

Tanca Ilde: an experimental family farm model

Family business, research and innovation in Sardinia, Italy



Sardinian sheep

- 40% of the Italian national heritage
- 3.5 million sheep (3.7% of the EU total in 2009).
- 300,000 MT of milk: 4% of total world production (Istat, 2011; FAO, 2011; Eurostat 2011).
- 13000 livestock enterprises (Istat, 2009; Istat, 2010).
- 50–60 thousand MT of cheese a year, manufactured by more than 50 dairy factories
- 70% of production is exported, with 80% of the export going to the USA.

“Tanca Ilde”



Nematodes: Gastrointestinal and Bronchopulmonary

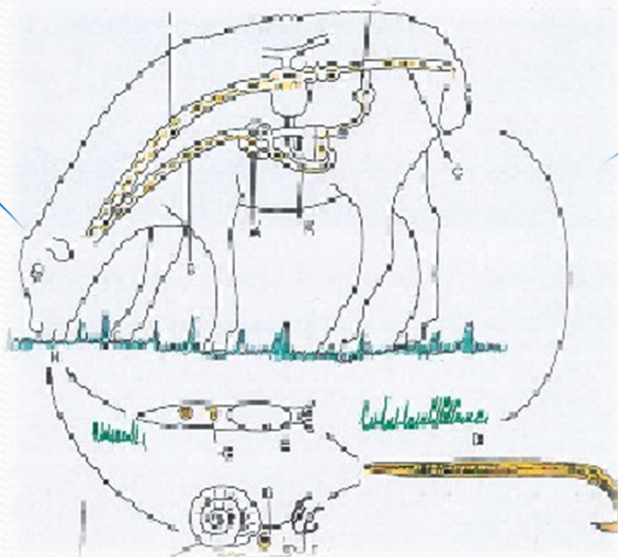
Biological cycle nematodes

Muellerius Capillaris

productions decrease



deaths

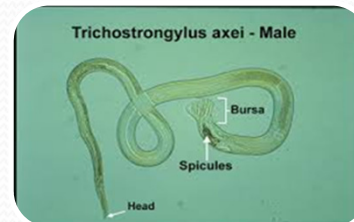


Pulmonary lesions

Intestinal lesions

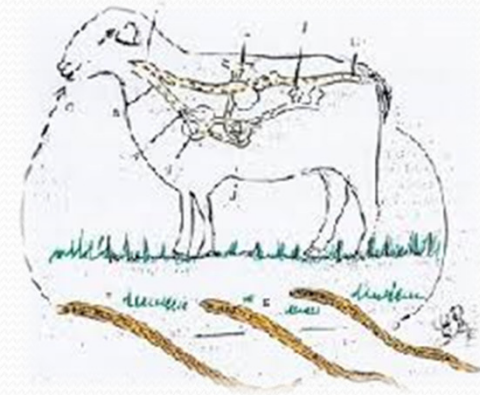


Trichostrongylus Axei



Nematodes: Gastrointestinal and Bronchopulmonary

- Neostrombilus Linearis (sbp)
- Muellerius Capillaris (sbp)
- Haemonchus Contortus (sgi)



Diagnosis and research: A necessary choice

- SGI is found in the digestive tract, while the SBP lies in the broncho-pulmonary system
- Animals are very sensitive to infestation during the period of oestrus and during childbirth.
- Infective larvae migrate through the body and reach their elective sites of various organs, causing anatomical lesions
- Parasites : An important issue that is often overlooked or ignored by farmers and this causes serious damage to the farm and animals.
- Choice to introduce the innovation of the research: precisely dictated by the need to limit the damage caused by the parasites.
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More research in Tanca Ilde: Echinococcosis

- 2013 : Ultrasonography has already been evaluated as a diagnostic tool for cystic echinococcosis in human and also intra vitam screening in sheep .
- Sardinia: 1502 hospitalizations
- National Medium percentage of 2,4%.
- Ultrasonography in tanca ilde sheep :40% positive.
- Important instrument as part of a program of epidemiological surveillance for control plans of this important metacestodosis ,like vaccination trials

Abstract book **ImE-2014**
Besançon
France



Innovation for the Management of Echinococcosis



Symposium
**Innovation for the management
of Echinococcosis**
March 27 - 29 , 2014
Besançon, France

More research in Tanca Ilde

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ABSTRACTS OF ORAL AND POSTER COMMUNICATIONS

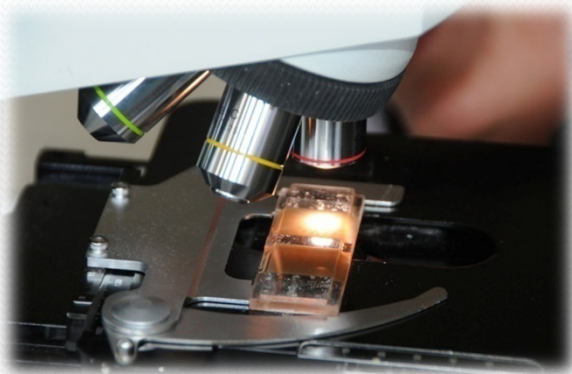
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More research in Tanca Ilde

P-09. Direct parasitological examination vs ultrasonography in the diagnosis of cystic echinococcosis in sheep

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Background: Ultrasonography has already been evaluated as diagnostic tool for CE in humans and also for intra vitam screening in sheep. However, the recent advance of imaging technology has led to a drastic improvement of the performance of portable ultrasound, e.g. by allowing monitoring of the full liver parenchyma in live animals with a microconvex transducer. Therefore, the aim of this study was to evaluate ultrasonography as an intra vitam screening tool for ovine CE under field conditions. For this reason, a survey for cystic echinococcosis (CE) diagnosis in sheep was carried out in Sardinia.

Methods: The study was carried out in three farms: farm A, (Municipality of Nule, Sassari), farm B (Municipality of Sassari), farm C (Municipality of Monastir, Cagliari) which had been pre-selected according to different levels of prevalence for CE (A: > 80%, B: 50–80%, C: < 50%). A total of 129 sheep were examined (A: $n = 51$, B: $n = 30$, C: $n = 48$) and ultrasounds were performed with sheep in an upright position without any sedation. Within 20 days after the ultrasound diagnosis sheep were slaughtered and a post-mortem examination diagnosis was carried out in the liver and lungs.

Results: Comparing ultrasonography vs post mortem examination, a sensitivity of 88.7% and a specificity of 75.9% of ultrasound were found, while the positive and negative predictive values were 81.8% and 84.6%, respectively. The sensitivity of the test increased to 100% if we consider only fertile cysts.

Discussion: Ultrasonography of the liver in sheep can be considered a useful intra vitam diagnostic tool to identify CE positive animals and it could be an important instrument as part of a program of epidemiological surveillance for control plans of this important metacestodosis, like vaccination trials.

Diagnosis and Research: Nematodes

Sampling



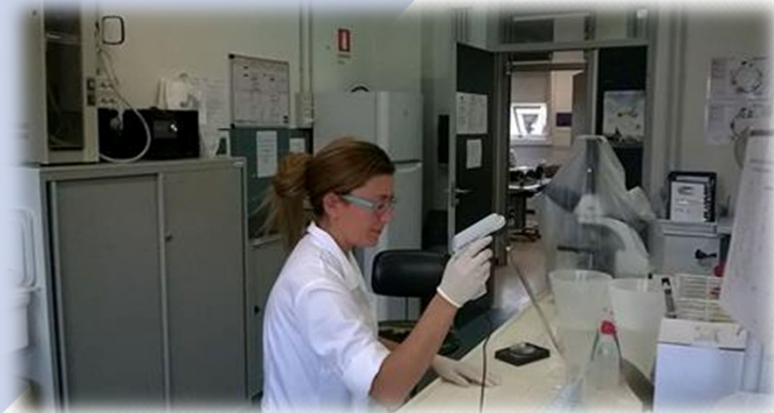
Sheep identification



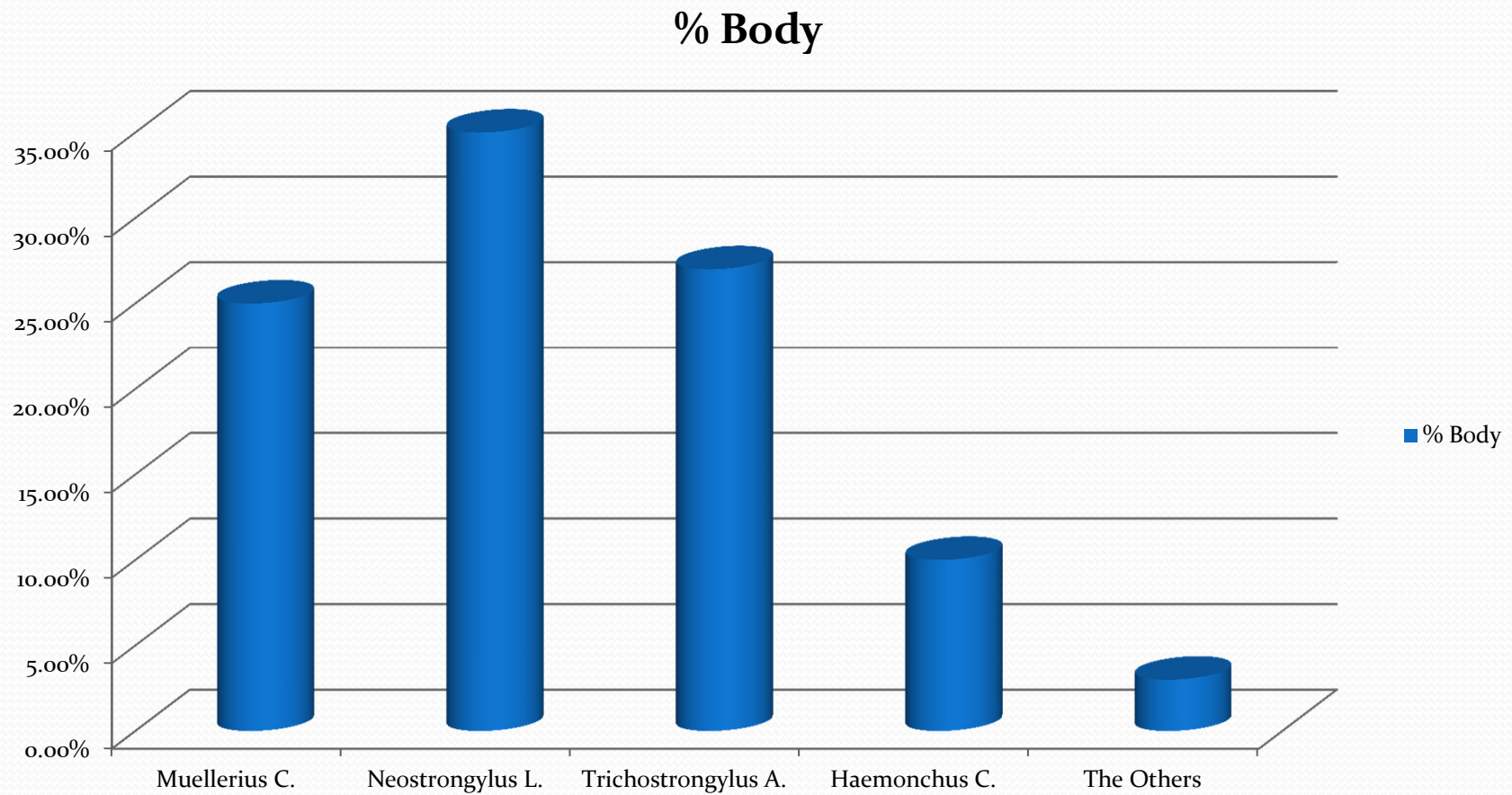
MC Master method



Baermann method



Analysis Results

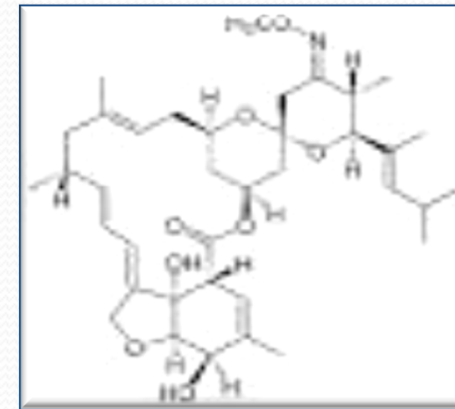


Therapy

UPG > 1500

Medical Treatment

Moxidectin

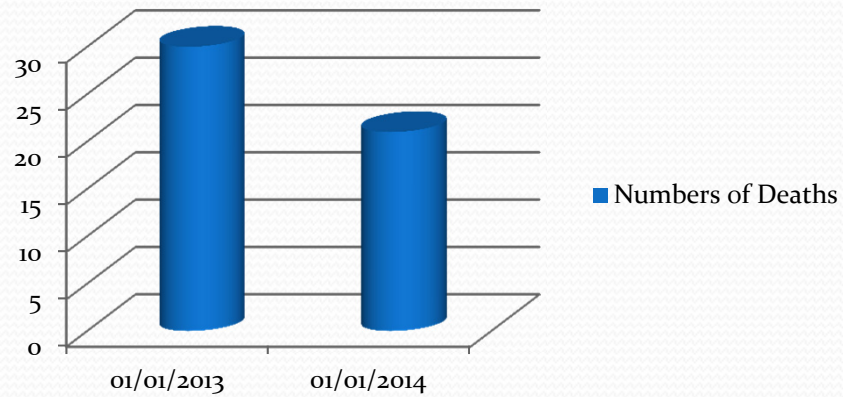


Therapy:
Moxidectin
(0,2 mg/kg lv)

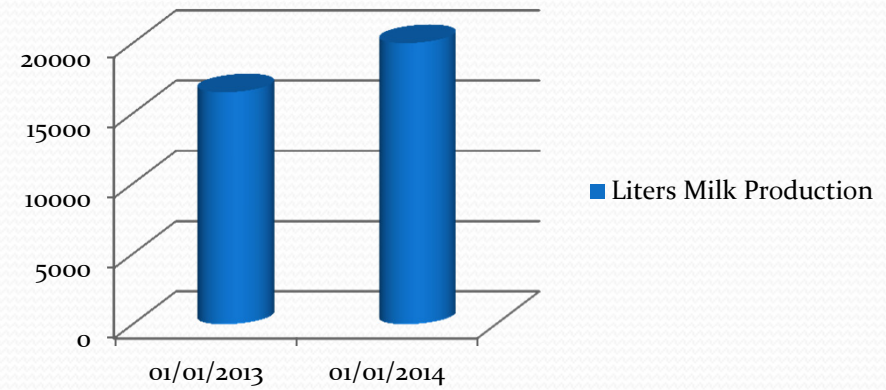


Data Analysis

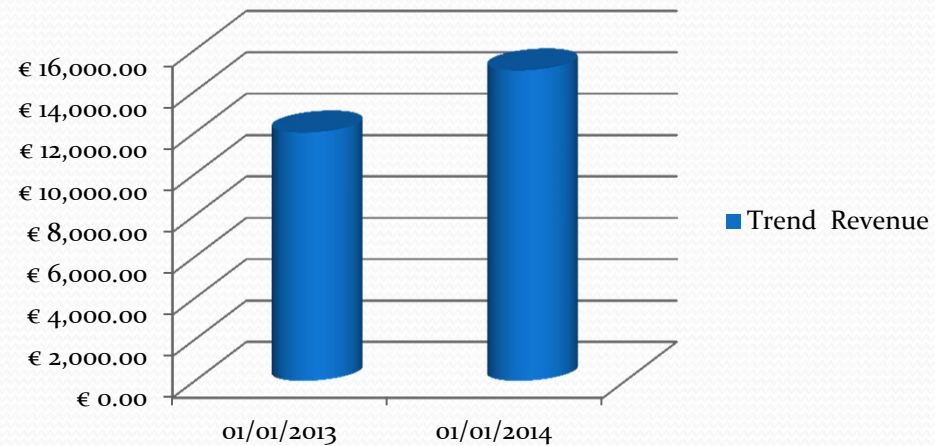
Numbers of deaths



Liters Milk Production

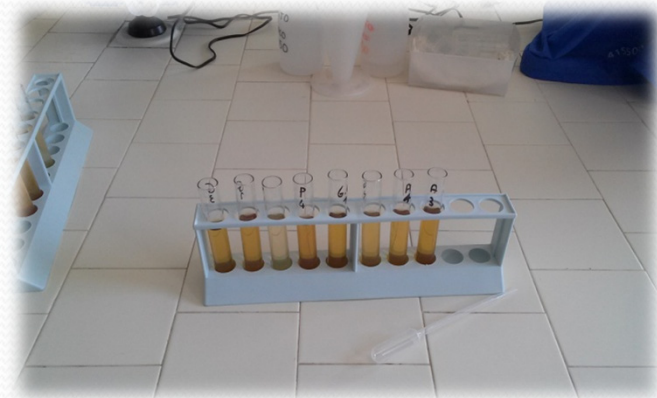


Trend Revenue



Strategy: Prevention

- Rotational grazing of pastures.
- Examination of the stool for the research of parasites: A fast procedure, economical and it's not particularly invasive.
- Collaboration with research areas.



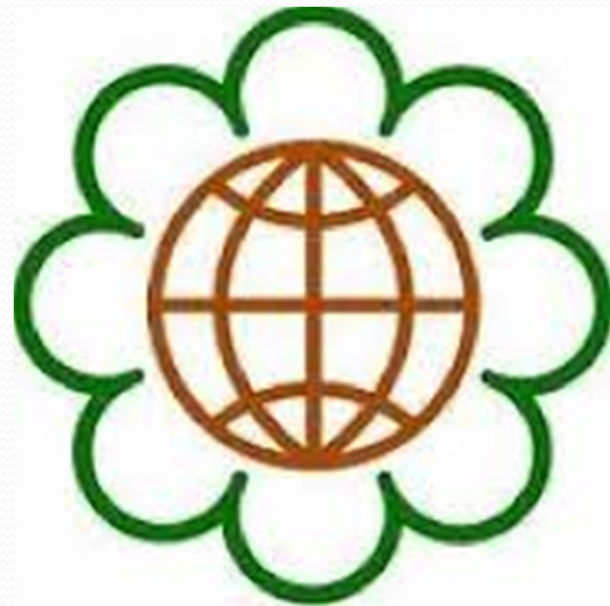
Strategy: Collaboration

- collaboration between researchers and farmers: Information.
- Sardinia: A.R.A.S. (Regional Association of Sardinian Farmers) It is a member of A.I.A
- Sardinia: institutes of research(including the faculty of veterinary medicine of the university of Sassari) offer to the farmer, who puts his company at the disposal of the study, a research and monitoring access.
- The Minister for Agriculture and Forestry have promised that they will promote scientific research in the field of agriculture.
- Ministerial Decree 4539 made on the 26 February 2014.

Conclusions

- Periodical stool exams (low cost);
- Specific therapy (decrease of pharmaceutical resistance);
- Productivities increase;
- Deaths decrease;
- Research Contribution

Thank you for your attention!



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