

Press Release

Innovative parasite control in ruminants

Website for the PARASOL-Project: www.parasol-project.org

Since February 2006 twelve academic institutions and five business ventures from seven EU-countries as well as Africa have been researching the development of sustainable, low-input methods for internal parasite control in ruminants. The international research project PARASOL (Parasite Solutions) has been funded for a period of three years by the European Union Framework 6 Program. The project is coordinated by Professor Jozef Vercruysse of the University of Gent.

In September 2007 a meeting of all the PARASOL participants took place in Naples for the purpose of presenting and reviewing the research findings to date. The aim of the PARASOL-Project is to reduce the amount of anthelmintics used for the control of gastro-intestinal worms in ruminants by means of developing new treatment methods that are following the principles of Target Selective Treatments (TSTs). Using this approach it may be possible to limit the development of anthelmintic resistance, which is an issue for livestock producers throughout the world.

This approach is very different to current whole herd treatment strategies and relies upon being able to identify those animals which will most benefit from treatment. Researchers in participating countries with very different production systems and parasite problems have examined a range of parasitological and production parameters that can be used to direct TSTs. The research to date has led to the development of some improved diagnostic techniques that can be used in conjunction with parasitological and/or performance data to selectively target anthelmintic treatments.

Professor Vercruysse, the project co-ordinator, has described the various ways in which the PARASOL project has already begun to disseminate its research findings to the livestock industry.

Further information about the project, its progress and developments, together with details of all the project-partners and lists of publications are available on the PARASOL-Website.

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Further information:

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Notes for the editor:**1. European Framework 6 Program (FP6):**

The Framework Program (FP) is the European Union's main instrument for funding research in Europe. Six Framework Programs (FPs) have been implemented since 1984, each covering a period of five years with the last year of one FP and the first year of the following FP overlapping.

The current sixth FP (FP6) aims to contribute to the creation of a true "European Research Area" (ERA). ERA is a vision for the future of research in Europe, an internal market for science and technology. It fosters scientific excellence, competitiveness and innovation through the promotion of better co-operation and coordination between relevant actors at all levels. The biggest part of FP budget will be spent on focussing and integrating future research activities on seven thematic priority areas such as Food Quality and Safety.

2. Ghent University, Faculty of Veterinary Medicine, Laboratory of Parasitology, Merelbeke, Belgium

The Laboratory of Parasitology of the Ghent University, Faculty of Veterinary Medicine, employs a total of about 22 veterinarians, biotechnologists and laboratory technicians with expertise ranging from parasite epidemiology and immunology to helminth molecular biology. The research group has extensive experience with the epidemiology and control of gastrointestinal nematode infections in cattle and small ruminants in Belgium and the tropics and strong expertise in a broad range of biochemical and molecular techniques including anthelmintic resistance. Laboratory techniques such as ELISA, (Real-Time) PCR, polymorphism and proteomic techniques, recombinant protein production and chromatography are applied routinely.

3. Faculty of Veterinary Science, University of Pretoria, Departments of Veterinary Tropical Diseases and Large Animal Production, 0110 Onderstepoort, South Africa

The main role of the Departments of Veterinary Tropical Diseases and Large Animal Production of the South African Faculty of Veterinary Science is development of TST systems for controlling helminths in small ruminants in a subtropical environment, and for devising methods of Technology Transfer for developing countries.

The Departments are pioneers in the TST approach to worm control, concentrating on prevention and control of infectious and parasitic animal diseases to improve sustainable socio-economic development in the subcontinent. About 40 international postgraduate students are employed at present. Due to the wide range of tropical infectious diseases and inimical conditions for small ruminant production in the region, the Departments are very well placed for research in this field. Their dynamism can be judged from production of more scientific papers in refereed journals than the total of the rest of the Faculty. With a staff of about 50 persons (40% academic), they are well equipped for modern research, including cutting-edge research on molecular biology on tropical diseases and parasitology, and are renowned for their wide-ranging international teamwork which includes joint funding (e.g. a present EU grant for external parasites, coordinated from The Netherlands). The research team has extensive experience in the field of parasitology (particularly epidemiology, anthelmintic resistance and sustainable Integrated Parasite Management - IPM) and knowledge of the sheep industry. The instigators and developers of the original method for targeted selective treatment (TST) for haemonchosis (FAMACHA method) and pioneers as regards

using body condition scoring (BODCON) for TST, they were the first to report resistance of nematodes to closantel, rafoxanide, disophenol and nitroxylnil and the first case of a helminth population resistant simultaneously to all five the available activity groups. The present global focus on the phenomenon of refugia in relation to selection for anthelmintic resistance and sustainable helminth control was also largely stimulated by inputs from this research team.

4. National Wool Growers' Association, P.O. Box 2242, Noordeinde, 6056 Port Elizabeth, South Africa

The NWGA, under general management of Mr Leon de Beer, is an SME with a strong infrastructure and the prime function of technology transfer to all walks of farmers in South Africa. Particularly dramatic results have already been obtained with the limited funds at their disposal, in uplifting a large number of resource-poor farmers in the East Cape Province by improving wool production through the provision of infrastructure like wool shearing sheds, training of the farmers concerned in animal breeding, in wool classing and handling, and in marketing of the finished product. This is underlined by recent funding, after a comprehensive investigation of the NWGA, from the prestigious ComMark Trust (DFID South Africa, for the poor, with the declared dictum: "Translating research into action").

The NWGA has a long record of close collaboration with the two departments of the South African Faculty of Veterinary Science.