Animal Production and Health Unit

National Reference Laboratory for Animal Health

Laboratory of Bacteriology and Mycology

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**National Institute for Agrarian and Veterinary Research**

GOVERNO DE PORTUGAL
MINISTÉRIO DA AGRICULTURA E DO MAR

Instituto Nacional de Investigação Agrária e Veterinária, I.P.

bTB in routine

1. Collaboration with National Veterinary Authority in the bTB eradication plan and wild life surveillance plan
2. Laboratory diagnostic for confirmation of bTB suspicion from abattoir (cattle) and from huntings (wild-life): culture, molecular identification and genotyping of isolates by PCR and spoligotyping –MIRU-VNTR
3. Gamma-interferon test in animals suspected of bTB in the IDT

bTB research developments

1. Improved molecular diagnostic tools to rapidly detect and discriminate Mycobacterium tuberculosis Complex members
2. Molecular typing, population structure, host and spatio-temporal distribution of Mycobacterium bovis strains in Portugal
3. Determination of sources of infection and routes of transmission. Assessment of wildlife as reservoirs of Mycobacterium bovis
4. Differential behaviour of selected Mycobacterium bovis genotypes in stress conditions and in the induction of innate immune responses
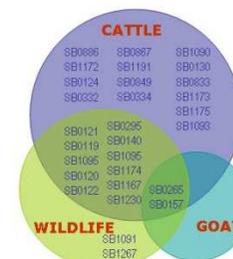
Team:
Ana Botelho, Mónica V. Cunha, Ana Amaro, Teresa Albuquerque, Ana Canto, Celeste Matos, PhD and MSc students
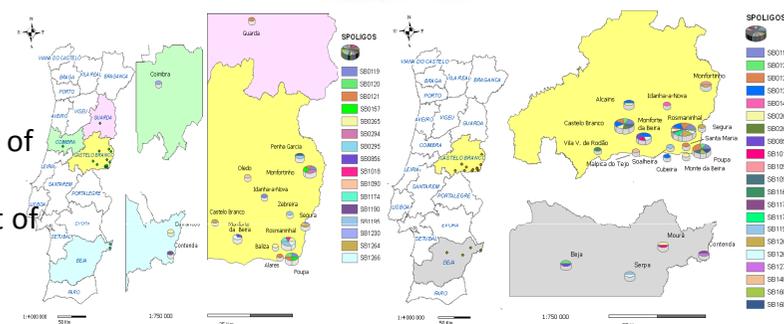
bTB current interests and perspectives for collaboration

Q: Does M. bovis genomic diversity explain disease diversity?

1. Genetic polymorphisms and infectious profile of Portuguese strains of Mycobacterium bovis with different transmission dynamics (WGS of selected spoligotypes and immune modulation)

Q: How is the landscape epidemiology of bTB in Portugal?

1. Provide models for prediction of bTB spread in a multi-host infection scenario and access the underlying landscape-level determinants of infection.

2. Identification of populations at risk, mapping of high-risk areas and design of proactive management programmes.