

# NSSA Newsletter



NEMATOLOGICAL SOCIETY OF SOUTHERN AFRICA

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## Symposium attracts international speakers

The 18<sup>th</sup> Symposium of the Nematological Society of Southern Africa was held at the Boardwalk Conference Center in Port Elizabeth from the 6<sup>th</sup> to the 10<sup>th</sup> of May 2007.



The Boardwalk Conference centre in PE

Several new approaches and activities were implemented at the conference in an endeavor to engage all of the delegates. Keynote speakers were increased to six which resulted in a diverse and stimulating array of key discussions by world experts spread over the conference to retain interest over the three days. The keynote speakers were all international, Professor Maurice Moens and Professor Roland Perry from Belgium and the UK, Professors Rodriguez Kabana, Larry Duncan and Dr Crow came from the USA. The opening speaker Dr Ferdi Meyer from South Africa set the scene with an interesting presentation on the economic and agricultural impact of the global bio fuel focus.

There were 46 oral presentations and 17 poster presentations of a high standard and it was rewarding to see the engagement of the delegates on several topics. Student turnout was good with several presenting and the student award was deservedly won by Jean de Waal.

Driving the objective of engaging the delegates with the conference the social activities were some of the highlights of the con-

ference. The Sunday cocktail was a rather sedate affair yet by the time the beach party had started on Monday one could sense the changing vibe, the beach had been decked out in an Arabian theme and with the welcome cocktails specially formulated to start the party the symposium members got into the spirit of the party. A fantastic time was held by all with the only challenge being for the Tuesday morning speakers being up to the task! The closing Gala night incorporated live music which got most people dancing after the formalities and was superbly MC'd by Dr Hennie Le Roux.

The Boardwalk is a quality venue, with a well run conference support team and with the constant management of Jean Osborne the programme ran to schedule. Sponsors came to the party to supply significant financial support to make this all possible and their support is gratefully acknowledged in the symposium program. Acknowledgement must be given to the entire Nematological Society Executive which was fully involved in making the symposium a success.

In conclusion the combination of a stimulating scientific program matched with engaging social activities made the 18<sup>th</sup> Symposium a success with the generation of many good memories!

*Dr Greg Burger*

### Points of interest:

- THE 18<sup>th</sup> SYMPOSIUM OF THE SOCIETY WAS HELD FROM 9-10 MAY IN PE
- SCHOLARSHIP UP FOR GRABS (PAGE 3)
- DOW AGROSCIENCES WINS AWARD FOR OZONE PROTECTION EFFORTS (PAGE 3)
- NEW MSc COURSE AT GENT (PAGE 4)
- SYMPOSIUM ON INTEGRATED DISEASE MANAGEMENT AND SOILBORNE PLANT DISEASES (PAGE 5)

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## Editorial

The silly season is upon us and we thought we would fit in one more newsletter before the end of the year. As you might have noticed by now, our website has undergone a revamp and boasts some interesting new features. Please feel free to send any comments about the website to me. We have received some interesting news items from all over the country, so read on and enjoy.

Finally, allow me to leave you with the words of a Latin proverb: "Eat well, drink in moderation, and sleep sound, in these three good health abound". Happy festive season. Drive safely.

*Rinus Knoetze*



## Presidents message

Dear Members

As 2007 is speeding to an end at a ferocious pace, it is appropriate to dwell a bit on memorable events that took place during this year in the Nematology fraternity of Southern Africa.

The first aspect that comes to my mind is definitely the recent symposium that was held at the Boardwalk Centre in Port Elizabeth during May 2007. What an unique experience and whopping success the meeting had been! Besides an interesting and informative academical programme, the social events were absolutely from out of this world. I am sure that all participants will cherish these thoughts until the next symposium. Although Greg Burger will take you on a symposium trip down memory lane elsewhere in this newsletter, I just want to highlight a few issues relating to this. First of all I want to ensure Prof Bertus Meyer, to whom we extended our farewells during the Gala Dinner, that we will definitely be missing him during future symposia. Furthermore, this outstanding meeting would not have been possible without the generous support of our valued sponsors (Bayer CropScience, Du Pont de Nemours, Illovo Sugar, NRF, Syngenta, CRI, Dow Agrosiences, Horticura, Plaaskem, Villa Crop Protection, Woodall Country House and Spa, ARC-GCI, ARC-ITSC and BayAgro) and Sustaining Members (Bayer CropScience, BCP, FMC Chemical (Pty) Ltd, Horticura, Illovo Sugar, Microbial Solutions, Nemlab, Pannar, S.A.S.R.I. and Wirsam Scientific). Also the dedication and innovative ideas of the previous symposium organising committee chaired by Greg, inputs from the previous President Alex Mc Donald and efforts by EC members all ensured that the symposium was an experience not to forget. THANKS TO ALL OF YOU!

Another gathering where local Nematologists met again took place during September 2007 at the annual Soilborne Meeting, hosted by ARC-Plant Protection Institute in Stellenbosch. A workshop was scheduled for general discussions and we also attended a very interesting and informative presentation by the renowned Nematologist Professor Richard Sikora from Germany about the use of biological agents in nematode control programmes.

The first EC meeting for the 2007/09 term also took place in September 2007. One of our immediate objectives to be addressed during the next two years is the role that the NSSA can play in instituting a working relationship between the Registrar's Office and the NSSA for streamlining the nematicide registration process. This visit was very fruitful in terms that the Registrar welcomed the proposed interaction of the NSSA, which will mainly reflect in centralization of proposals for registration of nematicides through the EC of the NSSA. Such proposals will then be channelled to experts for evaluation. Another objective formulated by EC members entails exposure of the general public, producers, etc. to nematodes and the role they play as parasites of different crops. This will be done by publishing a range of articles in the popular press, which will most probably commence during January/February 2008. I want to express the gratitude of EC members towards all members for their inputs and willingness to participate in this joint venture, despite hectic schedules at this late stage in the year.

*Continued on page 3*

## President's message (continued)

We also entered into preliminary discussions about the venue for the next symposium, which will be hosted in the northern part of our country during 2009. We will keep you informed on progress in this regard and will do our utmost to keep up the standards Greg and his team set.

With regard to the future, the 2008-year is packed with Nematology-related meetings, both locally and internationally. The next Nematology Short Course will take place from 30 June to 11 July 2008 at the Potchefstroom Campus of the North-West University. We can only accommodate a limited number of attendants, so visit our website early during 2008 for more information! Two Nematology Workshops will also be hosted during 2008 at SASRI and during the Soilborne Meeting at the ARC-PPRI (Stellenbosch) respectively. Check out our website [www.sanematodes.com](http://www.sanematodes.com) for more information on these local meetings. Another absolutely worthwhile meeting will be the 5<sup>th</sup> International Congress of Nematology to be hosted by our Australian counterparts from 13 to 18 July 2008 in Brisbane, Queensland, Australia. At this stage a number of Nematologists from Southern Africa will attend this meeting that only takes place every six years. I am absolutely sure that we will be able to spot some "Aussie" marine nematodes down in the Great Barrier Reef – don't miss this once in a lifetime opportunity. Visit the website [www.ifns.org](http://www.ifns.org) for more information.

An announcement about the George Martin Scholarship for the 2008/2009 term is included in this newsletter and will also be displayed on our website. Please attend to this and send in your application if you need support for Nematology training for this term. Also take note that proceedings of the previous symposium will be published early during 2008 in the South African Journal for Plant and Soil.

Before I greet you, I need to express our heartfelt thoughts to loved ones and friends of a former member Keith Brown, who passed away recently. Our sympathy and warmest thoughts also to Ms Issie Mathysen who lost both her brother and mother during 2007, while her father is also in ill health.

All that are now left for me to say is that I wish the gift of love, peace and happiness would be yours this Festive Season and that 2008 will meet your expectations. Please take care when you travel during the festive season and come home safely.

*Dr. Driekie Fourie*  
*President*

## Scholarship up for grabs

Applications are invited for the "GEORGE MARTIN MEMORIAL SCHOLARSHIP" tenable for the year 2008. The award, to the value of R 4000.00 is open to persons from countries of Southern Africa: South Africa, Botswana, Lesotho, Swaziland, Mozambique, Malawi, Zimbabwe and Namibia. The purpose of the scholarship is to promote Nematology in southern Africa, preferably by assisting the successful candidate to attend a recognized course in Nematology. Applicants must be serious about pursuing a career in Nematology and about furthering the science of Nematology. The successful candidate will be expected to give a paper at the next NSSA symposium and/or report in the Society's newsletter how the funds were used. A letter of application and a curriculum vitae should be sent before 30 April 2008 to:

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Driekie with Dr. Richard Sikora  
in Stellenbosch

## DOW Agrosciences wins award

MONTREAL- September 21, 2007 - Dow AgroSciences LLC, a subsidiary of The Dow Chemical Company (NYSE: Dow), has been named a winner of the United Nation's Montreal Protocol Innovators Award at the annual Meeting of the Montreal Protocol, an international agreement designed to protect the earth's ozone layer. The award honors the company's innovation, investment and commitment to protect the environment through its efforts to develop alternatives to methyl bromide, an ozone-depleting substance being phased out under the Protocol. At this meeting, which commemorates the 20<sup>th</sup> anniversary of the Protocol, Dow AgroSciences was also named a winner of the United States' Environmental Protection Agency's (EPA) "Best of the Best" Ozone Protection Award which honors an elite group of companies, organizations and individuals who have demonstrated long-term excellence in efforts to protect the stratospheric ozone layer.

Both awards honor the company's long-standing commitment to providing critical alternatives to methyl bromide, an ozone-depleting substance used for pre-plant, post-

harvest and structural fumigation uses. Dow AgroSciences products containing the active ingredients 1,3-dichloropropene and sulfuryl fluoride have been widely adopted on a global scale to coincide with the scheduled phase-out of methyl bromide.

"This public acknowledgment illustrates how Dow is delivering on its strategy of utilizing technology to address critical issues facing society while creating growth opportunities for the Company," says Jerome Peribere, Dow AgroSciences president and chief executive officer. "We are honored by this award which commends our company's long history of being able to constantly introduce important soil, post-harvest and commodity fumigation products that can help growers around the globe have viable, available and cost-effective pest control options."

He adds, "As an innovation-based company, we are making important progress towards the development of new soil and post-harvest fumigation tools that we believe will further assist our customers to meet their urgent market needs."

"DOW IS DELIVERING ON ITS STRATEGY OF UTILIZING TECHNOLOGY TO ADDRESS CRITICAL ISSUES FACING SOCIETY"

## New MSc course at Ghent university

Ghent University is now coordinator of a consortium of universities and a research institute who are combining to provide a European Master of Science in Nematology through EU funding via the Erasmus Mundus programme.

The core partners are Ghent University (Belgium, acting as host University), University of Évora (Portugal), University of Jaén (Spain) and University of Bielefeld (Germany). The satellite partners are University of Leuven (Belgium), University of Wageningen (The Netherlands), University of Kiel (Germany) and the Scottish Crop Research Institute (UK).

Students will start their course at Ghent but will be able to select one of the core universities to attend for specialised courses. The research projects can be undertaken at any of the institutes of the core or satellite partners and, thus, can link in effectively with the research interests of the institute partner. This EU funding provides an exciting opportunity

for the partners and the students to consolidate and expand the enormous teaching and research opportunities offered by the Nematology course. Moreover students from all over the world can apply for an EU grant and there are a few grants available for scientists to come to teach or cooperate in research for a period of up to 3 months. The Masters course will become a truly European one from September 2008 onwards, whilst also retaining its historical base at Ghent University.

More information can be found at [www.eumaine.ugent.be](http://www.eumaine.ugent.be). Students from developing countries can apply for a VLIR-UOS-grant; see [www.vliruos.be](http://www.vliruos.be). Students from all over the world can apply for an EM-grant; see [www.eumaine.ugent.be](http://www.eumaine.ugent.be).

The deadline of application is 1 February 2008 for both programmes..

Nic Smol



## Integrated disease management discussed at SBDIG

The Soilborne Plant Diseases Unit of the Agricultural Research Council's Plant Protection Research Institute hosted the 17th interdisciplinary symposium on soilborne plant diseases on 19 and 20 September 2007 at the Vredenburg Research Centre of the ARC-PPRI in Stellenbosch. The topic for this year's symposium was *Integrated Disease Management and Soilborne Plant Diseases*. The event was attended by 63 representatives of Research Councils, National and Provincial Departments of Agriculture, private companies and universities. Participants represented a wide range of disciplines such as agronomy, botany, entomology, genetics, horticulture, microbiology, Nematology, plant pathology, plant physiology and soil science. Prof. Peter Greenfield of the University of KwaZulu-Natal and Prof Richard Sikora of the University of Bonn, Germany delivered the keynote addresses.

Some of the conclusions reached by the delegates to this symposium can be summarized as follows:

The increases in food production that will be required to feed a growing and more affluent global population will have to come from enhanced productivity per square unit of arable land. This objective must be achieved while simultaneously. The application of sound biological principles to an integrated systems based agriculture combined with crop improvement and a site specific approach has to be used to increase crop productivity in the decades ahead.

Producers worldwide are looking for alternative methods of pest and disease control and products to optimize the production of their

produce. This is necessitated by the increasingly higher demands of consumers with regards to healthier and residue free crops. The onus is on the biological industry to ensure that high quality products and training reaches all relevant people involved.

Soil in its natural state is a healthy environment where multi dimensional processes and entities occur in equilibrium. Disturbance of this equilibrium through vigorous and frequent tillage decreases the stability for crop production and enhances the occurrence of pests and diseases not previously associated with its healthy status.

Site specific and correct application of biofumigation forms part of an integrated disease management approach and can be implemented as a sustainable alternative in agriculture.

Citrus nematode control can only be effective if all factors having an effect on the root system of the plant are taken into consideration. This includes the use of nematode free nursery material, multiple applications of nematicides, water management, tolerant rootstocks and the use of biological control agents and less toxic compounds.

The importance of multidisciplinary teams to conduct research on important soilborne disease problems was again emphasized. The pooling of infrastructural resources and expertise will enable local researchers to concentrate on priority problems and thus access funding more readily.

*Rinus Knoetze*

## Nematology discussion group at SBDIG

The Nematology discussion group convened at the symposium of the Soilborne diseases interest group on 18 September 2007. The discussion was chaired by Hans Hugo and was attended by Patrice Cadet, Driekie Fourie, Sheila Storey, MC Pretorius, Niel Kruger, Shaun Berry, Anelia Steyn, Rinus Knoetze, Jeannie van Biljon, Antoinette Malan and Lené Martins.

The topics discussed were the use of induced resistance to improve plant protection against

nematodes; hatching tests and host suitability; the phasing out of methyl bromide and its effect on IPM; Upgrading of the Keetch & Heyns handbook "Nematology in South Africa" and the training and availability of taxonomists in SA.

Due to illness, the chairman, Hans Hugo, was unable to provide us with the minutes of the discussions at the time of printing

*Rinus Knoetze*

"THE IMPORTANCE OF MULTIDISCIPLINARY TEAMS ... WAS AGAIN EMPHASIZED"



## US focuses on EPN's

This year 14 students enrolled for the semester course in Nematology at the University of Stellenbosch. On postgraduate level, Jeanne de Waal is finishing the first year of work on her MScAgric (Entomology) and the title of her thesis is "The control of codling moth (*Cydia pomonella*) with entomopathogenic nematodes". She visited Dr. Khuong Nguyen at the University of Florida earlier this year to be trained in the molecular identification of entomopathogenic nematodes. With her training and great inputs from Rinus Knoetze locally, we can proudly announce that we can now identify entomopathogenic nematodes to species level by using molecular techniques. Jeanne is also a co-author in the description of a new local *Heterorhabditis* species named *Heterorhabditis safricana* for South Africa.

Tiarin Ferreira also applied for an MScAgric (Entomology) for 2008 and the title of her thesis will be "An investigation into the use of entomopathogenic nematodes for the control of the banded fruit weevil (*Phlyctinus collosus*)". She will be working in close collaboration with Prof. Larry Duncan from Florida, who was a keynote speaker at our previous symposium. She will be visiting Prof. Duncan early next year to get experience in the augmentation of EPN populations in commercial orchards and in small plots, evaluate efficacy in terms of immediate larval mortality and long-term population suppression, and study various aspects of nematode post-application biology. Her project and Jeanne's are financed by the Deciduous Fruit Producers Trust.

Dr. Antoinette Malan



Jeanne De Waal and Tiarin Ferreira

## New appointment at DoA

Lené Martins has been appointed in the Nematology section of the Plant Health Diagnostic Services division in Stellenbosch. Lené is a MSc. student in Plant Pathology at the University in Stellenbosch at will be completing her studies part-time while working at the Department. Moses Lesufi is also doing his masters at the Northwest University and is looking forward to obtaining his degree soon. He studied the occurrence of *Aphelenchoides arachidis* on groundnuts in South Africa.

The Nematology section is still involved in a countrywide survey for the presence of potato cyst nematodes in South Africa. Following the publishing of an article in "Landbouweekblad" warning farmers of the dangers of this nematode, Rinus Knoetze informed farmers at the

Sandveld farmers day about the distribution and quarantine regulations of *Globodera* spp. in South Africa. Rinus is also scrutinizing samples from the Sandveld to try and establish the identity and host of an unknown *Globodera* cyst from this area.

They also still have time to perform their main function, which is to defend SA agriculture against foreign pests and diseases. The following nematodes has been intercepted recently:

*Pratylenchus penetrans* on bulbs from the Netherlands; *Scutellonema bradys* on yams from Nigeria; *Tylenchulus semipenetrans* on olive from Italy

Rinus Knoetze

## Other news from the Western Cape

It has been an eventful few months, with several highs and fewer lows! After a very successful Nematology Conference earlier in the year, this pace only picked up from there. Nemlab broke their record for the amount of samples received in one year. A Soil Health workgroup was initiated, including two of the Western Cape Nematologists, Hans Hugo and Sheila Storey. Several trials are also currently

being undertaken to look at alternative methods for the biological control of plant parasitic nematodes. Caroline has also started up a diagnostic laboratory in Caledon for soil sample analysis for the presence of different economically important nematodes.

Jeanne de Waal

"...TO TRY AND ESTABLISH THE IDENTITY AND HOST OF AN UNKNOWN GLOBODERA CYST..."



Rinus, Lené and Sharon taking a break from sampling in the Sandveld

## ARC-IIC scientists attend World Cotton Conference

Jeannie van Biljon, Antoon Cornelissen and Tilla Pretorius from the ARC-Institute for Industrial Crops attended the 4<sup>th</sup> World Cotton Conference held in Lubbock, Texas in September. A wide range of topics was covered at the conference. Jeannie presented a paper on the newly established SADC cotton project, which created interest amongst the technology transfer group.

Nematology was covered in two breakout sessions on "Advances in Nematode Management", in the poster session and also in sessions dealing with *Fusarium* wilt. In the last fourteen years, *Fusarium* wilt has re-emerged as a significant threat to cotton production. In Australia, substantial losses have been incurred since a new lineage of *Fusarium oxysporum* f. sp. *vasinfectum* (FOV) was found in 1993. In California, FOV race 4, previously reported from Asia, has caused considerable damage since its discovery in 2001. Speakers presented a broad range of topics related to this disease: epidemiology/disease management, host resistance/breeding, fungal evolution, and molecular host plant interactions and its

synergistic interaction with the root-knot nematode, *M. incognita* race 4.

It was said that the interaction with the root-knot nematode takes place by passive transmission on the cuticle and active transmission through the stylet. Entry also takes place through wounds, biochemically and physiologically. The disease can be managed through host resistance, but one should have resistance to both the root-knot nematode and *Fusarium oxysporum*. The disease can also be chemically managed – *Fusarium oxysporum* with Bion and the root-knot nematode with Aldicarb, Telone II, AVICTA and Aeris. Crop rotation can be used for managing the root-knot nematode, but is difficult for *Fusarium* as it survives for long periods in the soil as chlamydospores and on the roots of non-hosts. Other management strategies include soil solarisation, flooding and tillage (debris management).

Several papers dealing with root-knot nematode resistance and tolerance were presented.

Jeannie van Biljon

## Resistance or Tolerance?

Richard Davis in his talk on the utilization of resistance and tolerance at the 4<sup>th</sup> World Cotton Conference held in Lubbock, Texas said that the losses due to nematodes in the USA are more than \$ 150 million and that control with nematicides prior to planting is a very large expense. Environmental conditions can also reduce the efficacy of a nematicide. According to him the benefits of host plant resistance are that (1) Does not have to be an additional expense (2) Resistance should not be affected by environmental conditions. His definition for resistance is based on the nematodes ability to reproduce and that tolerance is the nematodes effect on the ability of the plant to grow and produce a crop. Highly resistant cotton cultivars have not been produced and tolerance in the cotton plant has not yet been studied. Why can resistance and tolerance be utilized? (1) Percentage yield loss goes down as the level of resistance goes up (2) Even moderate levels of resistance have

a beneficial effect in reducing nematode population levels and yield loss. (3) In the absence of resistance no cultivars have been identified as consistently tolerant. (4) As the yield potential increases, the percentage loss to nematodes increases, so nematode management is even more beneficial for the highest yielding cultivars.

It was concluded that (1) resistance is species specific (2) other nematode may emerge as problems (3) with moderate levels of resistance, a nematicide might still be beneficial (4) continuous selection pressure may cause nematodes to overcome resistance (5) breeding for resistance to *M. incognita* has been very difficult and labour intensive. (6) it is not yet clear if there are any deleterious effects of incorporating resistance (yield drag).

Jeannie van Biljon



Jeannie with other nematologists at the conference

".....NEMATODE MANAGEMENT IS EVEN MORE BENEFICIAL FOR THE HIGHEST YIELDING CULTIVARS"

## Nematology unit involved in biodiversity

Antoinette Swart and Mariette Marais of the Nematology Unit, Biosystematics Division, ARC – PPRI attended the SABI Forum Meeting at the NRF, CSIR Campus, South Gate, Pretoria on 28 August 2007. The theme was; A tercentenary of Carl Linnaeus (1707 – 2007). They also attended the 33 rd conference of the Zoological Society of Southern Africa, "The sixth extinction - conserving zoological biodiversity", hosted by the Zoological Society of Southern Africa in Potchefstroom from 9 – 12 July 2007. Their contributions consisted of one paper: "Plant-parasitic nematodes associated with potatoes in South Africa" and two posters: "Plant-parasitic nematodes of the Afromontane Forest vegetation type" and "Plant parasitic nematodes, historical farms and archaeological sites".

Antoinette Swart and Mariette Marais were co-authors of a paper "Waterverbruik van plante – 'n aanduiding van aalwurmbesmetting?" presented at the "Jaarkongres van die Suid-Afrikaanse Akademie vir Wetenskap en Kuns, Afdeling Biologiese Wetenskappe" in Pretoria on 23 September 2007.

Mariette Marais trained 125 small scale farmers in the Thohoyandou area of Limpopo in basic Nematology and Antoinette Swart reported back on the survey (18 – 23 March 2007) of plant parasitic nematodes in the farming communities of Dididi, Tshikudini and Tshiulungoma. They were also co-authors in the writing of the manual: "Guide to Healthy Crop Production. English. Luvenda". 75 Pp.

Two articles have also been published in African Plant Protection:

MARAIS M. & SWART A., 2007. Plant nematodes in South Africa. 8. Bizana, Lusikisiki and Port St Johns area, Eastern Cape Province. *African Plant Protection* 13: 16-27.

VAN DEN BERG, E., MARAIS, M. & TIEDT, L., 2007. Plant nematodes in South Africa. 9. Check list of plant nematodes from the Goe-gap and Witsand nature reserves, Northern Cape Province, with a description of a new *Rotylenchus* species (Hoplolaimidae: Nematoda). *African Plant Protection* 7: 28 – 35.

Good progress has been made in capturing data in the SAPPNS data base. Mariette is at the helm of the data base and she, Naomi Buckley and Cara-Mia Dippenaar have already read huge amounts of information into the Collection and Literature Modules.

The Nematology Unit rendered expert diagnostic and biological information services to the DoA in support of its national and international phytosanitary obligations. Of interest were the following: A consignment of *Deladenus siricidicola* was positively identified; *Pratylenchus neglectus* was identified on lavender imported from Bulgaria and *Scutellonema bradys* was found on yams from Nigeria.

Dr. Antoinette Swart

## Nematologists never retire

As panel member, Esther van den Berg attended the 4th meeting of the Technical Panel on Diagnostic Protocols in Buenos Aires, Argentina. The meeting took place at the Plant Pests and Diseases laboratory of the Servicio Nacional de Sanidad y Calidad Agroalimentaria – SENASA in Buenos Aires from 24-28 September 2007. Ten panel members, two authors of protocols from Uruguay and Argentina, one Nematologist from SENASA and the coordinating secretary of COSAVE attended the meeting. The *Bursaphelenchus xylophilus* protocol was discussed and except for the fact that it needs some condensing it was well accepted and

will probably be ready for country consultation after next year's meeting. The *Xiphinema americanum* group and *Ditylenchus destructor* and *D. dipsaci* protocols would most probably also be ready for discussion next year. The work program for 2008 was also finalized and it was decided that the next meeting will be held during the middle of September 2008 in South Africa.

Also, new species of the economically important *Pratylenchus* is being described, as well as criconematid species from Iran.

Dr. Esther van den Berg (retired)

"SCUTELLONEMA  
BRADYS WAS  
FOUND ON  
YAMS FROM  
NIGERIA"



## New *Helicotylenchus* species found

During 2004 S. Gaibadoshova, then working at the Institut des Sciences Agronomique du Rwanda, sent a few nematode samples for identification. These samples were collected from the Nyangwe National Forest in Rwanda. We found *Helicotylenchus californicus*, *H. dihystra*, *H. variocaudatus*, as well as two species that could not be identified in the samples. One of these species is new to science and related to a group of six *Helicotylenchus* species in which fasciculi are reported. The second species is closest to *H. nitens*, a nematode described from indigenous forest in Cameroon. Upon obtaining *H. nitens* paratype material from CABI-UK, the Rwanda material will be compared to the material from Cameroon. These two species will then be described in one of the international journals.

During January 2006 samples collected from wetlands in the KwaZulu-Natal midlands, was found to contain *Helicotylenchus crenacauda*, *H. dihystra*, *H. indicus*, *H. pseudorobustus* and also a population that could not be identify without a detailed study. New morphological and morphometrical data shows that it could be conspecific with *H. imperialis*, a species described from India. This will however, be confirmed when the paratype material from India arrives. If identified as *H. imperialis* it will be a first record for South Africa and also the first time the nematode has been found outside of its type locality.

Dr. Mariette Marais



## Studies on leaf and stem nematodes

During 2006 Dr. Driekie Fourie detected an unidentified *Aphelenchoides* sp. in maize kernels in a grain silo in Bronkhorstspuit. Collaboration with an expert on the genus (Dr. Alexander Ryss, St. Petersburg, Russia) have indicated that it might be conspecific with *A. graminis*, originally described from the old USSR. Dr. Antoinette Swart is busy describing the species from Bronkhorstspuit and Alex Ryss is trying to find live specimens from the type locality to do some molecular testing on them.

As main author of the Diagnostic Protocols of

the two quarantine nematodes *Ditylenchus destructor* and *D. dipsaci*, Dr. Swart was in contact with two experts on these species, Dr. Sergei Subbotin (California Dept. of Food and Agriculture, USA) and Dr. Harvinder Benyapaul (Canadian Food Inspection Agency, Canada). Their inputs were compiled and the protocols finalized. This was done in collaboration with the IPPC (International Plant Protection Convention), FAO.

Dr. Antoinette Swart

"...UNIDENTIFIED  
*APHELENCHOIDES*  
SP. IN MAIZE  
KERNELS ..."

## Unknown cysts detected

Since 2004, an unknown *Globodera* cyst has been detected in soil samples from the potato fields of the Sandveld (Western Cape) by the Nematology lab of the Department of Agriculture in Stellenbosch. This unidentified species is morphologically and molecularly close to the golden cyst nematode (*Globodera rostochiensis*). Rinus Knoetze (DoA), Colin Fleming (Ireland) and myself are collaborating to identify this species by conducting host tests, molecular techniques and traditional morphology. This could be important as it seems that we might have an indigenous *Globodera* sp. (probably new to science) with an indigenous *Solanum* sp. as host. Our main problem would be to establish if this species could become a parasite of potatoes.

During 2007 an unknown *Heterodera* sp. from apple trees in the Western Cape was detected by Sheila Storey (Nemlab). Scanning electron microscope studies have been done on some of the specimens, showing small or no bullae in the terminal area. This species is in the process of being identified.

A supposedly new *Heterodera* sp. of wetlands in the KwaZulu-Natal midlands, is in the process of being identified and, if proven to be new to science, described.

Dr. Antoinette Swart



## News from ARC-ITSC

After the Nematology symposium the year has been flying and it is the end of the year. There was so much more we wanted to do but next year will have to do.

We have been busy with granadilla trials for the SA Pesticide Initiative Program where several more friendly products are being used. It is however not the efficacy or not of these nematicides that is giving us grey hair but everything else. First *Phytophthora* took over, then the sun decided to show how hot she could really be for weeks on end and when finally the plants were recovering from this the frost came and killed them all. Luckily, we never give up and replanted in August. Now we are hoping to see some results.

We also became involved in vegetable trials and besides being subtropical fruit specialists, we will soon be able to grow veggies better than any farmer.

It is also amazing to see how much interest there is in nematicidal work again. We went through a period of very few new products

and suddenly this has changed. Good for us!

My students have been busy with the alternative control strategies in rural farming and Candy is still testing bionematicides, while Grace is busy looking at the potential of permaculture.

Finally I am trying to start a new project on "Nematode communities as biodiversity factors to determine soil health". I have taken the samples and have contacted Wageningen and other specialists but where can I get some extra days because the days are simply too short to fit it all in. But I will make the time next year...

Have a great Christmas and New Year and all the best from all of us in Nelspruit

*Dr. Mieke Daneel*

## Nuus van CRI - Nelspruit

Hierdie jaar was 'n jaar vol gebeurtenisse vir MC Pretorius. Hy het op 10 Maart die grootstap geneem en is met Venessa getroud. Verdere goeie nuus is dat hulle vroeg in die nuwe jaar 'n seuntjie verwag.

Deur al hierdie opwinding was daar nog tyd vir navorsing ook. 'n Hele aantal "biologiese middels" asook nie-toksiese produkte is geëvalueer teen die sitrusaalwurm. Wêreldwye druk om weg te beweeg van die tradisionele hoogs toksiese middels na middels wat meer omgewingsvriendelik is, het die sitrusbedryf gedwing om na alternatiewe beheermaatreëls te kyk. Sodra meer resultate beskikbaar is sal dit bekend gemaak word. 'n Praatjie is in September tydens die "Soilborne Disease Interest group meeting" in Stellenbosch gelewer. Die

title was "Chemical control of the Citrus nematode as part of an integrated pest management approach" Tydens die symposium is 'n moontlike samewerkingsooreenkoms met een van die gassprekers, Prof Richard Sikora van Bonn Universiteit in Duitsland, bewerkstellig.

Laura Huisman moes in Augustus 'n operasie ondergaan, maar die Diagnostiese Sentrum was gou weer terug na normal

*Laura Huisman*

"...NEMATODE  
COMMUNITIES  
AS BIODIVERSITY  
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DETERMINE SOIL  
HEALTH



## News from ARC-Grain Crops Institute, Potchefstroom

What a year we experienced during our "nematode-invaded" journey through 2007 with regard to research, training and personal matters!

In the first place Suria Bekker, who joined our team as a student during December 2006, are progressing at a steady pace in identifying the occurrence of seed- and gall nematodes from the genus *Anguina* in grass producing areas of South Africa. She recently visited Prof Bertus Meyer in the Malmesbury-Phildadelphia-Darling area to extend this survey to grasses other than *Eragrostis* spp. Another part of Suria's project also involves investigation of various techniques to separate nematode-galled seeds from visually uninfected seeds as well as to evaluate chemical control options. Results emanating from this study are vital since the export and production of local grass seed is seriously hampered due to infection by these parasites. Another student, Mr Lucas Ngobeni, also obtained positive results in identifying poor-host open-pollinated maize varieties and hybrids for use by producers to reduce root-knot nematode levels substantially. Lucas, furthermore, verified resistant genotypes in microplot trials using a range of root-knot nematode inoculation densities. This research

will be to the benefit of maize producers and the industry.

Also a part-time student, our Technician Nancy Ntidi is in the final stages of writing-up of her MSc-dissertation titled "Plant-parasitic nematodes associated with weeds in developing agriculture, with special reference to root-knot nematodes". Since limited information is locally available on the ability of weeds to maintain economically important plant-parasitic nematodes and serve as a reservoir to infect agricultural crops planted in the same field or follow-up crops, results obtained from this study is of utmost importance for both small-scale and commercial producers. As a result of Nancy's dedication she was awarded the first prize for the most applicable presentation and second prize for the best paper presentation during the 25<sup>th</sup> Congress of the South African Society for Agricultural Technologists held at Bloemfontein on the above-mentioned topic. Well done Nancy!

Sonia Steenkamp and Driekie Fourie are furthermore persevering in resistance breeding to root-knot nematodes and the peanut pod nematode in soybean and groundnut, respectively. They are also conducting several trials for chemical companies to evaluate products with nematocidal effects. A survey will also be conducted during 2008 in co-operation with Syngenta to confirm the root-knot nematode problem in maize producing areas of South Africa. Technical assistance by Erna Venter, Lizette Bronkhorst, Rita Jantjies, Belina Matuli, Samuel Kwena and Abram Tladi are invaluable in all Nematology research programmes at our institute.

Members of this Unit also went beyond the borders of South Africa during 2007 for work-related issues. Alex Mc Donald



visited Zanzibar in Tanzania during October for a follow-up meeting on a workshop titled "A roadmap for the Creation of a Coordinated Network for Plant Disease Diagnostics in Sub-Saharan Africa". The primary objective of this meeting is to start a Plant Disease Diagnostics Network for Sub-Saharan Africa encompassing a number of centers, with a virtual expert laboratory backing up research ventures. On the other hand, Driekie had the opportunity to attend the Symposium of the Russian Society of Nematologists held during July in Petrozavodsk in the North of Russia. She presented a poster and paper at this meeting to expose international Nematologists to local Nematology research being done at the ARC-GCI. She also made contact with Russian Taxonomists who will in coordination with Dr Antoinette Swart assist in identification of local *Anguina* spp.

But... the highlight of 2007 is without doubt that Erna Venter and husband Frikkie are expecting their first baby! This little girl had them waiting for more than 13 years and will make her long-awaited appearance early in 2008.

*Nematology Unit, ARC-GCI*

"..TO START A  
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## NEMATOLOGICAL SOCIETY OF SOUTHERN AFRICA

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The Nematological Society of Southern Africa (NSSA) is dedicated to advance the science of Nematology in Southern Africa in both its fundamental and applied aspects. To serve this purpose the Society acts as an agency for the exchange of information, holds regular symposia and promotes and extends knowledge in all phases of the subjects. The NSSA brings together scientists, researchers and like-minded individuals from Africa who dedicate themselves to the study of nematodes.

Nematodes (also called eelworms or roundworms) are the most abundant multicellular animals on earth. The focus of the NSSA is on plant-parasitic nematodes, but people from all fields of Nematology are welcomed.

The society also organises a short course at the University of North West, sponsored by the VLIR-project. The George Martin memorial scholarship is awarded annually. The purpose of the scholarship is to promote Nematology in Southern Africa by assisting successful candidates to attend a recognized course in Nematology.

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We're on the Web: [www.sanematodes.com](http://www.sanematodes.com)

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During the recent Soilborne Symposium in Stellenbosch, the attending Nematologists took some time to enjoy a social evening together with friends and spouses at the Java Café in Stellenbosch. Although South Africa lost the cricket that evening, a fun time was had by all. Also attending was overseas guests, Dr. Richard Sikora and Dr. Patrice Cadet.