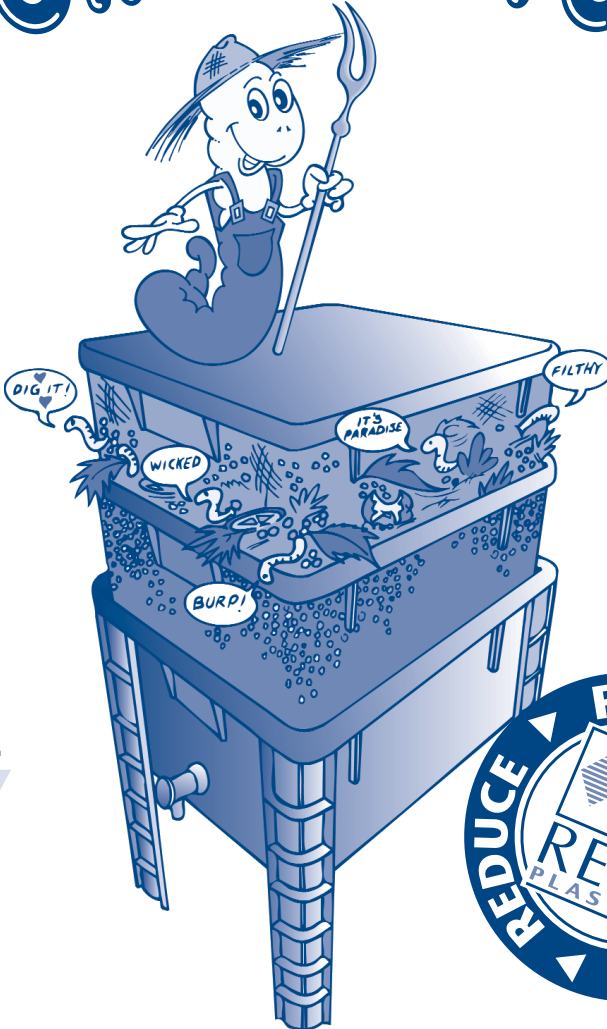


WELCOME TO THE WORM FACTORY®



AUSTRALIAN
DESIGNMARK™
1998
GOOD PRODUCTS
BY DESIGN
Reln Pty Ltd
The Reln Worm Factory™
Licence No. 94214
STANDARDS AUSTRALIA



Instruction Manual

The Worm Factory is made in Australia
from 100% Recycled plastic.
Subject to intellectual property cover

The Reln Worm Factory is the subject of various patent and design rights.



CONGRATULATIONS!

....on the purchase of your Reln Worm Factory, which is made from 100% recycled plastic. This innovative system harnesses the amazing power of worms, nature's perfect recyclers, and enables you to produce a continual supply of nutritional, organic fertiliser for your garden..

The Reln Worm Factory is easy to operate and fun for people of all ages. It is compact, hygienic and has no unpleasant smells. It is the perfect composter for people with limited space and can be used in any cool outdoor location such as a laundry, shed, garage or apartment balcony.

By becoming a Reln Worm Factory user you are taking a positive step towards helping the environment.

Remember...



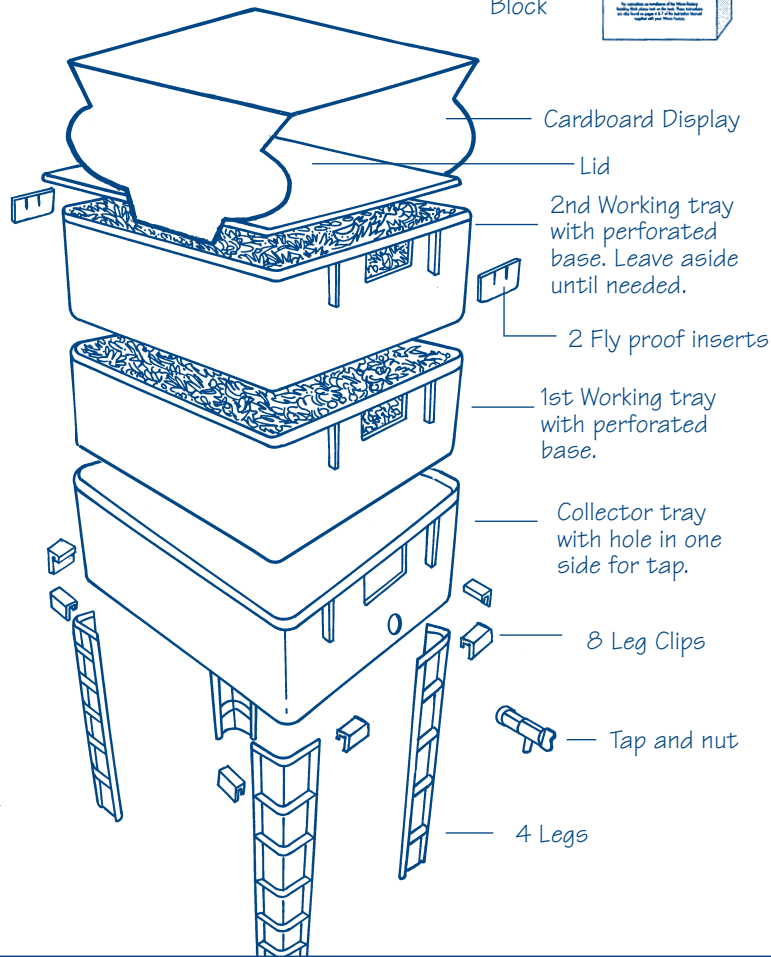
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N.Nattrass reserves the right to modify product specification without notice.

ASSEMBLY INSTRUCTIONS

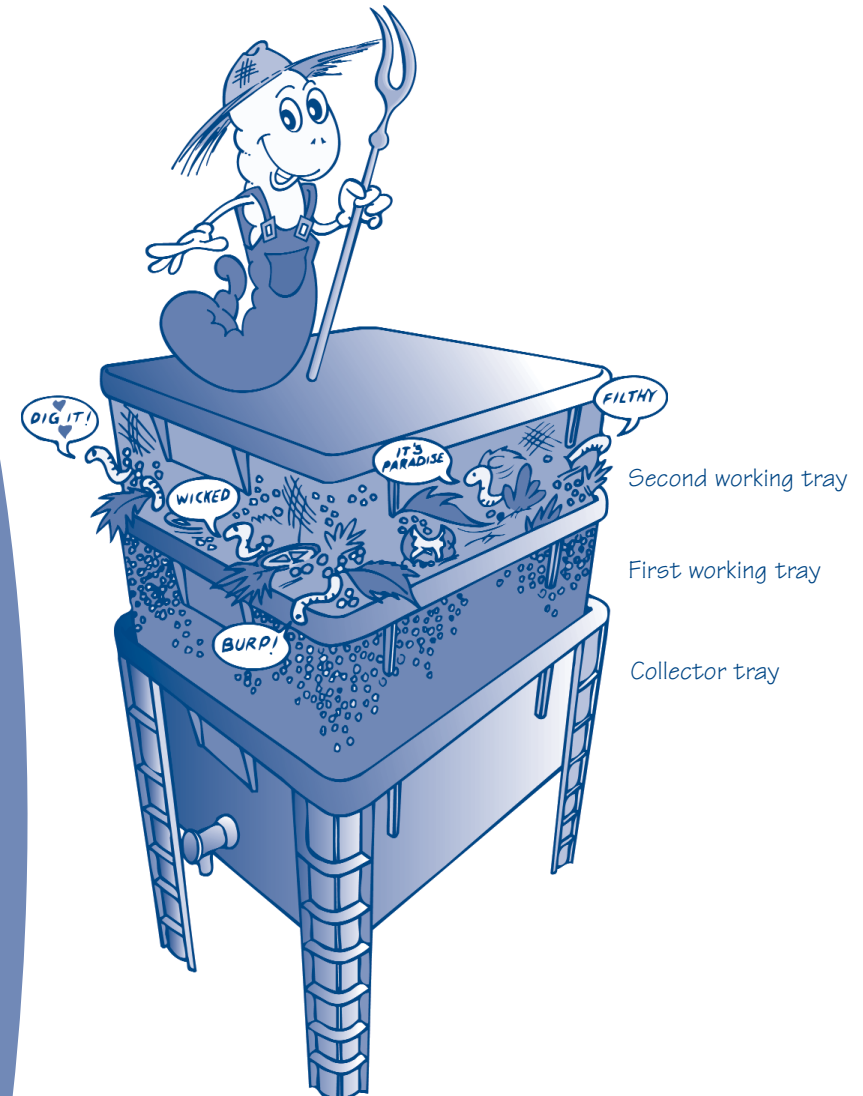


Bedding Block



1. Fix the tap to the Collector Tray and tighten firmly with the nut on the inside.
2. Fit the fly proof inserts into the lid.
3. Attach the four plastic legs to the Collector Tray with the clips provided. Please note that there is a support point on the inside of each leg. The base of the Collector Tray rests here. Also note that there are two left and right legs. The left and the right are not inter-changeable. They must be positioned exactly under the lip of the tray so the two clips can be firmly placed to secure the leg in place.
4. Place one Working Tray on top of the Collector Tray. (Put aside the other Working Tray in a convenient place until you need it.)

A FULLY OPERATIONAL WORM FACTORY



CHOOSING YOUR WORMS?

Composting worms, such as Tigers, Reds and Blues, are the only species that live, work and breed well in the rich, moist, organic environment of your Reln Worm Factory. Earthworms from your garden will not survive. When purchasing your worms, be sure to get at least 1000 composting worms. Less than 1000 worms to start your Reln Worm Factory will retard the operation of your system, whereas more than 1000 will increase the initial effectiveness. The worms will double their number naturally in a few months.

**Want to know
where to buy your
compost worms?**

**Ring the
WORM HOTLINE
1300 367 768**



WORKING INSTRUCTIONS

Step 1.

Select a cool shaded location for your Reln Worm Factory.

Step 2.

Prepare your Reln Worm bedding block by following the directions on the brown paper wrapper covering the bedding block.

Step 3.

Place the cardboard colour display in the bottom of the First Working Tray to prevent the coir bedding material from falling through. The worms will eat this in time.



Step 4.

Spread the prepared coir bedding on the cardboard display.

Step 5.

Now spread your worms and the contents of their package over the coir bedding. They will not like the direct light, so to make them enter their new habitat quickly, leave the lid off for a short while.



Step 6.

Commence feeding your worms. A small amount to begin with until they adapt to their new food source (about a week). Then, as a guide maintain two centimetres of food over half the surface area of the Reln Worm Factory.

DO NOT OVERFEED.

Step 7.

Cover the worms and bedding with a moist hessian bag or wet newspaper. This keeps the moisture in and the light out, and encourages the worms to come to the surface and feed which is their natural habit. Replace the lid.

Step 8.

Liquid fertiliser (produced by the worms and through the natural decomposition of the food scraps) drains through the system and into the Collector Tray. Check and empty regularly, once a week.

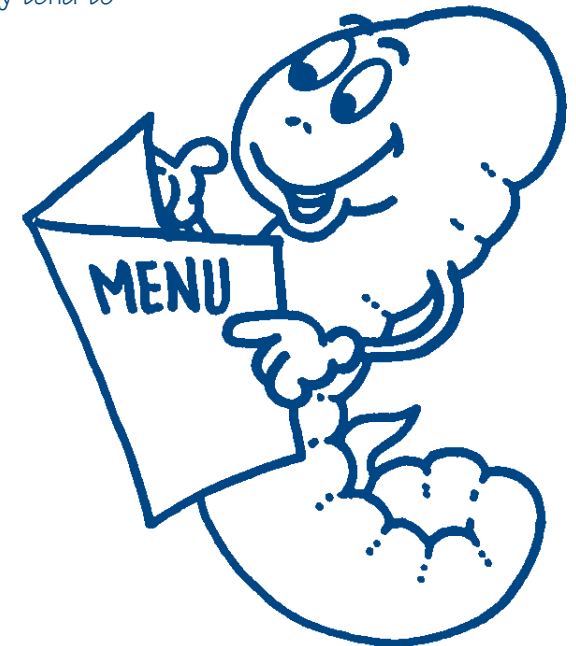
**WORM MENU**

COMPOSTING WORMS will eat anything that was once living, that means organic material. They like diversity and don't mind a little vacuum cleaner dust sprinkled over their vegetable peelings, teabags, avocado skin and shredded soaked newspaper. They will eat some spicy and acidic food such as orange, lemon and tomato, however, the secret is, everything in moderation. Very dry food (newspaper, cardboard, old manure) is made more appetising if shredded and soaked. Meat scraps are not recommended as they can produce offensive odours and

attract vermin. Avoid fresh manures as they tend to

contain active vermicides so use manures that have 'aged'.

Never use dog manure when you are worming your dog.



COMPOSTING WORM MENU

- Fruit peelings (watermelon, banana, mango, peach, nectarine, pear and grapes just to name a few)
- Vegetable scraps and peelings (carrot, potato, pumpkin, beans, zucchini, corn cobs, avocado skin, celery, broccoli and much more)
- Plate scrapings (cooked vegetables and stewed fruit leftovers)
- Hair clippings
- Pet Poo (refer Q.3 on page 15)
- Cheese
- Shredded, soaked newspaper
- Cake, biscuits and bread (sparingly)
- Crushed egg shells
- Sea weed
- Vacuum cleaner dust
- Saw dust
- Coffee grounds, Tea bags
- Citrus- oranges, grapefruit,
- Tomatoes
- Onions etc, in small amounts
- Soaked cardboard



WORM MENU TIPS

It is a good idea to cut your vegetable and fruit scraps into small pieces, (whole apple cores, celery stalks and broccoli stems for example, take a while to break down). By adding a little water to your bowl of scraps and microwaving for two minutes, (allow to cool) you can speed up the decomposition process. Likewise, mashed, blended and processed food will be eaten faster than other food. Remember this when preparing the worm menu. Worms have a very small mouth and no teeth!



WORM FATTENER FOR BAIT WORMS

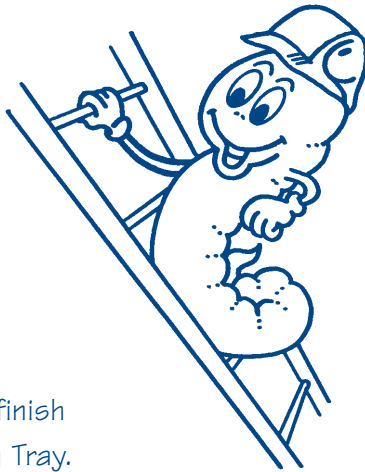
Make up the following recipe to fatten and toughen up your worms.

Chicken layer pellets	-	50%
Wheat or corn flour	-	10%
Powdered whole milk	-	10%
Bran or wheat meal	-	20%
Agricultural lime or dolomite	-	10%

Mix the ingredients together and sprinkle on the food wastes. That will last a couple of days, then repeat and after several months you will have fat, tough worms in ready supply for fishing.

MOVING UPSTAIRS

* Feed your worms in the First Working tray, and they will produce worm manure (castings/vermicast) which looks like rich dark soil. When the level of castings is two centimetres above the moulded line half way up the inside of the First Working Tray, it is time to move upstairs.



* Stop feeding your worms for at least one week to allow them to finish off the food in the First Working Tray.

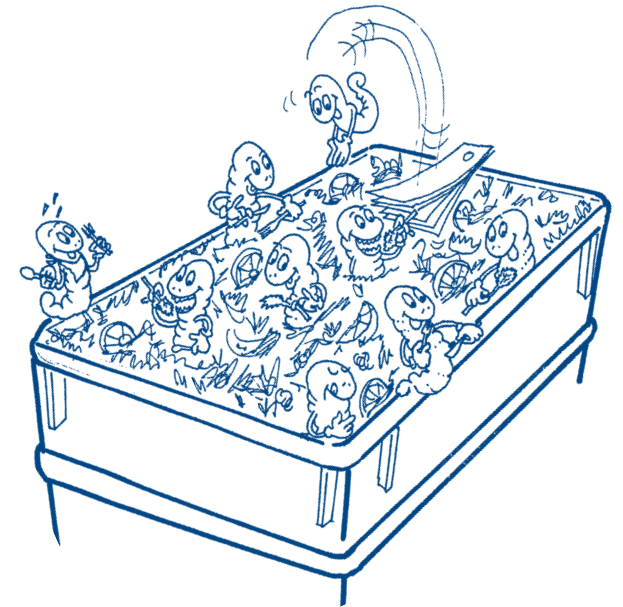
* Remove hessian or moist newspaper and add Second Working Tray. Make sure it sits firmly on the castings underneath. If there is a gap, the worms will be unable to move up to the food you will be feeding them in the second Working Tray. Worms can't jump!

* Then, place food scraps in the Second Working Tray and cover with hessian or wet newspaper and replace the lid. The worms will make their way up towards the food. It is not necessary to add further coir for bedding as the worms will make their own bedding as they eat the food now in the Second Working Tray.

* Continue feeding your worms in this way. When the level of castings reaches two centimetres above the moulded line half way up the inside of the Second Working Tray, the majority of the worms will have moved out of the First Working Tray which will be full of rich castings and ready for use.

* Empty First Working Tray and place on top of Second Working Tray. In this way, one Working Tray replaces the other, and so the cycle continues.

* In ideal conditions, and depending on how many worms you started with, this cycle should take several months.



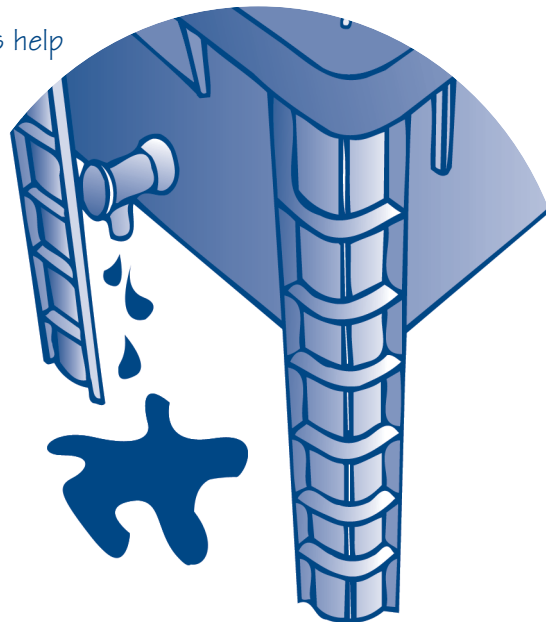
CASTINGS & LIQUID

Worm Castings and their accompanying liquid fertiliser are useful additives to any garden being pure, natural and therefore organic with a neutral pH level of 7.

The castings and liquid provide an excellent fertiliser, suitable for use on all plants ranging from azaleas to orchids. The fertiliser stimulates growth in all exotic and native plants as well as colour quality and quantity of flowers, fruit and vegetables.

Earthworm by-products enhance all plants, save us money and are easy to produce.

Composting worms help us to help the environment.



USING WORM CASTINGS AND LIQUID FOR...

Plant fertiliser - spread a layer of worm castings 2.5cms deep around your favourite plants.

Lawn Top Dressing - 3 parts aged compost or coir fibre, 1 part castings.

Seed Raising Mixture - 3 parts aged compost or coir fibre, 1 part castings.

Potting Mix - 2 parts aged compost, 1 part castings, 1/2 part Vermiculite.

Native Trees, Fruit

Trees - Apply around base dripline and water well. Re-apply Regularly especially in Spring and Autumn.

Liquid Fertiliser - from the collector tray can be used on all plants when diluted with 50% water.



QUESTIONS & ANSWERS

Reln Plastics have consulted with experts from the field of Vermiculture to provide this information to help you use your Reln Worm Factory more efficiently.

1. How much will my worms eat?

It depends on how many worms you have. Worms can eat up to half their own body weight every day and can double their population every few months. If you start your Reln Worm Factory with 1,000 mature worms (those with a distinct ring shaped swelling around their body), they will consume up to 125 grams of food scraps per day and in a few months the number should have doubled so naturally you would have to supply more food. Baby worms are very little and take about three months to mature. Observe their eating habits and keep up a steady supply of food **DO NOT OVERFEED.**



2. How can I help my worms eat more?

Worms will feed at a faster rate once they have adapted to any new food source. Worms eat more if the scraps are mashed, blended or food processed. (Refer to Menu Tips). Controlling temperature to around 24°C will improve the overall performance of your system.



3. What shouldn't I feed my worms?



Pesticides and vermicides can kill your worms. If your pets have been wormed their manure/poo will contain Vermicides. Vermicides are designed to kill parasitic worms in horses, cattle and dogs and remain active in fresh manure/poo. If you give these to your worms you will kill them in one day. Allow all manure/poo to age before using them. Remember - everything in moderation.



4. Can I feed my worms garden refuse?

Not usually. Your Reln Worm Factory is designed for the breakdown of soft organic waste. Garden refuse is a slow composting organic waste and is best recycled by aerobic composting methods like the Reln Compost Bin.

5. Why won't my worms start eating the food scraps?

The worms will need a little time to adapt to their new food source.

6. Should I add water to the Reln Worm Factory?

Watering will enhance the production of liquid fertiliser in your Reln Worm Factory. If you pour a container of water over the hessian or newspaper each week or two and place an empty container under the open tap, you will have a constant supply of liquid fertiliser. The sudden flood will not harm the worms as it is similar to heavy rain.



7. Will I get too many worms?

The worm population will regulate itself to the available space and the amount of food given. Worm concentration should reach capacity (about 10,000 - 15,000 worms) after 2 - 5 years.



8. Why aren't my worms moving up into the Second Working Tray?

A. You may be adding new food before the worms can eat the previous serving, so they are reluctant to migrate upwards when food is available lower down. Before adding a new tray, stop feeding the worms for at least a week to ensure that all existing food in the lower tray has been eaten.

B. You may have added the Second Working Tray too soon. The level of castings must be at least 2 cms. above the moulded line half way up the inside of the First Working Tray so that the new tray makes contact and sits firmly on those castings. If not, there will be a gap. Remember, worms can't jump!

9. What to do when temperatures are extreme.

Worms will tolerate temperatures from about 10 - 30 C. If it gets hotter than this, place your Reln Worm Factory in a cool, shady position. Remove the lid, open the tap and hose the whole unit, re-assemble and cover with a wet carpet or blanket.

If you live in a frost prone area, put your Reln Worm Factory in the warmest possible position, e.g., laundry garage or shed. If it is on a balcony or in the backyard, cover with some carpet, underfelt or blankets to retain the warmth. Give your worms extra food to encourage more activity.



10. It's raining and the worms are gathering in the lid. What do I do?

The worms are showing their sensitivity to pressure changes in the weather. Often they will move up into the lid before it rains. In nature this migration takes them above flood level and prevents them from drowning. Move your Reln Worm Factory out of the rain, take the worms out of the lid and replace them in the bedding.



11. Could the little white worms in my Reln Worm Factory be baby worms?

No. Baby worms are not white but clear to opaque before developing a reddish colour. They are just about visible at this stage. The white worms that you are seeing is a type of worm called Entrachyadids. They are harmless, but they indicate acidic conditions which can be overcome by the regular addition of a handful of lime.

12. Will the Reln Worm Factory attract flies?



No. The Reln Worm Factory is fly-proofed against household flies. Sometimes the small vinegar fly (often mistaken for the fruit fly) appears but these are harmless. However, very large numbers of vinegar fly may indicate that you are overfeeding your worms causing a bacteria build up and producing offensive odours. To eradicate vinegar flies, limit the food supply to what the worms will eat on a daily basis.

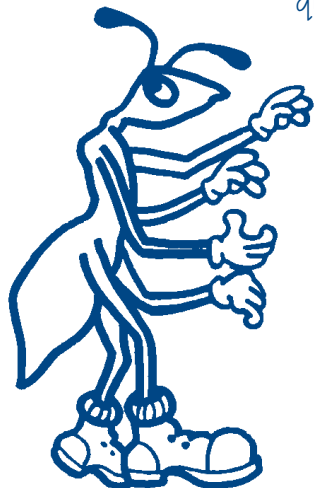
13. What about maggots?

If maggots appear, they will most likely be those of the soldier fly or vinegar fly larvae. The soldier fly larvae grow to 2.5 cm and are white to begin with then turn dark grey with distinct ribbing bands. Fishermen acclaim them as excellent bait. The vinegar fly larvae are small, about .5cm, and are beneficial for waste breakdown. If you want to remove them, apply lime liberally or place bread soaked in milk on the surface of the compost. Leave for 2-3 days to attract the larvae, then remove and dispose.



14. How do I keep ants out of my ReIn Worm Factory?

Ants may enter your ReIn Worm Factory if you let the bedding become too dry or acidic. Add water to raise the moisture level and add a liberal quantity of garden lime to where the ants are gathering to discourage them. To prevent reinfestation either smear vaseline around the legs or stand each leg in a container of water to isolate the system.



15. Will the ReIn Worm Factory smell?

Surprisingly, there is no odour in spite of the feed they receive (leftovers and decomposing scraps etc). A handful of worm castings held close to the nose smells like rich loamy, topsoil. If however, you have an offensive smell, it is an indication that anaerobic bacteria have built up in uneaten food wastes. Stop feeding the worms and stir the wastes in the top tray with some lime. This aerates the organic material and allows the worms to access it more easily. Repeat this aeration procedure regularly to prevent recurrence. Commence feeding when the smell has gone.



16. What about holidays?

Leaving an established ReIn Worm Factory for 3-4 weeks without adding food is not a problem. Feed the worms one third of a tray full, before you leave, place the unit in a cool place under cover, open the tap and place a container under it. A soaked newspaper placed on top of the hessian will give added protection against the bedding drying out.



17. There are still worms in the First Working Tray and I want to use the castings.

Remove the lid and hessian or wet newspaper and place First Working Tray on top of Second Working Tray without any cover. Gently rake the castings, a little at a time and as you progress the worms will move downward, away from the light and into the Tray below.

NOTES

Reln Pty Ltd has designed and developed the Reln Worm Factory as an easy and friendly way of reducing and recycling household organic waste. The Reln Worm Factory is made from 100% recycled plastic such as car batteries, margarine containers and post industry scrap and utilises minimal packaging, making it environmentally friendly and widely accepted as a successful waste reduction tool used in all waste minimisation programmes.

The two poly strips and plastic bags will be recycled by Reln Plastics if returned in a stamped envelope to:

Reln Pty Ltd,
14 Williamson Rd,
Ingleburn. N.S.W. 2565
Australia.

Phone: (02) 9605 9999

Fax: (02) 9605 9222

Email: sales@reln.com.au

Internet: www.reln.com.au

By becoming a Reln Worm Factory user, you are taking a positive step towards helping the environment.

Remember- Reduce, Re-use, Recycle, it saves money, resources and besides...
It's easy.

**“REDUCE, RE-USE, RECYCLE”
IT’S EASY!
WE JUST HAVE TO MAKE THE COMMITMENT.**



AVAILABLE FROM: