Project information

Project PARASOL (**Parasite Solutions**), an abbreviation for «***Novel solutions for the sustainable control of nematodes in ruminants***»

- EU funding: 2,9 millions d'Euros.
- Duration : 36 months (2006-2008)
- Project Coordinator: Prof. Dr. Jozef Vercruysse, Ghent University, Belgium
- Project website: www.parasol-project.org

Background/description of the Project

Ruminants are central in agriculture and rural economies over the word. Gastro-intestinal worms pose a great threat to animal welfare and production. Current methods for controlling worms require repeated dosing of the whole herds with synthetic anthelmintic drugs. This is not sustainable as it leaves residues in food and the environment and promotes drug resistance in parasites by failing to leave an untreated parasite population in refugia. However, anthelmintics remain indispensable for worm control.

Goal of the project

The PARASOL project aims to develop sustainable, low-input methods for internal parasite control based upon the use of Targeted Selective Treatments (TST) in which only ruminants showing clinical symptoms or reduced productivity are treated. TST strategies will minimise the rate of development of resistance by maintaining an untreated parasite population in refugia and also reducing the risk of residues in food and the environment.

Studies being undertaken

1- Determine the best methods of identifying animals and herds requiring anthelmintic treatements based on physiological and/or pathophysiological indicators in ruminants.

2- Standardise existing methods for detecting anthelmintic resistance and develop new tests, where the current ones are inadequate.

3- Assess the effect of TST on productivity, animal welfare and the spread of anthelmintic resistance genes under a wide range of farming conditions.

4- Optimise the efficacy and bioavailability of anthelmintics by modulating parasite P-glycoprotein detoxification systems.

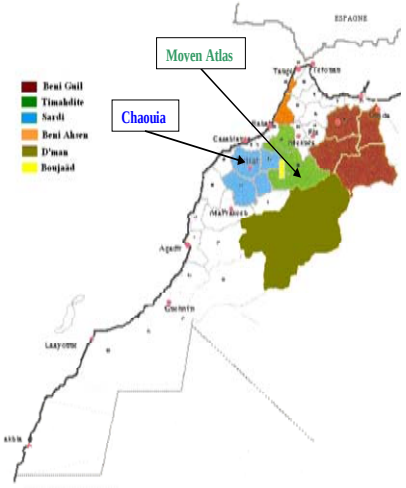
Project outcomes

Provide farmers, veterinarians and advisors with clear guidance and protocols for sustainable, low-input, user and consumer-friendly nematode control. The information will be disseminated and published in veterinary and agricultural journals, brochures, leaflets and the web site of the project.

Studies in Morocco

1- Sites of study : Plain of Chaouia & Middle Atlas

2- Farms are affiliated to the NGO Association Nationale Ovine et Caprine "ANOC"



Sites of studies for PARASOL project
Source: Map of breeding sheep races in Morocco (NGO, ANOC)

3- Investigations underway are :

- Questionnaire surveys on the acceptability of TST

Direct interview with farmers on the acceptability of the Targeted Selective Treatments (TST)

- Validation of parasitological indicator (epg) versus physiological or pathophysiological markers (LIVGAIN, BODCON, DISCO & FAMACHA)

BODYCON

FAMACHA : Anemia index

DISCO : diarrhoea index

LIVGAIN

- Impact of TST on benzimidazole (BZ) resistance under farm grazing conditions

Project partners

12 academic partners and 5 business ventures from EU countries and Africa.

- ***Jozef Vercryusse***, University of Ghent, Belgium.
- ***Adrian Wolstenholme***, University of Bath, UK.
- ***Gerald Coles***, University of Bristol, UK.
- ***Dominique Kerboeuf and Jacques Cabaret***, INRA, Tours, France.
- ***Frank Jackson***, The Moredun Institut Scotland, UK.
- ***George Von Samson Himmelstjerna***, University of Veterinary Medicine, Hannover, Germany.
- ***Johan Hogland***, Swedish University of Agricultural Science, Uppsala, Sweden.
- ***Marian Varaday, Parasitological Institue,*** Kosice, Slovak Republic.
- ***Elias Papadopoulos***, Aristotlean University, Thessaloniki, Greece.
- ***Giuseppe Cringoli***, « Delgi Studi Di Napoli University, Naples, Italy.
- ***Berrag Boumadiane***, Institut Agronomique et Vétérinaire Hassan II, Rabat, Morocco.
- ***Jan Van Wyk and Gareth Bath***, University of Pretoria, South Africa.
- ***Eurion Thomas***, Innovis Ltd, UK.
- ***Leon de Beer***, NWGA, South Africa.
- ***Malik Merza***, Svanova Biotech, Uppsala, Sweden.
- ***Anne Strattner***, Plantamedium & Propago, Germany.

Local Coordinator:

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PARASOL
Novel solutions for the sustainable control of nematodes in ruminants

Institut Agronomique et Vétérinaire Hassan II

Novel solutions for the sustainable control of nematodes in ruminants

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