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WAITE CAMPUS
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AUSTRALASIAN NEMATOLOGY NEWSLETTER



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Nematologists**

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Welcome to all members of the Australasian Association of Nematologists.

The birth of AAN

The Australasian Association of Nematologists was formed in response to the general decline in support for nematology in New Zealand and Australia. So, at the Seventh Conference of the Australasian Plant Pathology Society (APPS), AAN was formed as a special-interest group under the auspices of APPS.

The objectives of our new association are to advance and disseminate knowledge of nematology and its practice in the following ways:

- (a) by fostering communication and exchange of information between members and between other local and overseas societies with similar aims and objectives.
- (b) by organising scientific meetings, workshops and training courses.
- (c) by increasing political and public awareness of the functions and achievements of nematologists.

Who is managing AAN?

At the moment, until the next APPS conference in 1991, a steering committee is managing AAN. This committee consists of:

Chris Green	- Chairman
Graham Stirling	- Secretary
John Curran	- Members
John Marshall	
Chris O'Brien	
Julie Stanton	

What AAN can do for YOU

AAN has several immediate plans and the steering committee is already starting to tackle these. It is amazing what initial enthusiasm will achieve! Let's hope that we get enough support to continue at the same pace. We aim to have these projects well under way within 18 months. This should get AAN off to a good start.

You can read about these activities in "Association News" in this issue. If you have any questions or suggestions, please contact those involved.

We are working to make AAN a worthwhile organisation. If you can think of something that we have overlooked, please let us know.

Australasian Nematology Newsletter

We plan to publish two issues of this newsletter every year. The current plan for the newsletter is to have several regular sections. These will be:

- 1) Association news. This section will let you the members know what is going on within AAN. Members of the committee will report on their activities for AAN.
- 2) Current research. This section will include reports from members. These items should be short summaries of their work and interests with perhaps a little past history such as date and place of graduation, previous work, etc. Anything that you think will interest other members is suitable. I would like to get such an article from each and every member. The idea behind this is to get to know our fellow members. Nematology is a small discipline in Australasia so we should try to keep in touch with what is going on all over the area. I will chase up all those who do not contribute, so send yours in quickly!
- 3) Regional news. We want to keep in touch with the goings-on of our members so this section of the newsletter should include news of interesting events, past, present or future, in your area. Let us know about any visitors, travel, meetings, personnel changes, interesting seminars (perhaps with a short summary), etc. No item of news is too small.

4) General articles. This issue of the newsletter includes two articles which were submitted to the Australian Nematologists Newsletter but which had not been published yet. This type of article is of interest to members so let's hear about new techniques, new nematode problems, changes in distribution or importance of old nematode problems, book reviews, etc.

It is always the bane of any organisation to get response from its members in the form of contributions for newsletters. I am sure that I will not have that same problem!

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We would love to be able to welcome more members so, if you have not yet sent your subscription, please do so as soon as possible.

This, the first newsletter of AAN, will be sent to all those whom we know are interested in nematodes. If you know of others whom we may have forgotten, please let us know. In future, the newsletter will only be sent to financial members.

Now that you know all about AAN, if you have any criticisms or suggestions (in fact, even a little bit of praise would be nice!), please let me or any of the committee members know.

Finally, thanks must go to Rob Brown and I.C.I. for their kind offer to copy and post the newsletter to members.

Julie M. Stanton
Editor, Australasian Nematology Newsletter
Plant Pathology Branch
Baron-Hay Court
SOUTH PERTH WA 6151

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P.S.
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Deadline for copy for the next issue of the newsletter will be 15 June 1990. But there is no need to wait till then; send your contributions now! J.S.

NEWS FROM THE AAN EXECUTIVE

As you can see from the membership list in this newsletter, there has been an encouraging response to the formation of AAN. During the next year or so, the committee's aim will be to establish our new association on a sound footing and to start addressing some of the issues which are important to the development of nematology in Australia and New Zealand. Towards this end, various committee members have accepted responsibility for tackling the following initiatives.

1. NEGOTIATION WITH APPS EXECUTIVE - G. Stirling, C. Green

To negotiate with the APPS executive regarding the constitution of AAN, and the relationship between AAN and APPS.

2. MEMBERSHIP - J. Stanton, J. Marshall

To ensure that those interested in nematodes who are not members of AAN are informed of its activities and encouraged to join.

3. NEWSLETTER - J. Stanton

To act as editor of the Association's newsletter.

4. TAXONOMY WORKSHOP - C. Green, P.C. O'Brien, J. Curran

To organise a workshop to commemorate the centenary of N.A. Cobb's appointment to the NSW Department of Agriculture.

5. STATUS OF NEMATOLOGY IN AUSTRALASIA - G. Stirling, J. Marshall, J. Stanton, C. Green.

To prepare a report highlighting the importance of nematodes in Australia and New Zealand, the achievements of nematologists and the major problems which need to be addressed.

6. GENERAL WORKSHOPS ON IDENTIFICATION, BIOLOGY AND CONTROL OF NEMATODES - P.C. O'Brien.

To determine whether there is a demand for workshops on basic nematology amongst chemical industry personnel, pest management consultants and technical and extension staff in government departments, and to investigate ways in which this demand can be met.

7. LIAISON - J. Curran

To maintain communication between the various specialist groups within nematology.

I am sure that all committee members would be pleased to receive comments or help from any member with an interest in these areas.

G.R. Stirling
SECRETARY

A U S T R A L A S I A N A S S O C I A T I O N
O F N E M A T O L O G I S T S

MEMBERSHIP LIST
(AS AT 1 DECEMBER 1989)

INTERESTS

Dr Raymond J. Akhurst CSIRO Division of Entomology GPO Box 1700 CANBERRA ACT 2601	Insect pathogenic nematodes and associated bacteria.
Telephone: (062) 465 233 Facsimile: (062) 470 217	
Mr Gary Baxter Department of Agriculture and Rural Affairs Ovens Research Station PO Box 235 MYRTLEFORD VIC 3737	<u>Meloidogyne</u> sp. <u>Pratylenchus penetrans</u> <u>Paratrichodorus</u> sp.
Telephone: (057) 521 311 Facsimile: (057) 522 702	
Dr Alan F. Bird CSIRO Division of Soils Private Bag No. 2 GLEN OSMOND SA 5064	Nematode structure and physiology.
Telephone: (08) 274 9284 Facsimile: (08) 338 1636	
Mr Peter G. Brisbane CSIRO Division of Soils Private Bag No. 2 GLEN OSMOND SA 5064	<u>Pasteuria penetrans</u> as a biological agent for root-knot nematodes.
Telephone: (08) 274 9111 Facsimile:	
Mr Keith J. Chandler BSES PO Box 122 GORDONVALE Q 4865	Nematodes on sugar cane.
Telephone: (070) 561 255 Facsimile: (070) 562 405	
Dr John Curran CSIRO Division of Entomology GPO Box 1700 CANBERRA ACT 2601	Entomopathogenic nematodes, molecular taxonomy
Telephone: (062) 46 5174 Facsimile: (062) 47 0217	

Mr John L. Dockray
Grow Force Australia Ltd
1808 Ipswich Road
ROCKLEA Q 4106

Telephone: (07) 277 3755
Facsimile: (07) 875 1660

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Rural Affairs
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Cereal cyst nematode

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Department of Agriculture and
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MILDURA VIC 3500

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Facsimile: (050) 246 561

Diagnostic nematology in
horticultural crops.

Dr Gordon S. Grandison
DSIR Plant Protection
Private Bag
AUCKLAND
NEW ZEALAND

Telephone: (09) 89 3660
Facsimile: (09) 86 3330

Control of plant parasitic
nematodes by biological and
chemical methods; Pacific
Island plant parasitic
nematodes.

Miss Francesca M. Green
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Waite Agriculture Research
Institute
GLEN OSMOND SA 5064

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Cereal cyst nematode.

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MORNINGSIDE Q 4170

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Facsimile: (07) 390 9450

Biological, chemical and
cultural control of
nematodes.

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 Institute
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 CONCORD WEST NSW 2073

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Nematode problems on turf.

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 Plant Research Institute
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 Facsimile: (03) 819 5653

Cell surfaces of nematodes.
 Molecular biology of
 nematodes.
 Host recognition by
 nematodes.
 Parasites of Australian
 native plants.

Mr Ross Holding
 CIBA-GEIGY Australia
 PO Box 332
 THOMASTOWN VIC 3074

Telephone: (03) 463 9633
 Facsimile: (03) 465 9070

Development of products for
 nematode control.

Mr David J. McDonald
 Agrisearch Services Pty Ltd
 PO Box 1387
 23 Keppel Street
 SHEPPARTON VIC 3630

Telephone: (058) 21 2021
 Facsimile: (058) 31 1592

Nematode counting and
 diagnosis for research
 trials.

Dr Alan McKay
 S.A. Department of
 Agriculture
 Field Crops Pathology Group
 Private Mail Bag
 GLEN OSMOND SA 5064

Telephone:
 Facsimile:

Annual rye grass toxicity.

Mr Roderick W. McLeod
 NSW Agriculture and Fisheries
 Agricultural Station
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 Facsimile: (02) 831 2995

Diagnosis, information
 systems, control strategies.

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 Facsimile: (07) 371 0866

Taxonomy of root-knot
 nematodes, integrated
 pest management.

^{appr}
 Taxonomy of plant parasitic
 nematodes.
 Nematode distribution in
 native vegetation.
 Taxonomy of Dorylaimidia.

General nematology in all
 tropical crops; particularly
 bananas, tobacco, peanuts
 and vegetables.

Biological control.

Annual rye grass toxicity.
 Cereal cyst nematode.
 Computer simulation.
 Interactions between biotic
 and abiotic factors involved
 in host-nematode
 relationships.

General plant nematology.
 Biological control.

(377 9392 suite 1)

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Telephone: (07) 377 9372
Facsimile: (07) 371 0866

Pratylenchus thornei and
Merlinius brevidens.
Identification of nematodes.
Control methods, especially
through resistance breeding.

Nematode control.

Plant nematology especially
in horticulture.
Control.
Interactions.
Diagnostic services and
extension
Ecology.

Ecology.
Behaviour.
Aetiology.

Biological control.

Ms Fiona Wigg Meloidogyne sp.
Department of Agriculture and
Rural Affairs Paratrichodorus sp.
Ovens Research Station
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MYRTLEFORD VIC 3737

Pratylenchus penetrans

Telephone: (057) 311
Facsimile: (057) 522 702

AUSTRALASIAN ASSOCIATION OF NEMATOLOGISTS

MEMBERSHIP APPLICATION

SURNAME:

FIRST NAMES:

TITLE:
(PROF., DR, MR, MRS, MS)

EMPLOYER:

BUSINESS ADDRESS:

TELEPHONE NO.:())

FACSIMILE NO.: ())

NEMATOLOGICAL INTERESTS:

The subscription is \$10.00 per annum. Cheques should be made payable to 'Australasian Association of Nematologists' and posted with a completed membership application form to:

Dr G.R. Stirling
Secretary, AAN
Queensland Department of Primary Industries
Plant Pathology Branch
Meiers Road
INDOOROPILLY Q 4068
AUSTRALIA

CURRENT RESEARCH

In March 1989, John Thompson of the Queensland Wheat Research Institute, Toowoomba, visited India to initiate an ACIAR-sponsored project on "Zinc deficiency in Vertisols in India and Australia". John's main interest in the project is the role of vesicular-arbuscular mycorrhizal (VAM) fungi in improving crop efficiency for extraction of zinc and phosphorus from these soils. Vertisols are the dark, cracking clay soils of tropical and sub-tropical semi-arid areas and India and Australia have the major areas of these soils in the world. The project is centred on the JNKVV (Agricultural University) at Jabalpur in Central India. In the black earths of the Darling Downs of Queensland and northern N.S.W., root-lesion nematode (*Pratylenchus thornei*) is a problem for wheat and possibly chickpea. So, John had in mind to test some of the soils at Jabalpur to see if *P. thornei* was present in a similar agro-ecological situation to Queensland. However, he soon had his answer as Dr. G.S. Dave, Senior Nematologist in the Plant Pathology Department at JNKVV, assured him that *P. thornei* was widespread.

No work was being done in India on *P. thornei* on wheat, the major host in Australia. This was because the All-India project on wheat appeared to be concerned solely with *Heterodera avenae*. Another All-India co-ordinated project was concerned with nematodes in pulses and, under its auspices, some work on *P. thornei* on chickpea had been done. Dr. Dave loaned John a Ph.D. thesis and John subsequently loaned it to Mark Schwinghammer who is also working on *P. thornei* in chickpea at Tamworth. The thesis is:

Bhatt, J. (1986). Interrelationship of migratory nematode (*Pratylenchus thornei*) in dry rot of gram (*Cicer arietinum* L.) C.O. *Rhizoctonia bataticola* (Taub) Britton-Jones. Ph.D. Thesis, Department of Plant Pathology, JNKVV, Jabalpur. 97 pp.

In glasshouse screening, Bhatt considered 45 out of 150 cultivars of chickpea had partial resistance to *P. thornei*. Improved cultivars generally did not support high populations of *P. thornei*. Cultivars ICC 3354 and ICC 11314 were completely free of nematodes. The nematode attacked the nodules as well as the roots of susceptible cultivars. The threshold of damage was considered 20 nemas/g soil. At the highest nematode concentration, leaflets became chlorotic and plant height was reduced. Most yield loss occurred where the effects of the nematodes were heightened by moisture stress and root damage by the fungus *Rhizoctonia bataticola*.

(John Thompson, Queensland Wheat Research Institute)

Under the expert guidance of Dr. John Fisher and Prof. Harry Wallace, I completed my Ph.D. in Plant Pathology at Waite Agricultural Research Institute in Adelaide in 1983. That same year, I hopped to the other side of the world to take up a post-doctoral fellowship at Centro Internacional de Agricultura Tropical (CIAT) in Cali, Colombia. The project involved studying the biology of the newly-described stem nematode, *Pterotylenchus cecidogenus* and finding resistance and tolerance in *Desmodium ovalifolium*.

Since 1986, I have been back in Australia at the Western Australian Department of Agriculture taking up where Brian Stynes and Jane Collier left off. My work here in WA is mainly involved with annual ryegrass toxicity, *Globodera rostochiensis* and *Heterodera avenae* as well as diagnosis of nematode and turf diseases. I also give a two-week lecture and practical course in nematology to third-year agricultural science students at University of Western Australia.

(Julie Stanton, Western Australian Department of Agriculture)

REGIONAL NEWS

News from Queensland

The attrition on nematology continues, with another of our experienced nematologists moving into a management position. Chris O'Brien recently moved to a position as Manager (Horticultural Crops) in Plant Pathology Branch, QDPI. Although Chris will continue to have an interest in the Department's nematology programme, his main responsibility will be the management of plant pathology research programmes in horticultural crops. We wish Chris well in his new role.

Fortunately, the nematology position which Chris vacated is being filled, and was to have been advertised in the national press in December. Enquiries concerning the vacancy should be directed to Graham Stirling (07) 377 9392 or Chris O'Brien (07) 377 9391.

(Graham Stirling, Queensland Department of Primary Industries)

News from South Australia

Retirement of Professor Harry Wallace

I doubt that there is anyone in the nematology world who does not know of Harry Wallace. He worked at Cambridge University and Rothamsted Experimental Station before coming to Australia to take up a position at CSIRO Division of Horticultural Research and then finally at the helm of the Department of Plant Pathology at Waite Agricultural Research Institute. His work spans many years and many fields of nematology, so much so that he has earned the right to be philosophical, as his students have discovered over the last few years! Harry has had many post-graduate students to whom he has been an excellent supervisor, always encouraging, constructively critical and ready to take the many practical jokes which have been played on him.

Harry, we all wish you a long and happy retirement. I guess that a good proportion of the time will be spent windsurfing and pounding the streets in Reeboks!

(Julie Stanton).

During November, 1989, I spent three days at National Agricultural University No. 1, Gialam, Hanoi, Vietnam. Many staff of the University have well-established links with colleagues and counterparts in Eastern Bloc countries and, following changes during the last few years to the political situation in Vietnam and elsewhere, staff are keen to initiate and develop contacts with counterparts in English-speaking countries.

Members of the Australasian Association of Nematologists may be able to send copies of published or unpublished papers and reports, laboratory manuals or other teaching materials, and unwanted texts or journals, to the Head of the Department of Phytopathology (Faculty of Crop Science) or the Head of the Department of Parasitology (Faculty of Animal Science). In the case of bulky packages, in particular, I would be pleased to use my contacts in the Vietnamese Embassy in Canberra to arrange shipment.

It seems likely to me that Australia and other western countries will provide significant international aid funding for Vietnam during the next few years, and that Vietnam will become an important economic force in South-East Asia.

Food production, tourism and education are three matters currently receiving strong interest from the Vietnamese government.

Australian scientists can help the development and socio-economic progress of Vietnam by providing library materials and establishing professional contacts.

(Barry Thistlethwayte, Roseworthy Agricultural College)

News from Western Australia

Annual Ryegrass Toxicity (ARGT) continues to spread in Western Australia. In a survey done last year by the Australian Bureau of Statistics, we discovered that the proportion of outbreaks reported by farmers was even less than we had guessed; on average, only about 20%. In 1986 and 1987, about 25,000 sheep were killed by ARGT and about 11,000 in 1988 with some 830,000 ha sprayed with herbicide each year to control ARGT. Roadside surveys have shown that nematode and bacterial galls are spread even further than the current known area affected by ARGT.

Regular testing of potato crops in the Perth metropolitan area in 1989 revealed two more infestations of *Globodera rostochiensis* (potato cyst nematode) close to the original outbreaks. One was in a crop adjacent to an infestation found in 1986 and the other was only 120 m away. All seven outbreaks found to date have definite family or neighbour links.

In a survey in 1989, *Heterodera avenae* (cereal cyst nematode) was found on eight properties in the Merredin advisory district. This is some 150 km from other infestations in the Northam area. The nematode is also present near Geraldton.

(from Julie Stanton)

PRECISION WOVEN BOLTING CLOTH

Bolting cloth is often recommended for use as a sieve for nematodes or fungal spores. We had difficulty obtaining supplies in Australia but finally were able to locate a supplier in Brisbane. Numerous grades of cloth are available, but the following grades are probably the most useful for nematologists. They cover the size ranges below that of the 38 μ m sieve - the finest reasonably priced metal sieve that is available.

GRADE	APPROX. SIZE (μ m)	
	OPENING	FIBRE DIAMETER
NY 40HD	31	33
NY 30HD	20	35
NY 25HD	17	30
NY 20HD	14	27
NY 15HD	11	29

The cloth is imported from overseas and is available in Australia through P&S Australia Pty. Ltd. Prices range from \$82 - \$105 per metre and a minimum order of five metres may be required.

P&S have offices in four states as follows:

PO Box 74
HIGHETT VIC 3190
Telephone: (03) 555 000

Unit 1
Hunter Court
2-6 Hunter Street
PARRAMATTA NSW 2150
Telephone: (02) 689 2211

12/200 Moggill Road
TARINGA Q 4068
Telephone: (07) 870 2854

10/220 Balcatta Road
BALCATTWA WA 6021
Telephone: (09) 344 8788

Lynette West
Graham Stirling

Queensland Department of Primary Industries, Indooroopilly.

RECENT OUTBREAKS OF
STEM AND BULB NEMATODE
IN GARLIC FROM
SOUTH AUSTRALIA

GE Walker, Department of Agriculture, Loxton, SA, 5333

Garlic (Allium sativum L.) has been grown in South Australia on a small scale for many years. Increased production based on new cultivars has taken place in the last five years particularly in the Murray Lands region where crops are grown under irrigation on sandy soils.

In November, 1987 crop failure was reported in a planting of cv. Italian White from a Bowhill property. Bulbs exhibited longitudinal splitting and rotting, and their root plates were spongy, straw-coloured and easily torn away. Ditylenchus dipsaci (Kuhn) Filipjev was abundant in diseased bulbs. Further testing showed that the nematode was present in "small" of the same variety retained from the previous year's planting (1986), in self-sown garlic from the 1986 planting and in cvs. Marlborough White and Italian White from ground previously cropped to the latter cultivar. D.dipsaci was not found in garlic cv. California Early from ground cropped to pumpkins in 1986. Although onions (Allium cepa L.) were not grown on the property, some self-sown plants cv. Cream Gold which had fallen out from a bin on ground planted to garlic cv. Italian White in 1986 were also found to be infested with D.dipsaci.

Soil samples were collected from three separate areas of 0.4 ha planted to garlic cv. Italian White in April, 1987 using a 2 cm diameter soil tube (30 cores per area at depths 0 - 20 and 20 - 40 cm) on 31 November, 1987. Area 1 had been cultivated one week before sampling, bringing garlic bulbs to the surface whereas garlic in the other two areas was still in situ at the time of sampling. Area 1 was planted to potatoes on 24 February, 1988 while the other two areas were planted to butternut pumpkins on 24 December, 1987. Soil was resampled as previously on 9 March, 1988. Nematodes were extracted the day following sampling from 200 g subsamples using decanting and

sieving followed by either centrifugal flotation in a sucrose solution or 48 hr passage through Baermann funnels. D.dipsaci was less abundant in the cultivated area and was not detected in soil from any area in the second sampling (Table 1). In the absence of a susceptible crop, the nematode would not be expected to persist long in the sandy Bowhill soil (4% clay, 1% silt and 95% sand), particularly over summer. The association of this nematode with heavier, clay soils has long been known (Seinhorst, 1956) and McLeod (1980) found the lucerne race in New South Wales only on soils with 25% or more clay. Volunteer garlic and susceptible weeds could, however, act as reservoirs.

A survey was made of garlic plantings from five other properties in Murray Lands in November, 1987. Suspect plants were lifted and returned to the laboratory for examination. Soil from around the roots of lifted plants was also extracted for nematodes using centrifugal flotation. D.dipsaci was not found on any other property, including the property from which cv. Italian White planting material used at Bowhill had originally been sourced. Paratrichodorus, Meloidogyne, Criconemoides s.l., Pratylenchus and Helicotylenchus were found in soil from one or more properties.

Infested soil from the Bowhill property containing 64 D.dipsaci/200 g soil was placed in seedling flats and planted with oats cv. Swan, rye cv. S.A. Commercial, lucerne cv. Sheffield and onions cv. Brown Spanish. As a control, seeds were similarly planted in uninfested soil. Flats were kept in a greenhouse under plastic sheeting to maintain high humidity. After 24 days, onion and lucerne seedlings growing in infested soil began to wither and die whereas oat and rye seedlings remained healthy. Seedlings growing in uninfested soil remained healthy. This suggested that the D.dipsaci attacking garlic belonged to the "lucerne race". McLeod (1980) found that the lucerne race could damage onion, tomato, French bean and pea in addition to lucerne.

In December, 1988 a second outbreak of D.dipsaci was found in garlic cv. Italian White on a property at Wall Flat (near

Table 1. Numbers of *Ditylenchus dipsaci* extracted from soil from three areas planted to garlic cv. Italian White at Bowhill.

Area	Depth (cm)	<i>D. dipsaci</i> /200 g soil*	
		31/11/87	09/03/88
1	0 - 20	ND (ND)	ND (ND)
	20 - 40	5 (ND)	ND (ND)
2	0 - 20	5 (4)	ND (ND)
	20 - 40	145 (800)	ND (ND)
3	0 - 20	26 (20)	ND (ND)
	20 - 40	15 (ND)	ND (ND)

* Total number of adult males, females and juveniles extracted using either sugar centrifugation or (in parentheses) Baermann funnels. ND = not detected.

Mypolonga). The nematode was not found in garlic from the property from which planting material had originally been sourced. Oats and lucerne had been grown extensively on the property and lucerne on a property 0.5 km distant was found to be infected by D.dipsaci. It therefore seemed likely that the "lucerne race" was also involved at this property, although the presence of the "oat race" was not ruled out. Onions and garlic are known to be hosts for most races of the nematode. The vegetative propagation of garlic and ability of the nematode to survive desiccation make for ready transmission in planting stock. Hot-water treatments can be used to treat planting stock (Anon., 1976). Introduction on lucerne or oaten hays is also possible. Garlic crops in the area are continuing to be monitored with the co-operation of the local branch of the Garlic Industry Association.

REFERENCES

- Anonymous (1976). Growing Garlic in California. Leaflet 2948. Division of Agricultural Sciences, University of California 12 pp.
- McLeod, R.W. (1980). Morphology, distribution and host range of the lucerne race of Ditylenchus dipsaci in New South Wales. Proceedings of the Linnean Society of New South Wales 105:295-305.
- Seinhorst, J.W. (1956). Population studies on stem eelworms (Ditylenchus dipsaci). Nematologica 1:159-164.

ELEPHANT BUSH: A HOST FOR ROOT-KNOT NEMATODES

A.F. Bird and C.G. Bonnielle
CSIRO Soils Division
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Elephant bush (*Portulacaria afra*) or the jade plant as it is more commonly called in Australia, is as most of you will know, a hardy herbaceous plant that seems to be able to thrive with the minimum of care. As its specific name suggests, it is a native of southern Africa. In its native land it is, as its common name suggests, relished by elephants and other herbivorous creatures such as cattle. It occurs in a sweet or sour form. I can vouch for the fact that the one we grow is the sour form. It is not only sour but it is loaded up with tannins which probably accounts for the fact that not many insects attack it. It is for this reason that it is a useful host plant to grow in the glasshouse where many plants have a rough time at the hands of various insects and mites and which may wilt during the summer unless watered regularly.

We have tested three species, namely *Meloidogyne javanica*, *M. incognita* and *M. hapla*, of root knot nematode on the jade plant and find that all enter, grow and reproduce in *P. afra*. Although the egg masses are small, the eggs nevertheless hatch into infective larvae so that, although we do not recommend this as a good host for building up numbers of root-knot nematodes for experimental purposes, it is a useful plant for maintaining a population with the minimum of care. A possible disadvantage is that it is propagated by cuttings but these "take" very well.

Portulacaria afra has not been listed as a host of plant parasitic nematodes in Australia although *Portulaca oleracea* (pigweed) is parasitized by several different genera of nematodes (Khair, 1986).

REFERENCE:

- Khair, G.T. (1986). List of Plant Parasitic Nematodes of Australia. Dept. of Primary Industry. 3rd ed. 156 pp.