National Reference Laboratory for Toxoplasmosis (Ce.Tox)  
ITALY  

*Istituto Zooprofilattico Sperimentale della Sicilia*  
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Ce.Tox

- Established in August 2004 - Italian Ministry of Health Decree as National Reference Laboratory in the Istituto Zooprofilattico Sperimentale della Sicilia (IZS Si);

- It is a Governmental Laboratory for public institutions (10 IIZZSS and Veterinary Services of Local Health Units) and for private customers.
Since August 2012 the Ce.Tox laboratories and headquarters are housed in the Catania Area of the IZS of Sicily.
Ce.Tox: Institutional activities (1)

- To confirm diagnoses made by other laboratories;
- To implement the standardization of methods;
- To conduct appropriate “ring tests” (inter-laboratory controls);
- To prepare Surveillance Plans (at national, regional and local level);
- To collaborate with other EU and international reference centers and laboratories;
Ce.Tox: Institutional activities (2)

- To provide expertise and information to the Ministry of Health;
- To prepare an annual report on national activities to the Ministry of Health to be forwarded also to EFSA;
- To organize training courses for national health system staff and to inform people for better knowledge and prevention of toxoplasmosis.
Ce.Tox provides the OIE Collaborating Centre for reference material, located in the IZS LER, providing them with reference strains and sera.
Ce.Tox diagnostic procedures complies with ISO Standards and are subjected to verification by ACCREDIA (Italian body of accreditation).

Accredited laboratory procedures are related to the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2013, Section 2.9, Other Diseases, Chapter 2.9.10 «Toxoplasmosis».

Other methods of laboratory have been developed and validated (real-time PCR and isolation in cell culture).
Accredited laboratory procedures:

- IFAT for the detection of *T. gondii* antibodies in feline serum;
- ELISA for the detection of *T. gondii* antibodies in ruminants and swine serum;
- Nested-PCR for the diagnosis of toxoplasmosis from animal tissues and organs;
- Immunohistochemistry in animal tissues.
Regional toxoplasmosis Surveillance plan

In 2013 the Sicilian regional government approved and enacted a pilot study to assess toxoplasmosis prevalence in livestock holdings in Sicily.

The aim is to define the prevalence of toxoplasmosis widely throughout the region, in farms and in slaughterhouses and in livestock and poultry.
Objectives:

• To evaluate the regional prevalence of toxoplasmosis in domestic animals;

• To assess the risk of foodborne disease for consumers;

• To establish candidate strategies for the prevention and control of toxoplasmosis in livestock holdings.
Regional toxoplasmosis Surveillance plan

- It is ongoing and has to be completed by December 2014;
- Serological and molecular testing of cattle, sheep, goats, pigs, horses and poultry both on farms and in slaughtered animals;
- Minimum sample size has been calculated assuming an average expected prevalence of 50% with a desired accuracy set at 5% and a confidence interval of 95%.
Perspective activities (1)

- Research to develop innovative diagnostic techniques;
- Research to study the viability of *T. gondii* tissue cysts in food of animal origin and risk factors for consumers;
- To develop a toxoplasmosis surveillance plan at national scale;
Perspective activities (2)

- Proficiency tests involving all the laboratories of the Italian IZS Network;
- Further study of the symptoms of the disease in pets;
- To improve International scientific collaborations;
Perspective activities (3)

• Training on the prevention of disease for students and consumers (brochures in Italian, English, French, Spanish, etc.);

• Training on the disease for farmers and food producers (vegetable and animal origin), in order to avoid economic losses (abortions for sensitive species) and to assure product safe even for the purpose of international exports.
Ce.Tox Contacts

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Thank you for your attention

View of erupting Mt Etna