

VOLUME 8 NUMBER 9 OCTOBER 1986

DIARY DATES.

NOVEMBER MEETING - THURSDAY 13TH

MICHAEL GARRATT - PRESIDENT - TASMANIAN FERN SOCIETY "TASMANIA AND ITS FERNS".

Burnley Horticultural College Hall, Swan Street, Burnley, 8.00 p.m.

NOTE. In the event of a power strike on the evening of any meeting, we regret that the meeting must be cancelled.

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OCTOBER MEETING - THURSDAY 9TH

8.00 P.M. BURNLEY HORTICULTURAL COLLEGE.

SPEAKER: MR. DAVID LLOYD - FROM M.M.B.W. SUBJECT: DRIP WATERING SYSTEMS.

SPEAKERS REPORT: SEPTEMBER MEETING. THE FUTURE AND SAFETY IN PEST CONTROL.

Trevor Hall, Product Manager - Gases CIG. David Williams, Horticultural Entemologist Dept. of Agriculture. Russell Woodcock, Product and Safety Specialist, Cigweld.

Our first speaker Trevor Hall outlined the products developed and patented by CIG.

Pyrethrum based pestigas P and Dichlorvos based Insectigas D.

Both insecticides have a hydrocarbon added to insure mixture with the high pressure Carbondioxide which acts as the propellant. This results in a small spray particle size in the range of 2 to 20 microns with consequent low deposition rate but particles remain suspended long enough to give adequate results.

The gases are packaged in steel or aluminium cylinders at 800 to 900 pounds per square inch. Called D size they hold 6 kg.'s of product and stand approximately 24 inches high.

Both Gases are registered with the Department of Health and marked with a label to distinguish them from other gases.

Pestigas P uses Pyrethrum, a natural extraction of a particular strain of Chrysanthemum. It has been found to be highly effective against many insects but of very low hazard to humans. Insectigas D is Dichlorvos based, an S6 schedule poison mainly used by professionals and is used to flush out insects which congregate in inaccessable places. It kills by inhalation and protective equipment should be worn when it is used.

David Williams then told how a pest control operator asked if Insectigas D would kill Mealy Bugs. As he did not know he decided to find some plants badly infested with Mealy Bugs and test the gas extensively. The main plants used were Gardenias, but a few ferns were added as were some Cyclamen, Hibiscus, Fuschias and tomatoes to check for phytotoxicity.

The test was done in a glasshouse of approximately 17 square metres floor space with a gable roof 2.3 metres high. The cylinder containing Insectigas D was placed inside the glasshouse, the door closed and the small nozzle operated by an electric timer. The gas was released for 4 seconds after which the door was kept closed for 2 hours. Safety was checked by obtaining an air sampler, using protective clothing to enter the area. After 20 minutes a high rate Dichlorvos was detected but after 60 minutes a small rate, and after 120 minutes no trace of Dichlorvos was detected. To be sure of safety a 15 second spray of gas was used and again after two hours no trace was detected.

David also stressed that the minimal detected concentration is .05 parts per million and this worked out at 16 mls. per glasshouse. As the safety data for Dichlorvos suggests values of 75 to 210 mls. per kg. of body weight, an 80 kg.person would need to receive 85 - 75 mls before it can have any appreciable effect, so even if you breathed all the air in the glasshouse you would total only 16 mls.

Continued

RESULTS.

Before gassing, five heavily infested leaves were counted for Mealy Bugs and twenty four hours later assessed. Within minutes of the gas being released it was noticed the nymphs dropped off dead and after two hours only a few adults remained alive but after twenty four hours 100% mortality was achieved. Some two months later the plants showed no signs of reinfestation.

Phytotoxicity assessment.

Adiantum fragrans	no effect
Adiantum fritz luthii	minor browning
Aspenium bulbiferum	slight tip burn
Pteris cretica mayii	no effect
Pteris cretica pareri	no effect
Microlepia speluncae	no effect

David felt that the slight damage might have been caused by frost or the close proximity of the heater.

Russell Woodcock completed the evening by showing and advising on the Cigweld range of respitory apparatus for protection against insecticides used in horticulture. He warned against using the paper masks as they are only dusk masks and quite useless against chemicals.

The basic equipment is a half face respirator with a twin cartridge, fitting over the nose and mouth. It will also fit over a beard or moustache and seals by means of straps. It should be used outside, never in enclosed areas or where oxygen may be deficient. There are three types of cartridge containing activated charcoal and activated wool each colour coded. Yellow for insecticides, grey for paints, and red for dusts. The air is breathed in through the cartridge and expelled out through the exhalation valves. If a very slight smell of the chemical is noticed the cartridge should be renewed and a life of 8 hours for a cartridge gives a good margin for safety.

Russell also explained the more complex outfits used mostly in agriculture from the head mask with full visor and PVC overall covering the whole body to the more sophisticated units which are air supplied connected to Medicalair tanks.

In conclusion Russell suggested that we should always wear goggles and gloves when using insecticides, particularly when handling or mixing the undiluted chemical and remember the hands, face, back of neck, under the arms or groin areas (wherever there is a good blood supply) are the danger areas.

Chris Goudey expressed our thanks to Trevor and David with Barry Stagoll thanking Russell.

QUESTION AND ANSWER SECTION.

It has been suggested we might include a question and answer section, and our first question is posed by Mr. Wilson from Altona.

"Has any society member come across a solution in controlling mosquitos in a fernery? (i.e. other than the conventional methods and sprays, electrical devices etc.). Please let me have your suggestions - Editor.

AUTHOR	TITLE	PRICE NON- MEMBERS	PRICE MEMBERS	P.& P. CODE
BEST	GROWING FERNS 1st Edit.	3.95	3.20	В
BEST	GROWING FERNS 2nd Edit.	5.95	4.60	В
BROOKLYN B.G.	HANDBOOK ON FERNS (U.S.A.)	5.95	4.80	A
CHINNOCK	COMMON FERNS & FERN ALLIES (N.Z.)	7.95	6.00	A /
CSIRO	WHATS WRONG WITH MY SOIL	1.95	1.60	A
CSIRO	ORGANIC MATTER AND SOILS	3.95	3.20	A
CSIRO	COMPOSTING	1.95	1.60	A
CSIRO	WHEN SHOULD I WATER	3.95	3.20	A
CSIRO	POTTING MIXES	3.00	2.40	A
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DUNCAN & ISAAC	FERNS & ALLIED PLANTS OF VIC TAS & S.AUST	25.00	20.00	C ///
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ELLIOT & JONES	ENCYCLOPAEDIA OF AUSTRALIAN PLANTS Vol. 1	45.00	36.00	С
ELLIOT & JONES	ENCYCLOPAEDIA OF AUSTRALIAN PLANTS Vol. 2	50.00	40.00	С
ELLIOT & JONES	ENCYCLOPAEDIA OF AUSTRALIAN PLANTS Vol. 3	50.00	40.00	С
FORESTS COMM.	POSTERS	2.00	1.80	
GICK	FERNS FROM MOTHER NATURE	5.95	4.80	A
GOUDEY	MAIDENHAIR FERNS IN CULTIVATION	59.95	43.00	С
GOUGH	PALMS AND FERNS	6.95	5.40	B /
GULLAN & WALSH	FERNS & FERN ALLIES OF THE UPPER YARRA ETC	5.00	4.50	B ///
HOSHIZAKI	FERN GROWERS MANUAL	19.95	16.00	С
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MARTIN R W	FERNS FOR FERNERIES (N.Z.)	13.00	12.00	A
MOLYNEAUX	AUSTRALFLORA HANDBOOK	6.95	5.50	A
RUSH	A GUIDE TO HARDY FERNS (U.K.)	5.50	5.00	A
S.G.A.P.	FERN STUDY GROUP BOOKLET	2.50	2.00	A
V.F.S.	AUSTRALIAN FERN JOURNAL Vol 1 No 1	2.00	1.50	A (

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POSTAGE AND PACKING: CODE "A" \$1.50, CODE "B" \$2.50 CODE "C" VIC \$4 NSW TAS & SA \$5 QLD \$6 WA & NT \$7 AVAILABLE AT MONTHLY MEETINGS OR FROM THE BOOK SALES OFFICER BARRY WHITE 24 RUBY ST WEST ESSENDON 3040 PH(A.H.)03-337 9793 5

GROWING FERNS FROM SPORE IS EASY !

By Peter Goschnick

Many of you may disagree that growing ferns from spore is easy, in fact my initial attempts were far from successful. I always managed to raise a modest crop of prothallium from which a small handful would manage to survive and become tiny sporelings, however all of these perished prior to being big enough to fend for themselves in the fernery.

After suffering several of these set backs and deciding to leave spore propagation to the experts, I started to notice tiny sporelings appearing throughout my fernery. Could it be that my ferns were capable of doing what I could not?

It was then that I realised that ferns had been propagating themselves from spore for more than 100 million years without any assistance and if left to their own devices would probably continue to do so.

The sporelings appeared mainly on the large scoria rocks that form the borders of my fernery, however these proved difficult to remove without damaging the delicate roots that had penetrated the small crevices in the rocks, usually killing the sporeling. While I had discovered an easier way to grow sporelings, I was still no better off.

Soon afterwards sporelings started appearing on a tree fern log lying amongst the ferns. These were easily removed by cutting out a portion of the tree fern log with a sharp knife and placing direct into potting mix. Nature had shown me an easy method to grow ferns from spore.

To give all of my ferns the oppertunity to complete their natural cycle I placed tree fern slabs on the ground throughout my fernery. Not only do they provide a suitable medium for the sporelings, they also help to retain moisture in the soil and keep the surface roots cool.

Since commencing this method of propagation I have successfully grown the following ferns, or to be more accurate the following ferns have managed to grow themselves.

ADIANTUM AETHIOPICUM	-	COMMON BUSH MAIDENHAIR	
ADIANTUM RADDIANUM CV FRITZ LUTH	-	FRITZ LUTH MAIDENHAIR	
ADIANTUM RADDIANUM cv GRACILLIMUM	-		
BLECHNUM FLUVIATILE	-	RAY WATER FERN	
BLECHNUM NUDUM	-	FISHBONE WATER FERN	
BLECHNUM WATTSII	-	HARD WATER FERN	
CYTHEA CODPERII	-	CODPER'S TREE FERN	
DICKSONIA ANTARCTICA	-	SOFT TREE FERN	
MACROTHELYPTERIS TORRESIANA	-		
PELLAEA PARADOXIA	-		
PELLAEA ROTUNDIFOLIA	-	BUTTON FERN	
PHYLLITIS SCOLOPENDRIUM	-	HART'S TONGUE FERN	
PLATYCERIUM SUPERBUM	-	STAGS HORN FERN	
PIERIS CRETICA CV PARKERI	-	PARKER'S TABLE FERN	
PTERIS CRETICA CV RIVERTONIANA	•	LACY TABLE FERN	
PTERIS TREMULA	-	AUSTRALIAN BRAKE FERN	
PTERIS UMBROSA	-	JUNGLE BRAKE FERN	
PTERIS VITTATA	-	LADDER BRAKE FERN	

While this method is not suitable for commercial quantities it is certainly an interesting exercise for the hobbiest, and requires very little effort.

So throw some tree fern slabs around your ferns and you will see that growing ferns from spore is easy, in fact that easy the ferns can manage it on their own.

NEW BOOK

"FERNS AND FERN ALLIES OF THE UPPER YARRA VALLEY AND DANDENONG RANGES" by Paul Gullan and Neville Walsh; Published by Dept. Conservation, Forests and Lands, and by National Herbarium of Victoria. 1986 102 pages, 21 cm X 15 cm

Available from the book sales officer

Price : Members \$4.50 Non-members \$5.00 ; Postage & Packing \$2.50 The following is an extract from the book's introduction :

"This booklet presents a guide to the identification of the ferns and fern allies of the hilly region north-east of Melbourne and to do this is divided into four main sections.

Firstly, a description of the region as a whole and the major vegetation communities is presented along with an indication of the abundance of ferns in each community.

Secondly, the nature of ferns and fern allies and how they can be distinguished from other types of plants is outlined.

Thirdly, a means of distinguishing different types of ferns and fern allies from each other is described using a simple key, which narrows the possibilities down to a few genera, and a more complex key, which allows identification to the level of individual species.

Finally, the main part of the booklet consists of descriptions and illustrations of individual species (all illustrations are of fresh specimens collected in the region). These are accompanied bynotes on the distribution, environment and vegetation communities favoured by each species and miscellaneous information on their cultivation, ecology, history and economic or cultural importance"

It is a book which should be on the bookshelf of anyone who is interested in the ferns of the Yarra Valley & Dandenongs

FERN NOTES BY R.H.B. SIEBEL.

Unlike most other plants, ferns have not evolved or changed much from their original prehistoric state and do not produce flowers or seeds as a means of reproduction. However, they reproduce themselves mainly by means of tiny one celled structures called spores.

Ferns also differ from seed producing plants in that they depend on water to complete a typical life cycle and they only grow in places where, when the time comes to reproduce, there will be enough water to permit the sperm to swim to the eggs; hence the use of a damp saturated atmosphere with water present in the raising of ferns from spore. (Sterilized African Violet mix is quite suitable).

In spite of this, ferns do occur and survive in some very hot dry inhospitable areas such as in Central Australia, here, they occur in the shelter of rocks or boulders with their roots buried deep below the rocks and the fronds reduce water loss by means of protective hairs or scales: When conditions get too bad the fronds curl up or shed themselves and the plants suspend growth till the next rains occur. They also have a very short reproductive cycle.

Spore generally occur in groups called sporangia on the underside of the fronds (Holly; Brakes). Some types produce seperate fertile and infertile fronds (Water fern) and yet others have specialized spikes covered with spore, these spikes look like flowers and the ferns are commonly called flowering ferns (Moonworts, anemia, royal & ostrich).

Spore can be coloured brown, black, yellow or green; as a rule, green spore are only viable for about 3 or 4 days, most other types remain viable for years if kept dry. The highest germination rate comes from fresh spore and Adiantums and Pteris spore are generally the easiest and quickest to change to prothalli and produce plants.

Beside propogation from spore a large number of ferns proliferate by vegetative means such as (i) root buds or stolons (sword, water and rasp). (ii) leaf buds or bulbils (mother shield, hen & chicken, hedge). Others can be multiplied by division of the underground stem or rhizome (madenhair, blechnum). Ferns with long creeping above ground rhizomes can be propogated from pieces of the growing tip (rabbits foot, kangaroo).

In their natural state, ferns grow in moist, shady spots and if these conditions can be duplicated in the suburban garden, it is quite easy to grow your own ferns. In nature the shade comes from trees growing overhead and the trees drop their leaves, these decay to form a thick layer of humus, this humus contains the water during dry periods and also provides most of the mineral elements necessary for the growth of ferns.

Ferns like plenty of fresh air, but do not like draughty conditions whether they be hot or cold. In nature the closed gullies and surrounding low growing vegetation provides the protection from strong wind currents.

Although most ferns like a plentiful supply of water, their roots do not like to be permanently waterlogged; however specialized water ferns such as azolla, marsillea or nardoo do occur in ponds or swamps.

When growing ferns in the garden or in pots it is necessary to provide a porous, well drained growing medium because the roots require aeration (oxygen), besides nutrients for the growth of the plants.

a)	4 parts leaf mould or humus	(b) 2 parts compost
	1 part garden loam	1 part washed sand
	1 part washed course sand	1 part peat moss or ground
	1 part powdered cow manure	bark or fern fibre.
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ż part powered cow manure.

Bagged potting mixes must be tipped out of the bag and well aired before being used along with added compost or leaf mould.

Most ferns like an acid soil, but some grow happily among limestone rocks (lime lovers). Adiantums as a rule need some lime in their mix. To one cubic foot of mix add one ounce (25 grams) of garden lime (Calcium carbonate) - Never use Limil.

EASY TO GROW FERNS FOR SUBURBAN GARDENS.

- Polystichum proliferum A very hardy fern, it will stand quite a bit of direct sunlight provided the roots are well mulched and kept moist (viz. Coal Creek Village). This fern can be used as a potted specimen indoors if given spells outside. In the ground it will produce 4 foot long fronds in 3 to 4 years.
- 2. Asplenium bulbiferum, hen & chicken fern This moisture loving fern will tolerate heavy shade. In its natural state it also occurs as an <u>epiphyte</u> on tree fern trunks, hollows in trees etc. They make good potted plants and will survive in dark corners indoors provided they are given some fresh air occasionally.
- 3. <u>Pellea falcata</u>, sickle fern Very easily grown in pots or in the ground, quite hardy and will take some sun. In the ground it spreads fairly quickly but can be easily controlled. A good pot plant indoors, water infrequently.
- 4. <u>Dennstaedtia davalliodes</u>, lacy ground fern Reasonably hardy, but if not confined, tends to spead rapidly; its fronds can be badly affected by caterpillars. (Use Dipel or Carbryl). Can be potted up and used indoors in good light if given spells outside.
- 5. <u>Blechnum nudum</u>, common fishbone water fern A very hardy fern which will take plenty of direct sunlight if the roots are kept moist and protected. Can be potted up and used indoors, in moderate light with spells in the open air. <u>NOTE</u>: When ferns are exposed to direct sun for long periods, their fronds tend to become a yellowish green colour.
- 6. <u>Nephrolepis cordifolia cv. plumosa</u>, Tasselate sword fern A very hardy fern, will stand direct sun if given moisture and protection at the roots; it can be grown in the ground or in pots and used indoors quite successfully, but watch for scale insects. If kept in a shaded position will do with a minimum of water and have darker green coloured fronds.
- 7. <u>Rumohra adiantiformis</u>, leather fern A tough hardy fern whose fronds keep well in water. In the ground it will take some sun, in pots it can be used on sheltered patios and indoors. Two forms of this fern occur - the larger exotic type grows well in the ground or in soil, the smaller native type of leather fern often grows as an epiphyte on treefern trunks and can be used in baskets.

Continued

TO BE COMPLETED IN OUR NOVEMBER NEWSLETTER.



BEAUTY SPOT GARDENS Incorp. Beauty Spot Nursery Kings rd MARYSVILLE.

Open to the public from Friday 10th October to Sunday 19th October inclusive for a spectacular show of Spring flowering exotics.

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One of the loveliest walks is to Beauty Spot, an area crowded with ancient tree ferns flanking a small stream. Gorgeous colored parrots, yellow-tailed black cockatoos, wrens and fantails abound while pink heath, wild violets and sun orchids light the forest.

Nearby, Steavenson Falls are beautiful by day and an unforgettable sight sparkling in the foodlights at night. The Cumberland Valley, where the worlds tallest hardwood trees grow, is worth the short drive. Here too, ancient green mosses and tree ferns flourish deep in the cool, humid forest.

MAR/SVILLE also offers trout fishing or a round of golf on the picturesque 18 hole golf course, horse riding,grass skiing and bicycle riding.

Maureen and Corey Slusser.(059-633368)



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ANSWER TO SEPTEMBER - CAN YOU NAME THIS FERN?

CYATHEA BROWNII: Norfolk Island Tree Fern

In general appearance this tree fern looks like a very vigorous form of the native species, Cyathea cooperi. The species grows very easily in subtropical and temperate Australia and tolerates considerable exposure to sunshine, especially if the roots are cool and moist. It is an excellent fern to shelter more delicate species and is becoming deservedly popular in cultivation.

BUYERS' GUIDE TO FERN NURSERIES

NEW SOUTH WALES

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MARLEY'S FERNS 5 Seaview Street Mt. Kuring-gai 2080 Phone: (02) 457 9168

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PRESIDENTS REPORT.

With the improving spring weather our ferns enhanced with new growth renew our enthusiasm in the caring and enjoyment of them. It is my hope that with this enthusiasm all members will endeavour to assist in the shows our society is participating in during this year. By talking to other fern growers whether experienced or beginners so our knowledge and enjoyment grows and the rewards far outweigh the time and effort extended.

PRESENTATION FOR SERVICE.

I was very honoured to make the presentation of a plate superbly designed with ferns, handpainted and inscribed by talented artist Sylvia Tupper to Lorraine Goudey for her years of service as Book Sales Manager of our society. Sincere thanks Lorraine.

EXCURSION.

We are planning a day trip in early November with lunch in Geelong gardens followed by a visit to inspect Chris Goudeys fernery. More details in our next newsletter.

NEWSLETTER.

Please keep in mind our need for a bank of interesting material to be available for our Editor Mac Gregory to draw upon when preparing our newsletter. Remember we are interested in your thoughts, ideas and suggestions so send them along. Peter Goschnick has already submitted some excellent articles - thanks Peter.

SPECIAL EFFORT WINNERS.

- 1. Mick Adaway
- Frank Didonna
 Terry Turney
- 4. Rod McConchie
- 5. Trevor Gidding

- 6. Barry White
- 7. Barry White
- 8. Bernadette Blackstock
- 9. Terry Turney
- 10. Betty Allgood.

Kind Regards.

Keith Hutchinson.