

THE EARTHWORMER

EARTHWORM INTEREST GROUP OF SOUTHERN AFRICA

ISSUE: OCT/NOV. 2010

RE-THINK : RE-USE : RE-CYCLE : RE-DUCE : RE-GENERATE

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Should you need any help with your worming activities, the first person to approach should be your nearest Regional Group Convenor.

INTRODUCTION

Greetings to all our members, old and new! Since our previous newsletter we have been able to enrol some world and local authorities in the field of vermiculture and research, whose help and advice we have already received on some matters of importance. You will recall that in that newsletter we mentioned that David Murphy of Australia, author of two excellent books for the layman and beginner, had accepted our invitation to join EIGSA. We still have a number of copies of his latest book, ***Organic Gardening With Worms*** in stock at a discount price to you, our members. The price is R180.00 + postage. Those who wish to order should please contact Maria Loudon at mmloudon@lantic.net.

Since then, we have also had Prof. Clive Edwards of Oregon State University, he to accept our invitation to join EIGSA. Prof Edwards has been doing research into earthworms and vermiculture for many years. He is a recognised world authority on the subject, with a great many publications to his name.

Locally, we have been privileged to have Dr Danuta Plisko of the Natal Museum and Charl Pienaar, author of *Goodbugs, Little Workers* join our ranks. Dr Plisko has done a huge amount of research, much of it focussing on the worm species of Southern Africa. (There will be more about her and her work later.) She has recently been involved as a consultant in a National Geographic programme, dealing with giant earthworms of the world and also in advising a group researching the effects of deforestation of the tropical rainforests of West Africa on worm populations and other microbial life.

Charl, together with Dora du Plessis, saw the need for a South African handbook for all interested in working with worms. They compiled an excellent little book for all readers, which is available in hard copy form from us at the same price as David's book. There is also an e-book version available directly from Charl (charl@goodbugs.co.za.)

An appeal to members in the Mpumalanga Highveld region.

You will have noticed on our front page that we have no Regional Group Convenor for this region, which covers Witbank, Middelburg, Dullstroom and neighbouring areas. We are asking that someone living in this region volunteer to be the RGC.

The main responsibilities of the RGC are to co-ordinate regional events. We do recommend that the RGC sets up a regional committee to organise workshops, seminars, etc. This committee should also be very active in canvassing new members. The most important qualifications are enthusiasm and an ability to organise and to work with people.

In-depth knowledge of earthworms and vermiculture is not an essential, as this will come in time by association with other enthusiasts and as you work with earthworms.

Members of the EIGSA National Committee are always available to give guidance.

If you would like to volunteer, please contact Ken at kareid@iafrica.com. He would very much like to hear from you!

Introducing Dr Danuta Plisko

EIGSA members are really privileged to have among their numbers one of Southern Africa's top researchers in the field of earthworms and vermiculture. Dr Danuta Plisko comes from Poland and has been attached to the Natal Museum and University of KZN for more than 20 years. She has done vast research into the indigenous earthworms of the sub-continent, having collected, preserved and described more than 150 new species (more than 5,000 samples), all of which are to be seen in the Natal Museum in Pietermaritzburg. Even though Dr Plisko has been retired for many years, she still continues with this fascinating research, almost single-handedly.

Over the years she has had many papers published in scientific journals. These are itemised on the Internet under her name and are a must for any who feel the need to learn more about our indigenous worm species. This knowledge is very important to those who work with worms, especially in the field of agriculture, as those who work with the soil should have a good understanding of the local ecosystems. This even applies to gardeners.

Dr Plisko has kindly answered some of the questions which have arisen from various sources in recent times. We are publishing these in *The Earthwormer* for the enlightenment of all our members. She should be supported in every way possible by EIGSA members, even more so due to the fact that her research is largely self-funded and done on her own time.

Understanding earthworms:

Many people start off believing that earthworms all perform the same functions in the soil and that all can survive in different soil conditions. This is wrong. It must be understood that composting worms (which are the commercially used ones) can only survive in very rich decomposing matter. *Eisenia fetida* (Red Wigglers) is the most widely used of these, as they adapt most easily to different conditions and are easy to transport. Compost worms cannot survive in soil, so they cannot be taken from their environment and put into the garden, except under very special conditions created for this purpose. When buying these worms, great care must be taken to ensure that they are being transported in a neutral medium, otherwise soil-borne diseases are spread—but this is through the medium and **not through the worms**. The buyer must therefore make absolutely sure that the supplier uses a sterile, neutral medium and the onus is also on the supplier to ensure this, or soil diseases may inadvertently be spread, with potentially serious results.

Should you take such a container of worms and tip it out into your garden soil, these worms will die slowly, as the available rich organic matter is gradually depleted. While their excrement and decomposing bodies will enrich the soil in that vicinity, these are only relatively minor in their effects. The most important elements are the micro-organisms present in the vermicasts and the decomposing matter. These are what provide the nutrition needed to support plant life. The compost worms are therefore the agent which introduces the richness to this very complex network.

Indigenous species:

Dr Plisko suggests that we all do more reading on this subject. She has published many papers, (which can be found on the Internet) over the last 29 years, in which she has described over 150 new species belonging to 2 indigenous South African families: MICROCHAETIDAE and ACANTHODRILIDAE. These species occur only in this part of the continent and are of considerable interest.

In addition to her papers there is a Monograph of Acanthodrilids by G. Pickford et al (published in 1937) in which over 100 species from this family are described. Because these species are indigenous to South Africa, you will find much information on evolutionary connections with South America.

Exotic species introduced to South Africa:

We have 50 introduced (exotic) species which arrived here in various ways: some natural (e.g. birds) and others by human intervention. A wonderful summary by P. O. Ljungstrom which details some of these species can be found on the Internet. In it Ljungstrom reports on how these species were dispersed worldwide by humans. This includes those introduced to Southern Africa.

A German researcher, Dr Eisenhauer, claims that there are exotic worms which eat plant roots. Dr Plisko and other experts say that this is limited to *Lumbricus terrestris* only and that this species is not found in Southern Africa. Therefore they are no threat to plants in our region. The areas most affected by this threat seem to be forested regions of the U.S.A.

We thank Nikki Kohly of Rhodes University for drawing our attention to this.

Members' comments, questions and other contributions

Sean Freeman of Living Seeds, who became a member recently, says in two of his recent newsletters that we are heading for a very serious shortage of potatoes as from this winter. He also warns that this will last for several years. Sean has found it almost impossible to secure the seed potatoes he needs to supply his customers and that other seed merchants are finding the same. If you would like to read more about this and about how to gather seeds from your own sources, please contact Ken and he will forward the newsletters and Sean's contact details to you.

In our last newsletter we had an article on "mites", we received an email from Johann Botha in Rondebosch, Cape Town on his experience with these little creatures:

I stay in Rondebosch, Cape Town and have had two stacks of earthworm (red wigglers) boxes for just over a year, and have no special knowledge on the subject, and simply want to report the position in my boxes so that I can overcome any problem.

After buying the boxes and worms with the intention of creating some compost for our small garden I soon noted red mites in the boxes and presumed that they were part of the decomposition process. I was therefore surprised to read in the 2010/01 Issue of the Earthworm Interest Group that the Mites were parasites and that my worms were probably unhappy! On reflection they probably are unhappy as a high percentage of the worms in the Black Box are wriggling at the top of the box clinging to each other for support. Yes my box is probably over wet but when it has been drier I get very little worm pee out of the box.

The black box has a black inner cover and the red mites congregate on that inner cover, so I started by using a hose to squirt the mites down the drain. Next morning the mites were back as strongly as before so as your suggestion I asked at the nursery for pyrethroids, and out of the selection offered I purchased a bottle of Kirchoffs Ludwig's Insect spray, and mixed it at the recommended 5ml. to a litre of water, and sprayed it on the inside of the inner cover. Against your advice I have sprayed every day for a week and the mites look slightly less, but I suspect that it will take a month of spraying to make a substantial difference!

My second box of worms - the grey box has a white inner cover which seems to attract the red mites far less than the black inner cover but there might be another reason for that - it is also a far drier box due to additional ventilation. The worms in the grey box do not congregate at the top of the box but keep an inch below the surface where it is darker. The mites seem far less in this box, but I am treating it with the same spray on a daily basis.

If you have any comments I would like to hear from you.

Regards,

Johann Botha.

johann@namebadges.co.za

Phone : 021-681-2658 (home)

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Reporting on Results with Vermicast Farm Trials

An initiative to verify the application of vermicast was initiated by a group of farmers. The season has ended; the results are available and are looking exceptionally good.

The farm trials included the following:

1. Comparison of vermicast on maize as a pure application (0.5 tons/ha, 1.5 tons/ha and 3 tons/ha) and in combination with chemical fertilizer (0.5 tons/ha cast plus 150 kg 4:3:4/ha, 1.5.tons/ha cast plus 150 kg 4:3:4/ha, 3 tons/ha cast plus 150 kg 4:3:4/ha).
2. A seed treatment on maize with liquid vermicast. The treatment and control were done without any

chemical fertilizer application. The purpose of the experiment was to establish the effect of the cast on the germination percentage and further to establish the effect of germination on the yield of maize.

These two trials were done in co-operation with ARC at Morgenzon, Ermelo. Mr. Marius van Rensburg was responsible for the design of the trials as well as the data collection and analysis of the trials.

3. A further trial was done on tomatoes to establish the effect of liquid vermicast as a leaf application, as well as in combination with chemical top dressing. This trial was done in co-operation with ZZ2 near Mokeetsi.

The results were as follows:

1. All the experimental plots on pure cast applications (0.5, 1.5 and 3 ton/ha) yielded an average of 3-4 tons of maize per hectare. The experimental plots where the cast was applied in combination with chemical fertilizer yielded an average of 5-6 tons of maize per hectare. The cast/chemical combination therefore resulted in a 50% yield improvement relative to the control.
2. The seed treatment trial resulted in a 20% improvement in yield at harvest time.
3. The weekly leaf application of cast on tomatoes resulted in a 15% improvement in yield compared to the standard ZZ2 chemical practises. The trial combining liquid cast with chemical top dressing was discontinued before completion due to practical reasons.

More trials will be conducted in the new season to establish the optimal level of the vermicast to chemical treatment applications.

A trial to verify the probiotic effect of vermicast on piglets taught us some insightful lessons. The cast was dried to 10% moisture content pre-treatment. At application time the normal antibiotic and other side applications were discontinued in the rations. The results with the dried vermicast were (to put it bluntly) shocking!

The mortality rate of piglets in the trial was actually higher than in the control. The conclusion was that the cast lost its beneficial effects at moisture levels where it did not spontaneously dissolve in water. We therefore concluded that cast should not be dried below 40 to 50 percent before application in any situation. In other cases, where vermicast was used as probiotic agent on animals at the correct moisture level, a drastic improvement in animal health and fertility was noted.

For instance: Herlie Booysen, a dairy farmer from Swellendam, eliminated red water and gall disease from his Jersey herd with vermicast. Since he started dosing vermicast as a probiotic he has not seen any incidence of foot disease on his farm. The inter-calf intervals of his dairy cows reduced from 90 days to 75 days over a period of five months and, since he started this method, he does not dose his new calves at all for parasites any more.

Hendry du Preez of Ficksburg struggled to keep the somatic counts of his Holstein herd under control. Before he started applying vermicast only 54 percent of his cows recorded counts under 250. A month and a half after applying vermicast this figure increased to 68 percent.

The above examples are certainly proof that the exploration to realise the full value of vermicast has only just begun.

Thanks to Wilhem Joubert of Vermo Technologies for sending us this material. Members' comments would be very welcome.

This full article is being sent as a separate file for our Afrikaans readers and for our English you'll be able to see photos belonging to the article showing the crops used in the various trials.

INTEREST IS STILL GROWING IN THE CAPE TOWN AREA

By Barbara Jenman of Bettys Bay

Email: bjenman@iafrica.com

Warmer weather came early in August with earthworms working extra hard producing masses of eggs.

And Capetonians potential wormfarmers starting to enquire again.

For a few years now many of the plastic retailers in Cape Town have cottoned onto making up a 3 tier rectangular container worm farm, with drainage holes and a lid, and selling them for a little more than if one had only bought the containers.

A sure sign that worm farming is here to stay!

I have 6 young family members that have either a tyre bin in the garden, or the plastic units if there is only a courtyard. They all give them plenty of food, which has acted as good insulation during hot or cold days. I have one tiny problem with them – they wait till I appear for me to tidy the farm up a bit and remove the “compost”!

Is there perhaps a bigger need for a follow up maintenance service?

However for 3-4 years there has been a well managed worm farm at my son Garth's business in Kenilworth. I give full credit to not only Valentia the office cleaner who tips the days peelings into the bin but all the 20 plus staff who consistently supply their discarded fruit and rooibos bags. And those worms are some of the fattest I have seen.

Good news for Cape Town:

The Waste Wise education program is back for the next 3 years and wherever possible worm farming will be introduced especially into the schools, says Michelle Sholto Douglas, the schools project leader.

Folk may contact me for advice on setting up farms and for providing the worms.

EIGSA GAUTENG REGION—REPORT ON 2010 EVENTS

EIGSA members and the general public were this year treated to the usual three events.

APRIL WORKSHOP - HERB HAPPENING:

After the greatly successful Herb Happening in which we were invited to participate last year, we were thrilled to be invited again this year. As the Herb Happening coincided with our April date, the committee agreed that this would take the place of our day at Ditton's Farm. The organisers readily agreed to our request that we do presentations near our stall and they very generously gave us extra space for this. We did two presentations for adults and daily puppet shows featuring Ernie Earthworm for the kids. These all drew full houses. Our thanks to all involved.

Thanks to the interest shown by visitors, we enrolled a large number of new members.

After the successes of the past two years, we were saddened and disappointed to learn that there would be no Herb Happening in 2011.

AUGUST WORKSHOP:

The turnout to this workshop at Ditton's Farm was very small, but very enthusiastic. Visitors were treated to demonstrations on how the domestic user should work with worms. Practical demonstrations were led by local members on various types of locally made wormeries for domestic purposes, how best to maintain these and different ways to approach harvesting. The small group of visitors seemed to thoroughly enjoy getting into the spirit of things.

Carmen offered a selection of lovely organic veggies at very reasonable prices. These were snapped up in no time.

OCTOBER WORKSHOP/SEMINAR, FAMILY DAY AND MORNING MARKET:

As our publicity for the August workshop had not succeeded in attracting many people, we decided to try something very different for October. The committee worked very hard at promoting the event and succeeded in attracting a very good turnout.

We planned to have four presentations by local experts, followed by a morning market. The presentations were led by Jenny Slabber of Talborne Organics, who spoke on ***Bringing Nature back into the Garden*** followed by Sean Freeman of Living Seeds, whose topic was ***Saving your own Seeds for Future Crops*** and Hennie Eksteen of Rondeklip Organic Herb Farm, on ***The Importance of Earthworms in Growing Organically***. Our hostess, Carmen Nottingham was due to speak on ***Earthworms as Organic Waste Managers***, offered to hold over presentation over for another time, as we were running out of time.

The morning market that followed proved to be so popular that it was agreed that this would be repeated again in future.



Photos from left to right: Ken Reid introducing our first speaker Jenny Slabber of Talborne Organics, our second speaker was Sean Freeman of Living Seeds and our third speaker here for the umpteenth time Hennie Eksteen of the Rondeklip Organic Herb Farm.

I would like to thank all who helped in any way with the planning and running of these events and with managing EIGSA affairs in our region.

Ken Reid.

EIGSA Gauteng's scheduled programmes for 2011:-

16th April at Ditton's Farm

20th August on the East Rand (Venue to be announced.)

15th October at Ditton's Farm

Please diarise these dates. The themes for these events are still being finalized, but we'll let you know ahead of time.

EIGSA WESTERN CAPE REGION—REPORT ON 2010 EVENTS

KOMMETJIE WORKSHOP ATTRACTS MANY:

What was meant to be a low-key Kommetjie transition town workshop for locals turned out to be the eco-social event of the week. About 30 earthworm enthusiasts with varying needs and interests from all over the peninsula turned up at my house in Kommetjie for the 2 hour Saturday morning session I had advertised via a few tentative emails. Maybe it was the free earthworms that attracted the masses, but during the short time together we managed to get through Q's and A's, demos and did you know's covering:

- Earthworm farm design
- Basic worm biology and taxonomy
- Worm care
- Position of farm
- Worm Tea
- Do's and don't's
- Trouble shooting (mice, flies etc)
- Waste, water, food security and energy links
- The invasive worm debate

- Dealing with dog poo
- Real economic opportunities and scams to be avoided
- The Earthworm Interest Group of Southern Africa (EIGSA) network
- Useful references

Anita Cameron, who unfortunately could not make it to the workshop, kindly donated a commercial worm farm she had never got round to using. This is being offered as a prize to workshopppers for the most innovative worm-related idea.



Photos from left to right: Patrick Dowling holds forth about earthworms, work, waste, water and wattage, whimsically. Free earthworms - take your own all you had to do was get your hands dirty digging.

Owing to popular demand the workshop will be repeated at WESSA's offices in Kirstenhof in December, those wanting more information can contact Patrick at patrick@tops.org.za or on one of the following numbers: 021-783-2509 (home), 021-701-1397 (work) and 084-966-1249 (cell).

Patrick Dowling
EIGSA
Western Cape

INFORMATION REQUEST

Please if you have any happenings, workshops, questions for our "question & answers" column, interesting stories, etc. to do with earthworms let us have them. The more we can spread the word of what's happening in your area the better, who knows may be one of your neighbours you don't know is also doing earthworms and you can meet, swop experiences and maybe start your own branch of EIGSA. Please send what you have, also photos to accompany what you are sending us to Pieter Swanepoel at quadri@lantic.net.

EIGSA MEMBERSHIP LIST UPDATE

We are currently updating our membership list and ask if you would please fill in the attached membership form and email it back to us. Also if you know of anybody interested in signing up as a new member please pass it on, remember membership is free.

DECEMBER HOLIDAYS

Then for those of you travelling by car to one of the many holiday destinations please buckle up, drive carefully and remember if you're the driver do take rest breaks every couple of hours to stop driver fatigue. We want you all to have a wonderful holiday and to arrive home safely at the end of the period.

Lastly we would like to wish all our members and their families a happy, blessed and safe Christmas and a vermi-fruitful 2011!