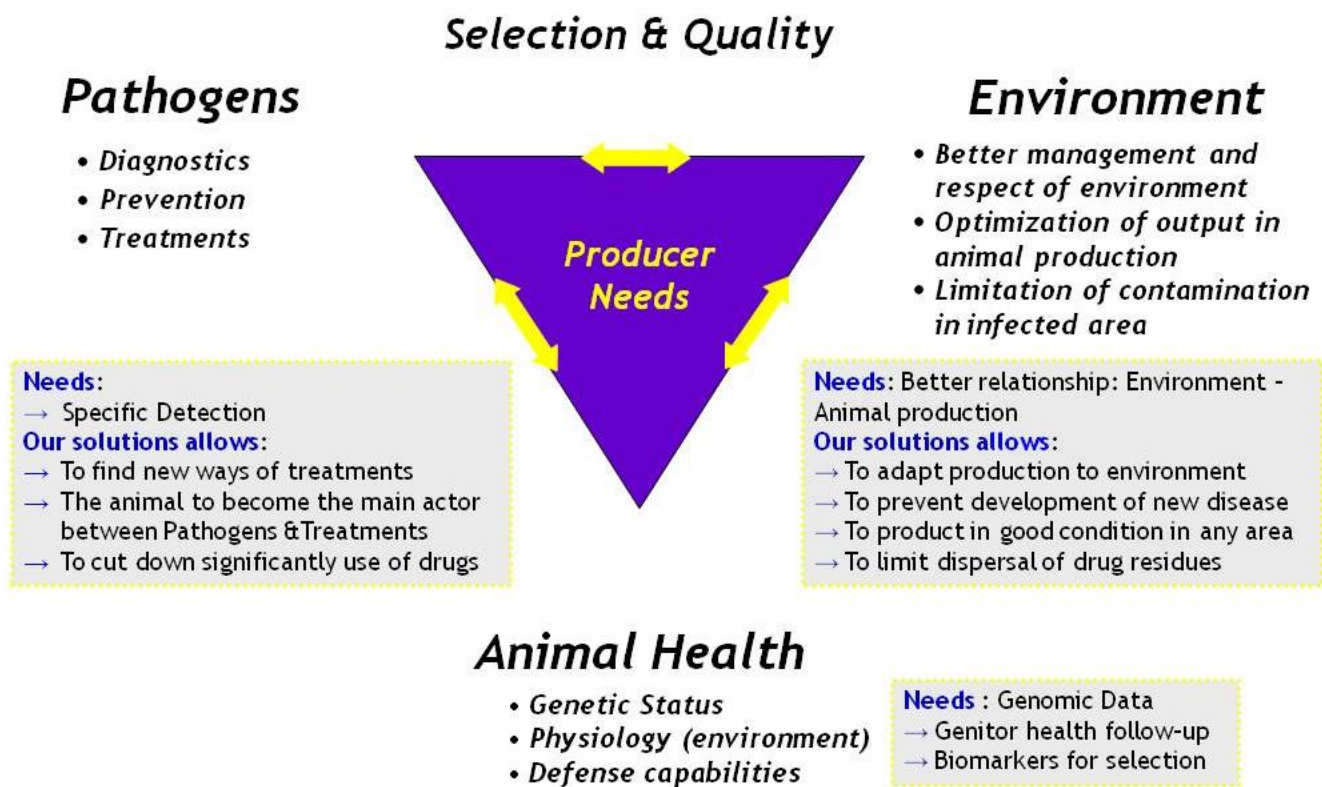




Breeding

To develop alternative methodologies to follow-up safety and quality in breeding

To follow-up specific markers for measuring the resistance to main diseases and for improving animal healthcare management



Case study #1: Bovine trypanotolerance genetic control

Goal: In central and sub-Saharan Africa, trypanosomosis is a tsetse transmitted disease which is considered as the most important constraint to livestock production. However, several indigenous West African taurine breeds (*Bos Taurus*) present a remarkable tolerance to the infection. This genetic capability named "trypanotolerance" results from numerous biological mechanisms most probably under multigenic dependences, among which the control of the trypanosome infection by parasitaemia limitation and the control of severe anemia due to the pathogenic effects.

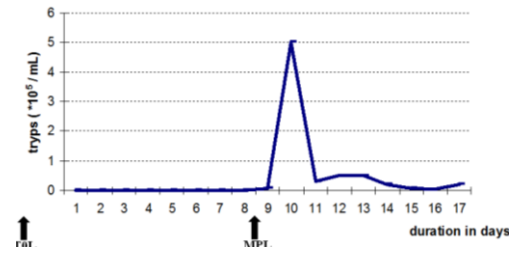
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Using its Omics platforms, DIAG4ZOO has identified a set of biomarkers involved in trypanotolerance. **Our partner, the CIRAD-EMVT, applies these field markers to assist the prediction and the selection of individuals resistant to trypanosomiasis in cattle.**

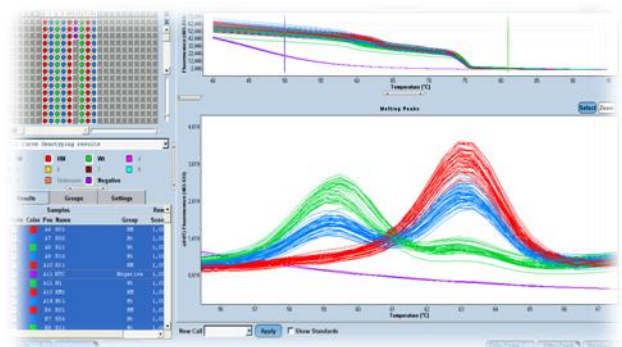


Case study #2: Texel sheep genetic control

Goal: Texel sheep are renowned for their exceptional meatiness. To identify the genes underlying this economically important feature, DIAG4ZOO has performed a whole-genome scan in a French (Aveyron) sheep population and has confirmed a Texel sup-population. From these data, our team has established a High Resolution Melting (HRM) test.

It is a novel, homogeneous, close-tube, post-PCR method, enabling genomic researchers to analyze genetic variations in PCR amplicons. HRM characterizes nucleic acid samples based on their disassociation (melting) behavior. Samples can be discriminated according to their sequence, length, GC content or strand complementarily. Even single base changes such as SNPs (single nucleotide polymorphisms) can be readily identified.

Our partner, the LAB AVEYRON, applies this field marker to assist the prediction and the selection of Texel sheep.



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