

Workshops propose National Programme for Veterinary Helminthology for South Africa

A F Vatta^{a,b}, R C Krecek^b, A du Plessis^c, A R Havemann^d and J S van der Merwe^e

ABSTRACT

A workshop was held at Onderstepoort on 2–3 July 1999 to set priorities in veterinary helminthology for South Africa. Representatives from 19 organisations attended. The workshop achieved 2 of its 3 aims, namely to identify the priority areas within the field and to set specific objectives to be achieved in addressing these needs. Seven strategies were proposed, namely, motivation, education, therapeutic, worm resistance, animal tolerance, biological control and diagnostic strategies. A follow-up session took place on 8 September 1999 and at this workshop and in subsequent meetings, preliminary action plans were developed for these strategies. It was felt that the proposed activities delineated by this process should form the basis for a National Programme for Veterinary Helminthology and a national forum is to be convened to encourage all stakeholders to consider, discuss and adopt these activities. The forum is scheduled to take place in April 2000.

Key words: National Programme, priorities in research, training and technology transfer, South Africa, veterinary helminthology.

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BACKGROUND

A workshop was held at Onderstepoort on 2–3 July 1999 to identify priorities in helminthology relevant to the animal and public health needs of South Africa^{1,2,3}. Dr Dürr Bezuidenhout facilitated the workshop and used the logical framework (logframe) approach, compiled by the Agricultural Research Council's Unit for Development Impact Analysis, Pretoria, South Africa.

AIMS

The participants planned to achieve 3 specific aims, *i.e.* to:

1. Identify priority areas within veterinary helminthology in terms of research, training and technology transfer that are needed.
2. Set specific objectives to be achieved in the addressing of these constraints.
3. Develop a framework of action plans to be followed.

The workshop held on 2–3 July accomplished the first 2 of the 3 aims and a follow-up workshop was held on 8

^aOnderstepoort Veterinary Institute, Private Bag X05, Onderstepoort, 0110 South Africa.

^bDepartment of Veterinary Tropical Diseases, Faculty of Veterinary Science, University of Pretoria, Private Bag X04, Onderstepoort, 0110 South Africa.

^cFort Dodge Animal Health (Pty) Ltd, PO Box 1785, Kempton Park, 1620 South Africa.

^d1279 Lawson Avenue, Waverley, 0186 South Africa.

^eVirbac RSA, Private Bag X115, Halfway House, 1685 South Africa.

Fig. 1: Helminthology logframe.

Motivation strategy

Logframe	Intervention logic	OVI ^a (measure)
Goal	Improved animal health and production and human welfare through good worm control	
Purpose	Coordinated stakeholder participation	
Intermediate results	<ol style="list-style-type: none"> 1. National Programme (NP) established 2. Steering committee of NP established 3. Good knowledge of socioeconomics (se) 4. 'Public Good' aspects in helminthology identified 5. Committed stakeholders 6. Public awareness created 7. Appropriate information material available 	<p>Forum to be convened by end of March</p> <p>To be presented at forum</p> <p>To be discussed at forum</p>
Activities	<ol style="list-style-type: none"> 1.1 Identify all relevant stakeholders 1.2 Select continuation committee 1.3 Draft workshop/programme report 1.4 Send to stakeholders 1.5 Organise forum to debate National Programme 1.6 Develop budget for forum 2.1 Forum of National Programme to establish National Steering Committee 3.1 Socioeconomic impact statements to be developed – for motivation purposes at forum 3.2 Initiate socioeconomic studies (NP) <p>The rest of the actions will be for the National Programme to develop</p>	<p>Resources</p> <p><i>Continuation committee:</i> T. Krecek (chairperson), H. Havemann, T. Laas, K. van der Merwe, A. Vatta with co-opting powers</p> <p>Continuation committee to contract/invite contributions</p>

^aObjectively verifiable indicators.

Fig. 2: Helminthology logframe.

Therapeutic strategy	
Logframe	Intervention logic
Goal	Improved animal health and production and human welfare through good worm control
Purpose	Effective anthelmintics available
Intermediate results	<ol style="list-style-type: none"> 1. Alternative (traditional) remedies for worm control identified 2. New chemical groups and generic products for worm control developed 3. Existing anthelmintics potentiated 4. Anthelmintics for emerging farmers readily available in suitable packaging 5. Improved practical methods for efficacy evaluation developed 6. Restrictive regulatory procedures and requirements removed
Activities	<ol style="list-style-type: none"> 1.1 Conduct a literature review of alternative medicines used as anthelmintics 1.2 Survey use by alternative practitioners, e.g. traditional healers 1.3 Test for anthelmintic efficacy 2.1 Interested parties to collaborate where applicable with pharmaceutical industry 3.1 Examine innovative strategies 3.2 Test most promising strategies 3.3 Commercialise effective strategies 4.1 Identify needs with regard to types of drugs, distribution and packaging 4.2 Develop products and infrastructure 4.3 Implement through adjusted industry extension and adapted regulatory measures 5.1 Evaluate alternative methods for testing efficacy of conventional and alternative anthelmintics 5.2 Implement suitable methods 6.1 Identify restrictive measures 6.2 Amend regulatory procedures and requirements

September 1999 to develop action plans to address the identified constraints.

ACTION PLANS

At the 1st workshop, participants developed 7 strategies that they felt should be followed to accomplish the goal of good worm control. The strategies proposed are: motivation, education, therapeutic, worm resistance, animal tolerance, biological control and diagnostic strategies. A discussion of each strategy was pub-

lished in September 1999². Although the strategies have been delineated, they are not independent. Rather, one needs to see elements within each as inter- related and interdependent. During the follow-up workshop on 8 September, participants started developing intermediate results and activities for each strategy (Figs 1–6).

It was considered that to combine the motivation and education strategies would be most appropriate. Hence action

plans for a single strategy, renamed the motivation strategy, were proposed. The other strategies were retained and their frameworks expanded in subsequent sessions facilitated by Dr Dürr Bezuidenhout and Prof. Joop Boomker.

NATIONAL FORUM

The details of the motivation strategy require some explanation. Participants developing this strategy considered that a National Programme for Veterinary

Fig. 3: Helminthology logframe.

Worm resistance strategy	
Logframe	Project logic
Goal	Improved animal health and production and human welfare through good worm control
Purpose	Effective worm resistance management
Intermediate results	<ol style="list-style-type: none"> 1. Resistance specialists available 2. Practical diagnostic method(s) for resistance developed 3. Methods to reverse worm resistance developed 4. Effective integration of worm control with farm management systems obtained 5. Worm remedies correctly used
Activities	<ol style="list-style-type: none"> 1.1 Identify current specialists 1.2 Identify and motivate for suitable posts for specialists 1.3 Create a line of succession through appropriate training 1.4 Obtain funding for posts and training 2.1 Plan a project with existing expertise (e.g. Belgium and France) 3.1 Obtain support for existing projects 4.1 Establish working group to evaluate integration of worm control with farm management 5.1 Reconsider conventional drenching recommendations with reference to new developments in worm control 5.2 Compile and effectively disseminate information on worm control

Fig. 4: Helminthology logframe.

Animal tolerance/resistance strategy

Logframe	Project logic
Goal	Improved animal health and production and human welfare through good worm control
Purpose	Availability of animals less susceptible to worm infections with emphasis on small ruminants
Intermediate results	<ol style="list-style-type: none"> 1. Practical methods developed for identifying less susceptible small ruminants 2. Genetic parameters for breeding less susceptible animals determined 3. Breeding for reduced susceptibility accepted and implemented 4. Susceptibility to worms compared in local sheep and goat populations
Activities	<ol style="list-style-type: none"> 1.1 Evaluate the FAMACHA® method and condition scoring for selecting less susceptible small stock 1.2 Collaborate with existing expertise with regard to genetic markers nationally and internationally 2.1 Identification of suitable flocks where studies can be conducted 2.2 Develop and implement practical farmer-friendly methods 3.1 Create public awareness and support for breeding worm-resistant animals 4.1 Develop a suitable project protocol 4.2 Identify suitable flocks to survey 4.3 Conduct trials

Helminthology should be established and driven by a National Steering Committee. Prof. Tammi Krecek, Mr Hawie Havemann, Dr Theuns Laas, Dr Kobus van der Merwe and Dr Adriano Vatta were elected to a continuation committee led by Prof. Krecek and with co-opting powers. (Mr Hawie Havemann has since resigned because of a career change and his wholehearted support and commitment during this strategic planning process are gratefully acknowledged.) The continuation committee is to convene a national forum to debate the National Programme. One of the aims of the forum is to encourage all stakeholders, including

the National and Provincial Governments, industry, the National Faculty of Veterinary Science and the Onderstepoort Veterinary Institute, to be given the opportunity to consider, discuss and adopt the proposed National Programme. The forum is scheduled to take place in April 2000. Individuals who would like to be part of the discussions at the forum are encouraged to contact any one of the people below:

- Prof. Tammi Krecek: tel.: (012) 529 8022 (W); cell: 082 779 1402; fax: (012) 529 8312; e-mail: tkrecek@op.up.ac.za
- Dr Theuns Laas: tel.: (017) 735 5850 (W); cell: 083 725 6334; fax: (017) 735 5850

- Dr Kobus van der Merwe: cell: 082 568 0399; fax: (011) 314 5393; e-mail: kvandermerwe@logos.co.za
- Dr Adriano Vatta: tel.: (012) 529 9206 (W); cell: 082 802 2524; fax: (012) 529 9434; e-mail: adriano@moon.oivi.ac.za

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Fig. 5: Helminthology logframe.

Biological control strategy

Logframe	Project logic
Goal	Improved animal health and production and human welfare through good worm control
Purpose	Effective control of worms by non-chemical means
Intermediate results	<ol style="list-style-type: none"> 1. Worm control by microorganisms (e.g. nematophagous fungi) implemented 2. Worm control by integrated grazing management achieved 3. Methods for biological control of intermediate hosts of helminths implemented 4. Effective vaccines against worms developed
Activities	<ol style="list-style-type: none"> 1.1 Survey nematophagous fungi in South Africa 1.2 Isolate and propagate the most promising fungi 1.3 Test these fungi under field conditions for worm control 1.4 Commercialise the product 1.5 Investigate other potential microorganisms 2.1 Integrate the 50:50 grazing system with worm control 2.2 Monitor the above system with regards to selection for anthelmintic resistance 2.3 Adapt current recommendations on integrated worm control on communal grazing 2.4 See also 'worm resistance strategy – effective integration of worm control with farm management systems' 3.1 Investigate the role of predators on aquatic intermediate hosts of flukes 3.2 Conduct a literature review for other possibilities of biological control of intermediate hosts of flukes and tapeworms 4.1 Evaluate existing candidate vaccines against cysticercosis 4.2 Investigate possibilities for cooperating with institutions developing nematode vaccines

Fig. 6: Helminthology logframe.

Diagnostic strategy	
Logframe	Project logic
Goal	Improved animal health and production and human welfare through good worm control
Purpose	Improved helminth identification and diagnostics
Intermediate results	<ol style="list-style-type: none"> 1. National Collection of Animal Helminths maintained and expanded 2. Trained stakeholders 3. Established capacity for helminth identification and diagnostics in regional laboratories 4. <i>In vitro</i> techniques for resistance developed 5. On-farm diagnostic techniques developed 6. Rapid and accurate laboratory methods established
Activities	<ol style="list-style-type: none"> 1.1 Appoint curator 1.2 Relocate collection if necessary 2.1 Develop and present courses for formal training of veterinary students and students of other paraveterinary professions 2.2 Develop and present continuing education courses 2.3 Organise farmers' days where courses will be presented 3.1 Identify and prioritise suitable facilities 3.2 Equip basic facility according to needs 3.3 Develop a programme to visit these facilities on a rotational basis 3.4 Create public awareness for programme 4.1 Establish collaboration with centres of expertise 5.1 Refine the FAMACHA® method 5.2 Investigate Lab-Stick method for diagnosis of helminthoses 6.1 Evaluate and compare existing techniques for suitability under on-farm conditions

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tance with the compilation of the intermediate results and activities as described for each strategy.

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