed to exclude the two provinces of Matabeleland North and South from the country's future export zone. A vaccination programme has also been put in place by the veterinary authorities. Currently, about 230 000 cattle have benefited from the programme, using the trivalent and monovalent SAT 2 vaccines, and the government plans to vaccinate more cattle at risk. The movement of people and vehicles to and from infected properties is restricted, while the progressive lifting of cattle movement restrictions in the rest of the country is under way. A disease report hotline and a Web site for FMD information have also been created. The Web site can be accessed at the following address: www.africaonline.co.zw/vet/FMD.htm. Daily situation reports, including maps, can be found, together with a detailed description of the disease and a Veterinary Department response plan.

Other control options adopted include mounting 18 roadblocks at strategic exit points from the affected regions. The authorities have also decided that all cattle at infected properties will be slaughtered and deboned for human consumption at specified registered abattoirs. As for branding, all cattle at affected properties will be branded "S" for permanent identification for possible slaughter or movement into the traditional FMD vaccination (buffer) zone. Cattle vaccinated outside the buffer zone will be hot-iron branded with an inverted "V".

Surveillance measures and strict movement controls are continuing. Livestock inspections have been intensified in herds within a 40 km radius of infected premises. To date, a total of 400 000 cattle have been inspected.

Source: The Zimbabwean Veterinary Department's Web site: www.africaonline.co.zw/vet/FMD.htm.

Currently, about 230 000 cattle have benefited from the programme, using the trivalent and monovalent SAT 2 vaccines, and the government plans to vaccinate more cattle at risk.

UPDATE ON VECTOR-BORNE DISEASES IN THE MEDITERRANEAN BASIN

Bluetongue virus

After the winter period of quiescence, 2001 witnessed a dramatic resurgence in bluetongue incidence, especially in August and September, with epidemics focused on the western Mediterranean, and the eastern Mediterranean and the Balkans.

Western Mediterranean

In July 2001 clinical bluetongue disease was again detected in sheep on the French island of Corsica in the western Mediterranean, suggesting that the virus had been able to overwinter there (see *EMPRES Bulletin* No. 16/1 – 2001). Virus characterization studies indicate that the virus is identical to that responsible for outbreaks in 2000 (BTV serotype 2). *Culicoides imicola* midges were identified at the site.

In the case of Italy, outbreaks were reported in August and September 2001 from the island of Sardinia and from the region of Calabria on the mainland of southern Italy. Bluetongue was also detected near the border between Lazio and Tuscany, north of Rome on the west side of Italy at the same latitude as Corsica, reappearing in 2001 after its first detection in 2000. Again, these events could be taken to suggest that the virus had overwintered. A new development is the fact that the serotype reported in March 2001 in the south of Italy was serotype 9, not serotype 2 as reported in 2000 and elsewhere in 2001.

In contrast, there have been no new reports of bluetongue from Spain's Balearic Islands, nor from North Africa or Turkey.

Eastern Mediterranean and the Balkans

Outbreaks of bluetongue in sheep were reported in the northwestern part of Greece in August 2001, again on the mainland (the serotype was not stated this year but in the last three years serotypes 4, 9 and possibly 16 have been identified). In September, Bulgaria signalled a resurgence of disease in the west of the country close to The Former Yugoslav Republic of Macedonia, which also reported the disease in September.

At the same time there were reports of bluetongue occurring in Kosovo and Serbia in Yugoslavia close to the borders of The Former Yugoslav Republic of Macedonia and Bulgaria, indicating the size of the area affected between Greece, Bulgaria and Serbia. In Yugoslavia outbreaks have been confirmed as far north as latitude 45° 30' N.

Control

An attenuated (egg-passaged) serotype 2 vaccine imported from South Africa (Onderstepoort Veterinary Institute) was used in Corsica and in the Balearic Islands in 2000 and a locally produced live serotype 4 vaccine was used in Turkey in 1999 and possibly later. Bulgaria also resorted to vaccination in 1999/2000, using a pentavalent (serotypes 3, 8, 9, 10 and 11) imported from South Africa, but did not intend to vaccinate in 2001. Italy announced its intention to carry out vaccination campaigns against bluetongue in spring 2001 using South African monovalent serotype 2 vaccine in Sardinia, Sicily and Basilicata and bivalent serotype 2 and 9 vaccines in eastern Calabria. Details of what was actually undertaken are not yet available. All other

countries involved in outbreaks since 1999 chose not to include vaccination in their control options.

In both Greece and France (Corsica) control measures imposed in 2001 include quarantine of infected premises identified by serological testing, slaughter of the sick animals (both sick and suspected of being infected in the case of Greece), a vector control campaign and a ban on the movement of ruminants within a 20 km radius of the outbreaks. Bans on the movement of ruminants and germplasm from the territories of the islands of Corsica, Sardinia and Sicily to the mainland territories of France and Italy are also being enforced. In 2001, a European Commission directive designated the entire territory of Greece as a single surveillance zone for bluetongue; live susceptible animals may not, therefore, be exported to other member countries.

In assessing the efficacy of bluetongue vaccines in controlling the disease it is interesting to note that the bluetongue virus was not detected in the Balearic Islands in 2001 following the large-scale use of vaccine in 2000. Similarly, the disease has not recurred in the area of Bulgaria where vaccination was practised. However, it should also be noted that there was no recurrence in northeastern Greece or in Sardinia in 2001 even though vaccination was not practised there in 2000.

West Nile virus

Neither the International Office of Epizootics (OIE) nor the World Health Organization (WHO) have published any reports of West Nile virus infection or disease in animals or humans from the Mediterranean Basin in 2001. It was learned that West Nile virus had been detected in 1999 in Tuscany in Italy – one year before the outbreak in the Camargue in France.

Points of interest

One issue is that, although high bluetongue virus seroprevalence rates were demonstrated in goats in Greek outbreak areas in 2000, all reports of clinical disease were restricted to sheep.

Bluetongue outbreaks on mainland Greece were detected for the first time in 1999-2000 and were clustered around the northeast of the country in association with outbreaks in neighbouring Turkey and Bulgaria, the bordering areas of the three countries forming what was probably one focus of infection established by an influx of infected vectors. Somewhat surprisingly, the outbreaks reported in 2001 are in two prefectures in the northwest of the country close to the border with Albania and The Former Yugoslav Republic of Macedonia.

Vector studies conducted in Greece during the bluetongue incursion in 1999 failed to identify vectors of the species *Culicoides imicola*, but detected large numbers of *C. obsoletus*. The latter species is not a prime vector of bluetongue. Studies from late August to mid-October did, however, find large numbers of *C. imicola* among collections of 19 identified species.

There have been no reports of activity of other orbivirus infections in the region. Epizootic haemorrhagic disease (EHD) viruses and the Simbu serogroup (including Akabane virus) are both known from eastern parts of the Mediterranean Basin and are transmitted by *Culicoides* midges. To these should, perhaps, be added other orbiviruses such as African horse sickness (AHS), equine encephalosis and the Palyam serogroup.

Like bluetongue virus, the EHD virus group comprises numerous serotypes causing bluetongue-like disease in deer and cattle. Akabane manifests as periodic, seasonal epidemics of abortions, stillbirths, premature births and deformed foetuses or neonates in cattle, sheep and goats. The pregnant dam manifests no clinical symptoms at the time of infection, yet infection in the first trimester produces foetal damage *in utero*. Akabane disease tends to occur when climatic factors are favourable for the insect vector and virus to spread beyond their normal distribution into areas where there are susceptible

animal populations, including large numbers of pregnant animals. Generally, this occurs only near the extremities of the northern and southern limits of its distribution where vectors make only periodic incursions into susceptible populations, or in susceptible stock introduced to the endemic areas. Clinical disease is rarely observed in endemic areas because most susceptible animals are infected while young and are solidly immune by the time they reach breeding age.

A strong case can be made for monitoring such arbovirus infections for which the extent of disease occurrence is determined primarily by the distribution of permissive vectors, which in turn is dependent on temperature and the amount of rain. For its own protection, Europe needs to understand what is happening in terms of the evolution of vector-borne diseases in the Mediterranean Basin and in related ecosystems such as those of the Tigris and Euphrates river systems.

Should vector-borne diseases, in fact, be moving northwards and westwards, then a very important sector of livestock production – that of milk and meat production from small ruminants – is at risk (see map showing sheep density).

It might be of significance to note that Brazil reported an outbreak of bluetongue affecting sheep and goats in Paraná State (26° S) in August. Serological evidence of bluetongue virus activity was also noted in Misiones and Corrientes provinces of Argentina in October as a result of a routine surveillance programme.

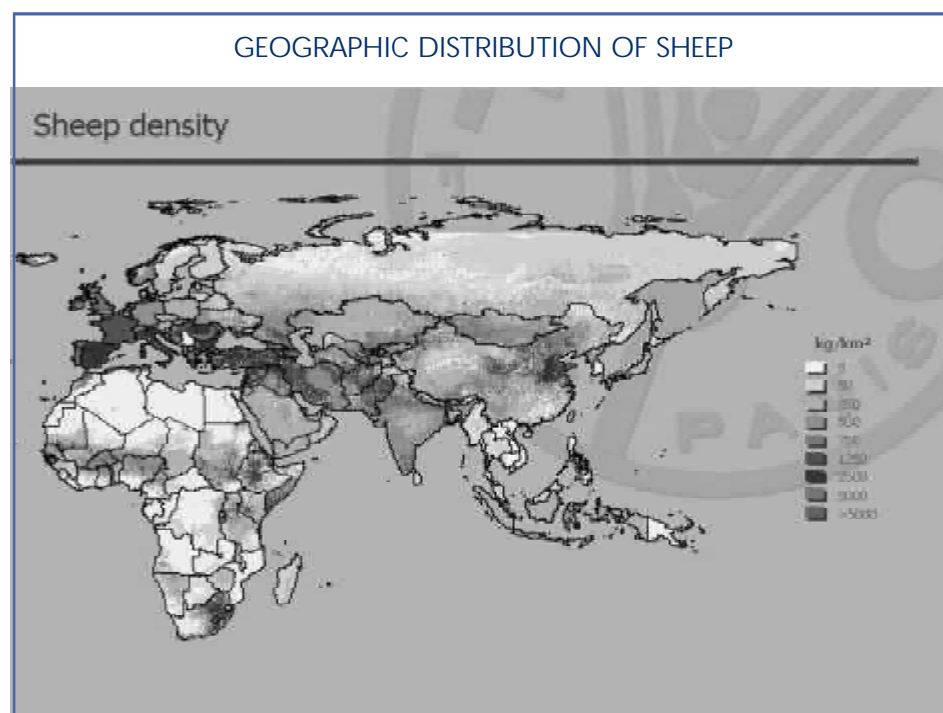
Sources of information

International Office of Epizootics (OIE): www.oie.int

World Health Organization (WHO): www.who.int

European Commission: http://europa.eu.int/eur-lex/en/lif/dat/2001/en_301D0433.html

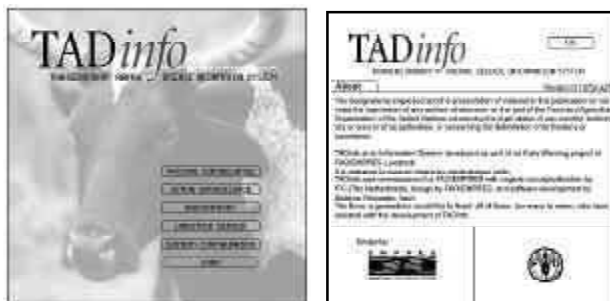
Istituto Zooprofilattico Sperimentale dell' Abruzzo e del Molise "G. Caporale": www.izs.it



TADINFO

Next version of TADinfo under development

EMPRES is currently developing the second generation TADinfo (Transboundary Animal Disease information system) software.



While the first generation was developed in MS Access and relied on ArcView geographic information system software for its mapping capabilities, the new TADinfo will reflect some important innovations. Among them:

- This version is standalone; it does not require Access, ArcView or even Windows (it will also run on a Macintosh or Linux PC).

- The software runs inside a Web browser, using HTML/Java technology, and will run on networks.
- It will have a map viewer included, based on FAO's successful Key Indicators Mapping System (KIMS) software.
- The disease observations and abattoir modules are being "invisibly merged".
- A navigation bar will be permanently visible so that it will be possible to move from module to module directly, without having to go via the main menu.
- A "data input wizard" is being added to assist data-entry clerks with input; this should avoid the problem of missing data elements due to clerks "getting lost" inside the program.
- A data-export module is being added that will create "packages" of data for export to regional TADinfo.
- Finally, in response to many user requests, a facility is being added that will enable the compilation of "outbreaks" in the database from several individual observations of the same focus of disease over a period of time.

CLASSICAL SWINE FEVER

Plan under way to eradicate classical swine fever in the Americas by 2020

The major obstacle to full development of production in the region is the presence of classical swine fever, which is the main limiting factor to international trade in swine and their products.

In the next 20 years, pork and poultry are expected to take the lead in satisfying animal protein requirements, particularly in emerging Asian markets.

Background

The swine population of the Americas ranks third in importance in terms of the world's regions, amounting to about 151 million against a world total of 916 million (1999). The Asia region tops the list with 523 million pigs, while Europe follows in the second position with 210 million.

In recent years, there has been a tremendous growth in the region in the sector of large-scale industrial swine production using advanced technology. The growth has also seen an increase in pig slaughter numbers and per capita pork consumption. In the same way, pork and pork product exportation has increased during the last decade. However, the major obstacle to full development of production in the region is the presence of classical swine fever (CSF), also known as hog cholera, which is the main limiting factor to international trade in swine and their products. As evidence of CSF's economic impact, in 1998 it was estimated that in El Salvador, Guatemala, Honduras and Nicaragua, annual losses counting only mortality, weight and other losses during the period of convalescence of those surviving infection, amounted to US\$20 million. These losses were especially suffered by the poorest populations of rural areas.

In view of the above, a plan to eradicate CSF from the Americas is currently being prepared. The proposed plan is the result of a discussion, during a recent FAO workshop, between specialists in the disease and various official veterinary services of the region, taking into account their experiences of the control and eradication of CSF. The workshop was organized in conjunction with the Agriculture and Livestock Service of Chile in Santiago.

Emerging needs

A recent study by FAO and the International Food Policy Research Institute (IFPRI) suggests that there will be an upsurge in the demand for animal origin protein in the next 20 years. This comes on the heels of improved prosperity in the majority of regions. Pork and poultry are expected to take the lead in satisfying animal protein requirements, particularly in emerging Asian markets.

Because of the enormous growth potential of swine production in Latin America and the emergence of new markets within the region (the North American Free Trade Agreement [NAFTA], the Caribbean Community [CARICOM], the Southern Common Market [MERCOSUR], the Andean Community, etc.) as well as emerging Asian markets, the eradication of CSF from the southern hemisphere in order to eliminate this sanitary barrier is seen as a strategic necessity for increasing both production and international commerce.



Pig raising in Brazil

FAO/19281

Approach

Important advances in the control and eradication of foot-and-mouth disease and other diseases of domestic animals that affect the majority of the countries of the southern hemisphere have led to significant development of veterinary service infrastructure. These advances have also led to the definition and strengthening of coordination between the private and public sectors, and the establishment of mechanisms for coordinated complementary support provided to animal health programmes by international organizations. Applying this experience to the control and eradication of CSF would be a significant step towards facilitating international commerce for the swine production of Latin America and the Caribbean. The major beneficiaries would be other markets, particularly the developing Asian markets that are great pork consumers.

During the last decade American countries have made great efforts to control and eradicate CSF, giving priority to individual programmes with investments exceeding hundreds of millions of US dollars. On occasions, the success has been limited by the lack of a hemispheric strategy and the lack of international coordination between these programmes.

This FAO-initiated plan, known as the "Hemispheric Plan", proposes a two-step strategy: an initial phase of eradicating the disease from various areas of the hemisphere, then consolidating and maintaining these areas CSF-free. The second phase will follow a regionalization model based on advances made by countries in the initial process of eradication. This regionalization will be useful for the steering committee and the technical secretariat as a reference for evaluating progress in countries according to plans developed individually by each one. The regionalization model can then be modified according to advances made in the control and elimination of the disease.

The goal is to eradicate the disease from the Americas by the year 2020. Its execution will be focused fundamentally on three different levels: the Americas level, the regional and/or subregional level, and individual country programmes to eradicate CSF.

An important prerequisite for the success of the Hemispheric Plan is strong political support from the governments concerned.

International organizations' response

According to the plan, priority will be given to infected areas near those that are CSF-free. However, international agencies may assist in problem areas, especially those near borders, if requests are made by the countries concerned.

Plans to control and eradicate CSF such as those being developed by the Regional International Organization for Animal and Plant Health (OIRSA) for Central America could complement the Hemispheric Plan.

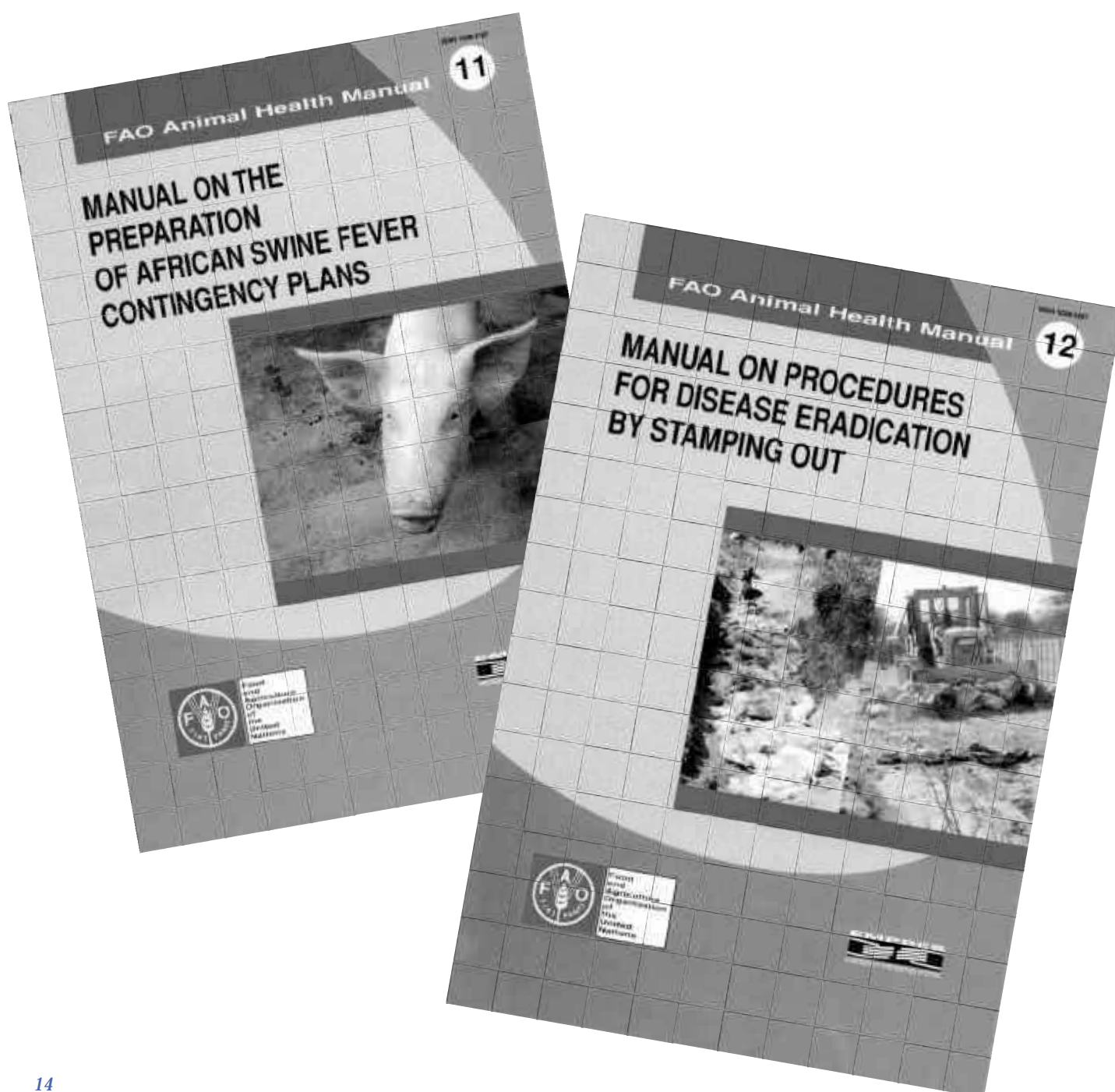
The international agencies taking part in the Hemispheric Plan are: FAO, the Pan-American Health Organization (PAHO), the Pan-American Foot-and-Mouth Disease Center (PFMDC)/WHO, the OIE, the United States Department of Agriculture (USDA), the Pan-American Association of Veterinary Sciences (PANVET), the Inter-American Institute for Cooperation in Agriculture (IICA) and the International Agency for Atomic Energy (IAEA). FAO will take charge of the technical secretariat. PFMDC is coordinating the system for disease surveillance, which is undergoing modernization in order to help eradication efforts.

NEWS

Manuals

Two new manuals have been added to the list of FAO Animal Health manuals. The first one is entitled *Manual on the preparation of African swine fever contingency plans*, and is an aid to emergency preparedness for major transboundary diseases of livestock. It provides information on the nature of ASF and the principles and strategic options regarding prevention, control and elimination of the disease. A suggested outline of the format and contents of a national ASF contingency plan is provided.

The second manual is entitled *Manual on procedures for disease eradication by stamping out*. Since stamping out is often the most cost-effective way for rapid elimination of an infection before it can become endemic, the manual provides guidelines on ways of implementing the stamping-out policy.



FAO ANIMAL HEALTH MANUALS

1. Manual on the diagnosis of rinderpest, 1996
2. Manual on bovine spongiform encephalopathy, 1998
3. Epidemiology, diagnosis and control of helminth parasites of swine, 1998
4. Epidemiology, diagnosis and control of poultry parasites, 1998
5. Recognizing peste des petits ruminants- a field manual, 1999 (also available in French)
6. Manual on the preparation of national animal disease emergency preparedness plans, 1999
7. Manual on the preparation of rinderpest contingency plans, 1999
8. Manual on livestock disease surveillance and information systems, 1999
9. Recognizing African swine fever – a field manual, 2000
10. Manual on participatory epidemiology. Methods for the collection of action-oriented epidemiological intelligence, 2000
11. Manual on the preparation of African swine fever contingency plans, 2001
12. Manual on procedures for disease eradication by stamping out, 2001

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CTVM course closure

The attention of the *Bulletin* has been drawn to a letter which appeared in the last issue of *The Veterinary Record*. It discussed the possible termination of the Centre for Tropical Veterinary Medicine's (CTVM) course on International Animal Health by 2002, caused by lack of funds. Below are some extracts.

It is increasingly likely that the MSc programme run by the Department of Tropical Animal Health, University of Edinburgh, will close down in 2002, accompanied by disbanding of the training group within the Centre for Tropical Veterinary Medicine (CTVM). We see the closure as another stage in a downward spiral which is eroding the capacity of the UK to train and provide support to key veterinary services at home and abroad.

The current MSc in International Animal Health offers a unique training in the epidemiology and control of the diseases of international importance, complete with simulation exercises on the control of epizootic diseases including foot-and-mouth disease. Graduates of the programme have attained senior posts in state veterinary services and international organisations such as the Food and Agriculture Organization and the World Health Organization. The UK government now provides little support for training of overseas veterinarians in this field, in contrast to other European development agencies. In addition to training, a strong case can be made for retaining a broad expertise in universities, capable of contributing to debate on national and global issues and policies on animal health.

Edinburgh University now finds it difficult, on economic grounds, to justify retention of the CTVM teaching programme. Investment in training is as important as research if the UK wishes to play a leading role on the international animal health stage in the future.

Source: *The Veterinary Record*, 15 September 2001

Tunisia 2002: World Veterinary Congress

The 27th World Veterinary Congress (WORLDVET) will take place in Tunis from 25 to 29 September 2002. It is being organized by the Tunisian Veterinary Council in association with the World Veterinary Association. With the theme "When veterinary medicine embraces ancient civilizations", it is billed by the organizers as the first large veterinary event of the third millennium.

The four-day congress will be held at the KRAM Exhibitions Park and the International Trade Centre, both located at a distance of few hundred metres away from the Mediterranean seashore.

A call has been made for speakers and deadline for submission of entries is 1 April 2002. Useful information can be obtained through the Organizing Committee in Tunis, at the following address: <http://worldvetunisia2002.com>.



NEWS@RADISCON



RADISCON workshop on sheep pox eradication programme in Tripoli

The fourth RADISCON coordination meeting on the sheep pox eradication programme took place recently in June in Tripoli in the Libyan Arab Jamahiriya. The main issues discussed at the meeting were the sheep pox situation in the region, a general evaluation of the programme, the strategy and its target of eradicating the disease by 2005. The difficulties encountered in implementing the programme were also discussed.

The current level of programme implementation in the region is outlined below.

Algeria

There were 46 suspected outbreaks in 2000 but only two were confirmed positive by the laboratory. This year, 19 outbreaks had been reported by June, with two confirmed positive. Unfortunately, although the vaccination coverage objective was fixed at 75 percent, the introduction of bluetongue coupled with the FMD vaccination programme have greatly limited the efforts so far dedicated to the sheep pox programme. Presently, a vaccination coverage of 57 percent has been attained and the vaccination campaign is still ongoing. Private veterinarians will soon be co-opted into the vaccination programme.

This move is expected to bring about an increase in vaccination coverage, especially in the steppe zone where there exists the highest concentration of small ruminants.

The sheep pox active surveillance programme is based on regular visits to markets, water points, abattoirs and flocks. Investigations will soon take place to verify the difference between the number of suspected cases and those confirmed by the laboratory. The investigations will focus on problems such as disease recognition and laboratory techniques. To this end, polymerase chain reaction (PCR) equipment will soon be installed in support of sheep pox laboratory confirmations. The whole programme stands to gain, since the PCR technique is more sensitive and faster than virus isolation.

Problems encountered in the execution of the programme in Algeria include difficulties in grouping together different flocks and in reaching animals for vaccination.

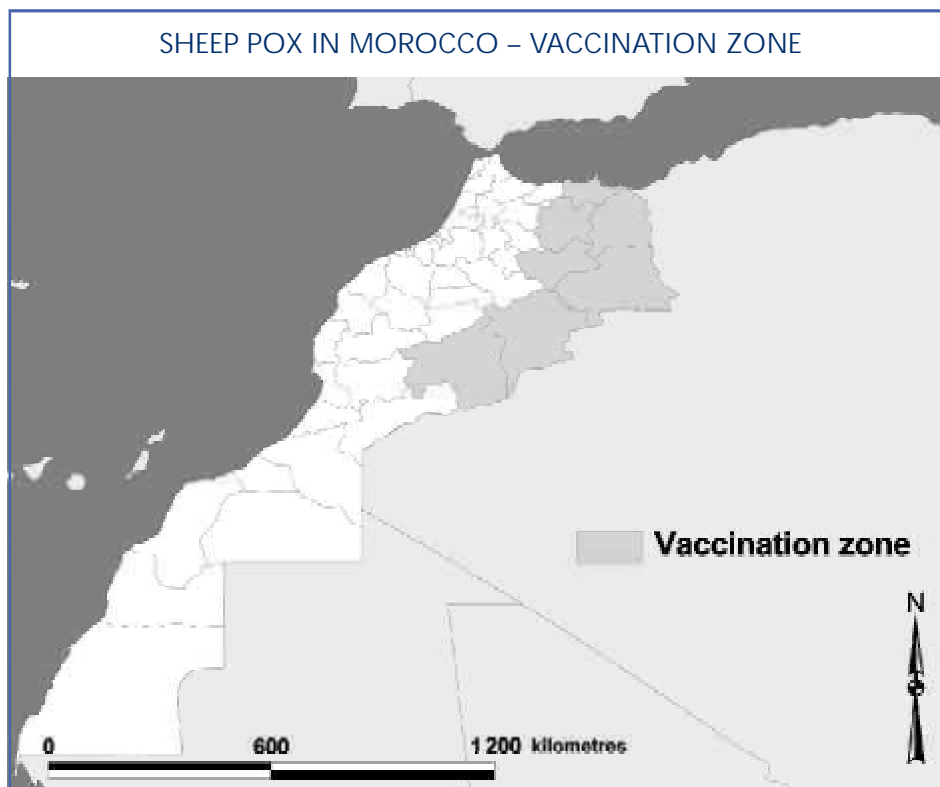
Morocco

No outbreak of the disease has been reported for the third year running. The last outbreaks reported were in 1997. The vaccination programme is being continued in the seven governorates close to the borders with Algeria.

The objective for 2001 is to ensure the vaccination of about 90 percent of the sheep population in the area. The statistics available show that, as of 7 June 2001, a vaccination coverage of 44.7 percent was obtained, and the exercise is continuing.

In the same way, the sheep pox active surveillance programme begun in 1998 is continuing, with regular visits to markets, water points, abattoirs and flocks. Seven suspected sheep pox outbreaks were reported in 2001, but were not confirmed by the laboratory. Meanwhile, the Moroccan authorities have finally established PCR techniques for the laboratory confirmation of sheep pox.

In terms of programme implementation, the Moroccans reported problems in realizing the set objectives. Such problems include the need for greater sensitization of the livestock owners and difficulties in reaching animals for vaccination in some remote



mountainous areas. Also highlighted were the legislative vacuum in relation to the application of zoosanitary measures and the due compensation in outbreak cases.

Tunisia

The discovery of bluetongue in Tunisia (December 1999) and the consequent institution of the bluetongue vaccination programme mean that a realistic objective for achieving sheep pox vaccination would be a coverage of 60 percent. In the near future, private veterinarians will participate in the vaccination campaign, which should enhance the vaccination coverage so that an objective of at least 75 percent could be attained. Meanwhile, the number of sheep pox outbreaks in 2000 was 46, falling to 25 in 2001.

Also in Tunisia, as has been seen in Morocco and Algeria above, the private sector will be involved in the sheep pox active surveillance programme. The surveillance will be targeted at the markets, abattoirs, etc. The establishment of the surveillance programme is the outcome of the third sheep pox coordination meeting and its principal aim is to sensitize livestock owners. The sheep pox case definition based on clinical signs has been substituted in favour of laboratory confirmation of suspected cases. This has been made possible through a common agreement reached with the Pasteur Institut in Tunis.

Libyan Arab Jamahiriya

The Libyan representative at the coordination meeting reported that his government has purchased about 1.5 million doses of vaccines. The vaccines have been distributed to the governorates. No follow-up has yet been made to determine the number of vaccinated animals. The Libyan chief veterinary officer also pointed out that his team is eager to reach the programme's objective of increasing sheep pox vaccination coverage and surveillance.

To achieve this goal, more sensitization of the concerned parties is needed, starting with livestock owners. In contrast, the RADISCON reporting system has been adopted

by the Libyan veterinary authorities, but reports suggest that it is not functioning well, because of the autonomy granted to the local veterinary services.

In conclusion, it was observed that the objectives of the sheep pox programme in Algeria, Morocco and Tunisia are being reached thanks to the increase in vaccination coverage and decrease in the number of outbreaks. The same cannot be said of the Libyan Arab Jamahiriya, which needs to double its efforts if it is to achieve the set programme objectives.



PHOTO COURTESY OF PETER ROEDER (EMPRES)

Animal affected by sheep pox

SHEEP POX AND GOAT POX

Sheep pox and goat pox viruses belong to the capripox genus of the family of Poxviridae, together with lumpy skin disease virus.

They occur in Africa (mainly north of the equator), the Near East, Central Asia (including China and southern areas of the former Soviet Union) and the Indian subcontinent as far east as Myanmar.

The incubation period is from five days to two weeks. The disease may be severe or mild and is much more severe in lambs and kids than in adult animals. Skin lesions erupt within a few days. The number varies but the lesions are most obvious where the wool or hair is shortest, such as on the head, neck, ears, axillae, groin, perineum and under the tail. The lesions follow the classical pox cycle of skin erythema papule (0.5-1.5 cm diameter), vesicle, pustule with exsudation, encrustation and scab formation over about two weeks.

Source: Exotic diseases of animals – a guide for field veterinarians (W.A. Geering, A.J. Forman and M.J. Nunn).

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