



# TVA Newsletter

Sponsored by **ZOETIS**  
A.L.P.H.A.

Issue 1. March 2020

## ZOETIS AND THE BILL & MELINDA GATES FOUNDATION SUPPORTING THE ADVANCEMENT OF LIVESTOCK PRODUCTION IN TANZANIA THROUGH THE A.L.P.H.A. INITIATIVE



Zoetis is proud to support animal health in Tanzania through our partnership with the Tanzania Veterinary Association (TVA), and other associates, in conjunction with the African Livestock Productivity and Health Advancement (A.L.P.H.A.) initiative, which is supported by the Bill & Melinda Gates Foundation (BMGF).

The A.L.P.H.A. initiative aims to advance livestock health and productivity in Sub-Saharan Africa by increasing the availability of quality veterinary medicines and services, improving distribution, and implementing a livestock diagnostics infrastructure. The initiative also provides intensive training sessions to local veterinarians and farmers to expand and improve animal health knowledge. It was initially launched in Uganda and Nigeria in 2017, followed by Ethiopia in 2018, then Tanzania in 2019.

Sustainability is central to our grant activities, and as such, we see the funding from the BMGF as a 'booster' to elevate our previous activities in Tanzania with all our partners. It will allow us to support partners in building training modules, services, the diagnostics network, and a product portfolio that will succeed in years to come with or without requiring further grant funding.

The A.L.P.H.A. initiative has already

been active in Tanzania, including:

- Supplying key vaccines, medical products and diagnostics (Dx) kits through our new distributor, located in Dar Es Salaam
- Setting up partnerships with private and public organisations. There is currently one lab which is fully operational in Nasimz Veterinary care in Mwanza. Four labs are being set up and will open their doors to local communities (Arusha, Iringa, Dar Es Salaam, Morogoro regions) in Q2 2020.
- Facilitating several training courses:
  - Poultry Health for vets – Kilacha training centre, December 2019
  - Poultry Health & Dx – Iringa, December 2019
  - Sampling and monitoring in poultry health – Iringa, 2019-2020
- Making the LabCards application available in February 2020, which allows veterinarians to easily collect veterinary sample data and send it to the local diagnostic laboratories through their mobile phones.

A pooled vaccination project is also being launched in the Dar Es Salaam region to support local veterinarians and poultry farmers with training/ education, support in vaccination and

potentially collecting samples in future.

As the leading global animal health company, we believe that we have the capability to rise to the challenges in Tanzania, through investment into specific activities to support the veterinary and farming community, delivered in close collaboration with local partners.

We are proud to partner with the TVA to enable the launch of this inaugural newsletter, and we will support the TVA to increase the impact of future editions, as part of a wider collaboration to advance the veterinary sector. We will share regular progress updates about the A.L.P.H.A. initiative in Tanzania and other countries from the region in future issues.

I'd also like to introduce the A.L.P.H.A. initiative team in Tanzania: Bryan Kelly, Commercial Lead; Mwajuma Kudema, Diagnostics Manager; Riziki Ngogo, Field Vet Poultry; Nathan Edward, Field Vet Ruminant; and Magembe Ugassa, Senior Regulatory Affairs Associate.

If you would like to find out more about the A.L.P.H.A. initiative in Tanzania, please visit our website at: <https://www.zoetis.co.tz/> or contact our team.

Yours sincerely,

Dr. Gabriel Varga

Regional Director Sub Saharan Africa





## CHAIRMAN'S FOREWORD

The leadership of Tanzania Veterinary Association (TVA), through its Executive Committee, cherishes the support it has had from the entire family of the association since it was reengineered in 1982. Apart from promoting members' welfare and professional standards; cementing the family through its annual general meetings; and embracing science/research evidence in livestock sector development - including in veterinary service delivery systems through its annual scientific conferences - the association has been heavily involved in multiple advocacy initiatives geared at policy change.

The great need for policy change emanates from the changing landscape the veterinary service supply chain has had to go through ever since the mid-1980s. Indeed, embracing public-private partnership principles in the national development agenda, as well as decentralisation of government operations, have collectively impacted upon the performance of the veterinary governance structure and hence the delivery of veterinary services.

TVA and its partners - notably, Tanzania Society for Animal Production (TSAP) and Tanzania Parasitology Association (TAVPA) - have been taking deliberate, strategic and collective steps geared at engaging policy and decision makers on matters of importance to the animal industry. Policy debates and engagement will continue until we are able to sort out impending basic factors.

It is therefore, my hope that members of TVA will continue to be supportive and to best position themselves in our bid to strengthen the association so that it continues to serve as a platform for policy change. Sustenance of everyone's support and motivation is thus envisaged to be the underpinning pillar for the future success of our association.

**Certainly together we can**

Prof. Dominic M. Kambarage

# ONE HEALTH ON THE MOVE IN TANZANIA

## From the Chairman's desk

### Role of veterinarians and other animal health experts

One Health (OH) approaches are of utmost importance in dealing with public health threats with multiple sources. The development of OH approaches in human, domestic animal, wildlife, crop and environmental health systems in Tanzania started in the mid-2000s through the establishment of institutional alliances. These alliances included SACIGS, a consortium involving institutions in Tanzania, DRC Congo, Zambia, Mozambique, South Africa; AFRICQUE ONE, which connects anglophone and francophone African countries and the North; and OHCEA which links public health and veterinary schools in Central and East African regions. Other consortia that have provided additional impetus to the agenda are CYST-NET, SAGWESA, and Biomed.

All the alliances have one thing in common, the aim to influence policy, practice change and a desire to create a critical mass of researchers to overcome the lack of manpower available to carry out innovative disease surveillance.

Initially, the major focus of most OH consortia was to promote collaboration and cooperation between animal, human and environmental health systems. The majority worked closely with the Ministry of Health, Community Development, Gender, Elderly and Children, the Ministry of Livestock and Fisheries; Ministry of Natural Resources and Tourism and Vice President's Office-Environment.

### National One Health Strategic Plan

The first National One Health Strategic Plan mainly focused on zoonoses. This was despite the then demonstrable government commitment to the Global Health Security Agenda (GHSA) of 2012 and International Health Regulations (IHR) of 2015. However, upon realisation of the expanded scope of risks implied within the operational framework of GHSA and IHR, the revised strategic plan was finally reconfigured and expanded to include a wide spectrum of public health risks, including anti-microbial resistance (AMR) and risks attributed to crop agriculture.

Thereafter, stakeholders in Tanzania, through the support of WHO, FAO and USAID and others, developed the National One Health Strategic Plan of 2010-2020, which was later on reviewed and made more responsive to the needs of the country including risks related to AMR and plant health. The revised Strategic Plan was launched by His Excellency, the Prime Minister of Tanzania, Kassim Majaliwa, MP in February 2018. Stakeholders also agreed to change the One Health Coordination Unit into a more functional entity. The One Health Management Department of the Office of the Prime Minister. Through this framework, OH operations are now embedded in the operational framework of the National Disaster Management Act of 2015.

Other achievements relate to (i) development of an inter-sectoral Memorandum of Understanding needed in guiding and deepening collaboration and cooperation, (ii) formulation of the National One Health Resource Mobilisation Strategy and a Monitoring and Evaluation framework, (iii) prioritisation

of six zoonotic diseases and agreeing to bring aboard AMR as an additional priority threat, (iv) formulation of national anthrax and brucellosis control strategies, (v) carrying out series of capacity building training sessions (vi) development of a responsive organogram of the National One Health Platforms, with Technical Working Groups being critical organs as well as (vii) testing of national preparedness capacities pertaining to RVF and Ebola Virus Disease.

Tanzania has also already conducted a Joint External Evaluation (JEE) exercise in line with the International Health Regulations of 2015 as per the requirements of the Global Health Security Agenda of 2012 for which Tanzania's commitment remains

undisputable. In fact, Tanzania was among the first few countries that embarked on JEE exercise soon after they were conceived.

### Working together

The collaborative approach for OH is working together by the different sectors and mitigation while promoting shared use of expertise, laboratory resources, specimens and data/all forms of information for mutual benefits. This certainly shows that the envisaged effectiveness and efficiency of inter-sectoral collaboration and cooperation squarely depend on operational practices of health professionals. Experts working in health service delivery and research systems therefore need to work towards dismantling compartmentalisation of their operations within and between systems and institutions.

Veterinary professionals and other animal health staff are duty bound to take leadership in instilling practice change in health systems given the

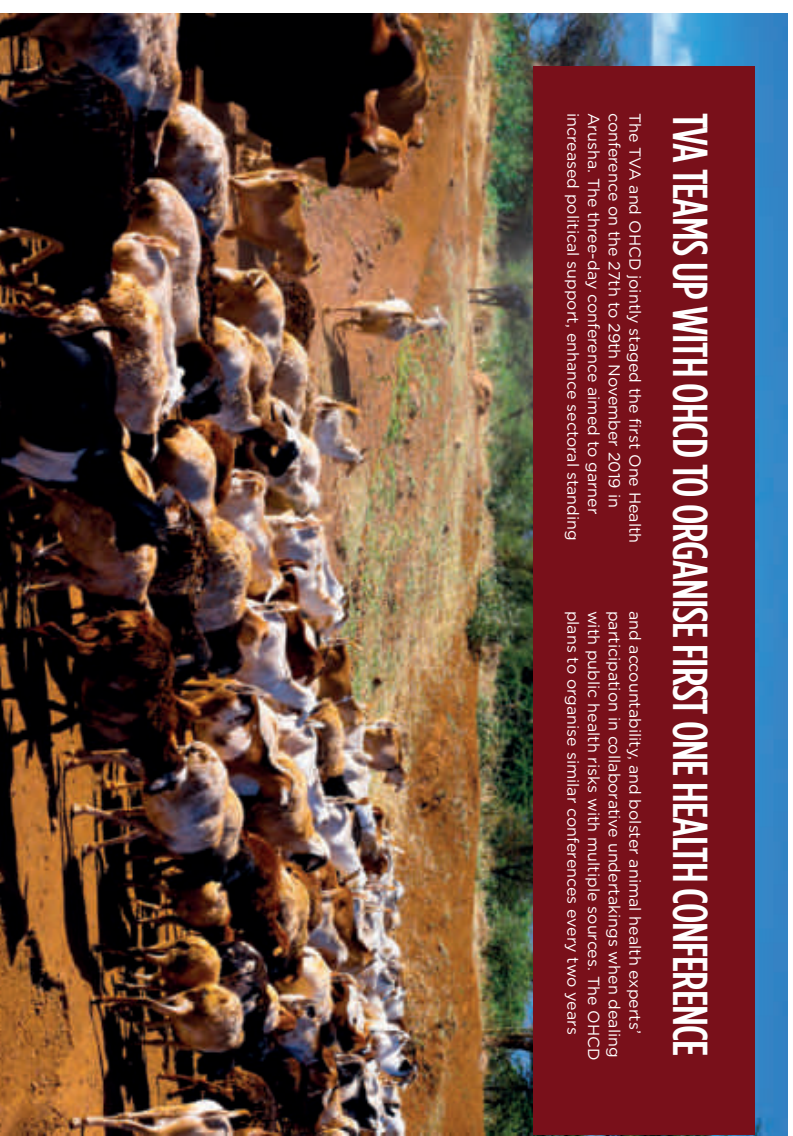
fact that 60-80% of public health risks emanate from animals. Indeed, livestock and wildlife have served as main sources of several infectious diseases in humans, such as the current Covid-19 pandemic. In addition, resource poor farmers in Africa, and other developing countries, are also threatened by risks emanating from poor crop and animal husbandry practices, notably from uncontrolled and excessive use pesticides. Anti-microbial resistance (AMR) is another global public health risk emanating from excessive and uncontrolled use of drugs in humans and animals.

Veterinarians are therefore expected to bolster working relationships with experts in allied health systems to protect social wellbeing and resources. This also means working within the spirit of the concept of controlling health risks at source. This call is further justified given that our growing national economy cannot accommodate duplication and uncoordinated efforts in dealing with public health risk events with multiple sources.

## TVA TEAMS UP WITH OHCD TO ORGANISE FIRST ONE HEALTH CONFERENCE

The TVA and OHCD jointly staged the first One Health conference on the 27th to 29th November 2019 in Arusha. The three-day conference aimed to garner increased political support, enhance sectoral standing

and accountability, and bolster animal health experts' participation in collaborative undertakings when dealing with public health risks with multiple sources. The OHCD plans to organise similar conferences every two years



# CLIMATE CHANGE AND CATTLE VECTOR-BORNE DISEASES: INVESTIGATING THE EXPERIENCES OF PASTORAL COMMUNITIES IN NORTHERN TANZANIA

Dr Esther G. Kimaro

Climate change is predicted to increase incidence of vector-borne diseases (VBDs) in humans, however, little is known about the impact of such diseases in livestock. Therefore participatory epidemiological (PE) methods were used with Maasai pastoralists of Monduli District, northern Tanzania, to better understand indigenous knowledge, experiences and observations regarding the epidemiology of two major vector-borne diseases of cattle – East Coast fever (ECF) and African animal trypanosomiasis (AAT) – along with climate and climate change.

We collected data in gender segregated groups in ten randomly selected villages of Monduli. Using ranking

PE technique, ECF and AAT were prioritized amongst the top five cattle diseases studied. Cattle VBDs still cause major health problems in cattle in pastoral communities and the research highlights the need to strengthen management practices including regular surveillance. The ranking scores for the two VBDs varied across villages, possibly reflecting variation in the incidence and/or severity of the diseases. This could be related to ecological situations and management practices.

A standardised matrix scoring tool was used to triangulate indigenous and professional veterinary knowledge on clinical signs and vectors for the diseases of interest. We also

used matrix scoring to improve our knowledge of participants' understanding of the association between specific cattle diseases, clinical signs and disease vectors.

Clinical symptoms  
Both gender groups had a strong level of agreement when associating specific clinical signs with ECF and AAT. The primary clinical sign associated with ECF was swollen lymph nodes, as it is in veterinary literature. AAT was primarily associated with loss of tail hair. While this is not commonly noted in veterinary textbooks, it is a known clinical symptom. Findings indicate that women were able to associate specific clinical signs with cattle diseases. Therefore, they can be good sources of

information regarding cattle diseases and management, and contribute to cattle health management and production. It is essential that future livestock projects and research promote the inclusion of women to improve livestock productivity and household livelihoods.

We explored pastoralists' observations and experiences of seasonal patterns of ECF and AAT occurrence and the abundance of competent vectors. Although ECF was reported to be present throughout the year, pastoralists indicated that relatively more cases occurred in the long rainy season and cool dry season, consistent with findings from another part of our study. The presence of *Rhipicephalus appendiculatus*, a competent tick for ECF, throughout the year has been reported elsewhere in tropical eastern Africa. This could indicate the potential for endemic stability of ECF in the study area.

There were generally low levels of agreement across study villages in terms of peak tick abundance timing. This may relate to variations in ecological factors and management practices which could favour survival and development of the ticks. The inconsistent observations for tick abundance between gender groups may reflect their different involvement in cattle management activities.

The unpronounced seasonality characteristics of *R. appendiculatus* in much of Eastern Africa means that cattle may be infested with larvae, nymphs and adults ticks throughout the year, potentially contributing to the poor agreement across groups.

Increased mobility  
Year round occurrence of AAT was also reported. AAT was reported to occur more frequently in the long dry season, a finding confirmed by individual cattle owners – in a questionnaire administered in the same district – and elsewhere in pastoral communities. It could be explained by increased tsetse fly activity in that season. Men reported more tsetse fly in the long dry season which aligns with highest AAT occurrence. The increased mobility of cattle (predominantly under supervision of male pastoralists) may increase exposure rates and vector/host

contacts. Furthermore, poor quality pastures during the dry season lead to nutrient deprivation and starvation in animals and can trigger clinical disease. Other possible reasons for AAT variations relate to differences in vector management practices across seasons and among pastoralists. These include the use of insecticides, trypanocides, and possible parasite resistance.

Lower rainfall  
Participant groups consistently reported observing declines in rainfall, vegetation cover and quality pasture, as well as increases in severe droughts, since previous research. Pastoralists' observations align well with conventional meteorological data, as well as published accounts of reduced pasture and water availability associated with emaciation and death amongst livestock in northern Tanzania. They observed that climate parameters such as rainfall and temperature were important for the occurrence of ECF and AAT. Studies on tick and tsetse fly ecology likewise show that rainfall and temperature are the main climate parameters influencing vector population dynamics and seasonal abundance.

The lack of a clear relationship with climate changes and the occurrence of ECF and AAT likely reflects the multifactorial nature of disease occurrence. For instance, changes in ECF occurrence between 1984 and 2014 may be linked to increased access and availability of effective drugs and acaricides, as well as some adoption of ECF immunisation and improved understanding of the disease. Nonetheless, scientific studies confirm that climate plays a major role in the influence of arthropod ecosystems which in turn alter vector development, survival and ultimately disease transmission. Understanding how climate parameters interact to influence disease outcomes is complex and data-intensive, which may prove challenging in resource-poor areas. Consequently, this area lacks comprehensive studies. Mapping the data  
Participatory mapping in all villages revealed grazing areas had diminished in recent years mainly due to lack of rainfall. Seasonal livestock movements were also depicted on maps for

each village. Movement of cattle away from the home village was mostly practiced during the long dry season, starting around August, when inadequate pasture and water became a considerable problem. Furthermore, the frequent and longer droughts have forced some larger herds to be moved greater distances.

Pastoralists revealed that the frequency of interaction was greater during the long dry season when pasture and water were inadequate, causing many species to seek suitable grazing areas. They identified areas that had high vector populations. For ticks this included gullies, lake banks, and pastures with good grass growth, especially in the long rainy season. Tsetse flies were more commonly reported in areas close to wildlife national parks where there are large areas of undisturbed vegetation. Areas with savannah shrubs/trees, and where cattle-wildlife interactions occur, are also associated with high tsetse fly population.

Setting a baseline  
The indigenous knowledge generated provides a useful baseline regarding ECF and AAT epidemiology in the face of worsening projections for climate change. Furthermore, our results highlight the district's vulnerability, with increased drought periods and reduced rainfall noted. Given that VBDs were agreed to be among the most important cattle diseases, improved strategies for their management need to be identified and implemented.

This study also suggests the need for consistent and systematic monitoring of climate, vectors, pathogens and disease to obtain a better understanding of the effects of climate change on cattle VBDs. This can be achieved through a multi-professional approach involving epidemiologists, veterinarians, climatologists, vector biologists and ecologists.

The collection of such rich, high quality data will improve prediction models and understanding of the impacts of climate change on VBDs and assist in evaluating potential interventions. This is critical as cattle production remains the primary source of income, and a fundamental component of the Maasai culture.



PE activities with men group-Esilalet Village, Monduli District



PE activities with women group-Otukai village, Monduli District

# THE OPERATIONAL FRAMEWORK OF DECENTRALISATION BY DEVOLUTION – WHAT VETERINARIANS NEED TO KNOW

From the Chairman's desk

The Decentralisation by Devolution (D by D) system in Tanzania is premised on the requirements of the national constitution of 1977 and policies aimed at empowering communities to define their destiny in terms of development and their social wellbeing through proper guidance of Local Government Authorities (LGAs).

By passing powers, mandates and resources to communities, they are able to be key players in agenda setting and implementation. This is why livestock sector laws and policies were aligned to D by D.

The system operates on a properly configured mandate between sector ministries, the Ministry responsible for Regional Administration and Local Governments, Regional Secretariats and LGAs. Key mandates of the Ministry of Livestock and Fisheries (MLF), in accordance with the requirements of the Memorandum of Understanding (MOU) signed by the parties in 2000, include:

- (i) formulation of policies and legislation, and ensuring implementation and adherence
- (ii) ensuring that staff in LGAs are technically empowered and enabled, including making required resources available
- (iii) ensuring that staff establishments are filled
- (iv) working towards ensuring that the code of ethics and conduct is adhered to
- (v) providing overall guidance to sectoral development.

The Local Government Laws (Miscellaneous Amendments) Act of 2006 further articulates the mandates of MLF. The Act's implied mandates include MLF being (i) expected to ensure that the ethics code of conduct

is adhered to by all professionals; (ii) required to carry out technical performance evaluation of staff in LGAs; (iii) responsible for ensuring staff are recruited and trained; (iv) primarily responsible for mobilising financial resources; and (v) making resources available to staff in LGAs.

Despite the pitfalls we have with the D by D system, including gross inadequacy of accountability of all parties, this mandate framework, as enunciated in the MOU and the Local Government Laws (Miscellaneous Amendments) Act of 2006, requires that professionals be accountable to MLF, including being professionally and technically answerable to the Director of Veterinary Services.

This also implies that veterinarians appointed by the Minister of Livestock and Fisheries to serve as District Veterinary Officers, Assistant Registrars and Inspectors are technically, administratively and legally required to fulfil their mandates in line with the requirements of the Animal Disease Act No 17 of 2003, the Veterinary Act No 16 of 2003, etc. This is despite the fact the Public Service Act of 2002 and its regulations of 2003 spell out that the Director is the disciplinary authority for staff in LGAs.

Current gaps pertaining to technical answerability of professionals as implied in the various legislation and regulations, only require formulation of institutional arrangements and regulations that enable MLF to be party to staff recruitment, deployment, training, performance evaluation and disciplinary proceedings.

In a nutshell, all veterinarians are duty bound to take cognisance of their moral, ethical and legal obligations pertaining to professional answerability to MLF, in an effort to improve the standing of our profession.



## THE TVA ANNUAL CONFERENCE 2019



Prof. Dominic M. Kambarage, TVA Chairman addresses the conference



Guest of Honor, Dr. Faustine Ndagulle (Deputy Minister, Ministry of Health, Community Development, Gender, Elders and Children (Tanzania))



Professor Hazron Nonga - DVS (Director of Veterinary Services Tanzania)



Attendees at the conference

# TANZANIA ADOPTS NEW APPROACH TO VECTOR-BORNE DISEASE CONTROL

From the Chairman's desk

Tick-borne diseases (TBD) now account for almost 75% of cattle losses in Tanzania. However, they were very much under control from the 1960s to the mid-1980s, when dipping costs were shouldered by central government. Then public services were withdrawn in a bid to involve private sector actors in national development. These economic structural adjustment policies, however, led to gross inadequacy of extension agents, as well as limitations in financial resources and drug/vaccine supply, notably in rural areas. Crucial physical resources, including dip tanks, were neglected or abandoned. Generally, animal health services crumbled, leading to the collapse of dipping and coordinated disease vaccination programs, among other setbacks.

With TBDs continuing to cause immense losses, the Ministry responsible for livestock development embarked on an improvement scheme in the late 2000s. It was designed to renovate dips, provide subsidised acaricides and promote

community management of dip tanks through formation of management committees. However, despite massive government investment – executed in partnership between the Ministry of Livestock and Fisheries and the Ministry responsible for Regional Administration and Local Governments – coupled with animal keepers being rallied to manage the dip tanks for own benefit, dipping rates did not improve much. TBDs continued to be a menace.

In December 2018, the Ministry of Livestock and Fisheries introduced a new form of acaricide subsidy that works on the basis of free provision for two annual cycles of dip tank refilling, with animal keepers being urged to procure the acaricides needed for routine replenishment purposes. Again, animal keepers were expected to form management committees and charge a nominal fee to enable them to purchase acaricides for dip replenishment.

The ministry is also formulating relevant regulations to compel animal

keepers to use dips. Combined with the subsidy, this legislation is expected to revolutionise TBD control. Nevertheless, this new scheme requires monitoring and evaluation to identify and fix any cracks in the system. This is extremely important given the financial resources being committed and the need to transform the animal industry in line with the goals of the National Livestock Development Policy of 2006, but more precisely with those of the Five Year Development Plan (FYDP) for 2015-2020.

Attaining an industrialised economy, middle-income country status and bolstering employment opportunities as envisaged by FYDP certainly hinge on several undertakings in the animal industry. These include effective control of major livestock diseases – such as TBDs – which have been singled out as key constraints for the animal industry.

Will the acaricide subsidy and compulsory dipping be game changers? We wait with interest to find out.



## THE LIVESTOCK DIAGNOSTICS APP FOR VETERINARIANS

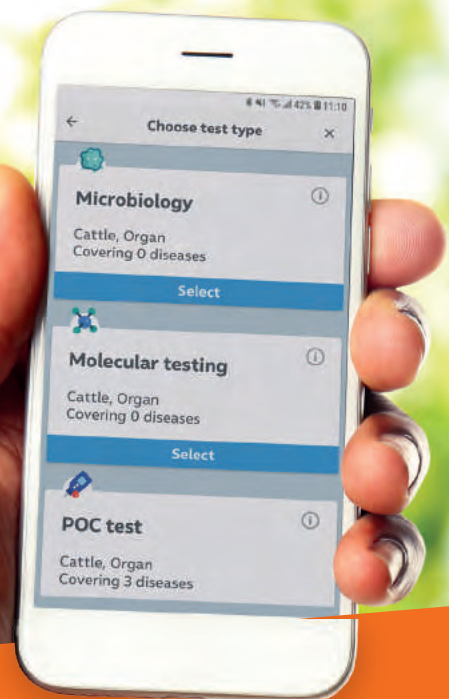
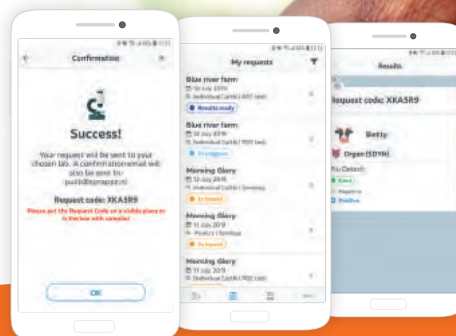
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