



RINGELBOX

Care Instructions

Allowed to be put into the Ringelbox are...

- Nearly all vegetable organic waste
 - Coffee and tea grounds
 - Make sure that the pad or bag is made of plastic-free material / is labelled as recyclable. Otherwise, just take the grounds out of it - the worms love tea and coffee!
 - Newsprint, cardboard, coconut fibre, recyclable coffee filters, etc.
 - This should even make up 20-30% of the food added – it balances the moisture, the cellulose improves the structure of the worm humus, it tastes good to the worms and helps them shed their cocoons.
 - Old, rooted potting soil or small amounts of garden waste.
 - Fresh potting soil is not suitable, as it is often provided with artificial fertilizers and is too salty for the worms.
 - Every now and then crushed eggshells (briefly pour hot ($> 60^{\circ}\text{C}$) water over them to kill Salmonella if necessary) and lime to balance the acidity of the food - the worms prefer a neutral pH value of 5-7.
 - Occasionally large and hard / lignified pieces of waste. Although these are compostable, they take a long time and might therefore be found in the humus later.
- ➔ In general, the smaller the organic waste is shredded, the faster it can be decomposed. Besides, very large amounts of the same waste should be avoided.

Not allowed to be put in are...

- Foods with high sulfur content such as onions or garlic (including the peel), or foods with a high concentration of acids such as citrus fruits and peel or rhubarb - the worms do not like them at all and they can even harm them!
- Animal biowaste, such as meat, fish or dairy products. These contain proteins that are indigestible for the worms and can make them very sick.
- Ash, fat and leftover cooked food, used cat litter, diapers or pet droppings
- Leaves of conifers, bay laurel or eucalyptus - these are poisonous for worms.
- Peels of pesticide sprayed food, such as bananas - any form of pesticide can be tolerated in small amounts but should still be avoided. This also applies to purchased bouquets.
- Glossy brochures as well as coloured or bleached paper - the coloured printer ink can contain heavy metals and the paper is not breathable.
- Biologically non-degradable materials such as plastic etc. - that's what every worm bites off its non-existent teeth!
- Starchy foods, e.g. bread or pasta

A Ringelbox that runs well does not smell (except maybe like forest floor), contains a moist substrate and the worms are located below the layer of food. The substrate should be like a damp sponge, i.e. if you take a handful (without worms) and squeeze it, a few drops of water should come out. If there are many worms, you can even hear them "smacking" if you listen carefully. The food layer should not be more than 5 cm thick, i.e. you feed them either regularly in small amounts or once a week in larger amounts. Temperatures between 15 ° C and 25 ° C are ideal.

HELP!!! My Ringelbox

...is too wet

In this case, a lot of liquid (worm tea) escapes and the substrate sticks together, so that in extreme cases there is no longer enough oxygen available and fermentation or putrefaction can occur. A slightly increased humidity is not bad and can be remedied simply by mixing in torn pieces of newspaper or cardboard

...is too dry

A dry condition of the Ringelbox should be avoided, as the worms only feel comfortable, breathe and work in a moist environment. If the substrate is crumbly, it is too dry. However, this can also be easily fixed by either spraying the compost with a little bit of water or by mixing it with previously soaked pieces of newspaper or cardboard.

...is too acidic

You can recognize this by seeing many small white worms on the surface (enchytrae) or by measuring the pH value yourself. Most foods have a rather acidic pH, but coffee and tea especially, which worms love. To balance the acid, you can regularly add a little bit of garden lime or grounded eggshells.

...is full of small flies

These flies belong with a high probability either to the fruit flies (Drosophilidae) or to the dark-winged fungus gnats (Sciaridae). These can be distinguished from the fact that the fruit fly has a rather rounded body with mostly red eyes, is light brown-transparent, and is more likely to stay on fruit remains. In contrast, the fungus gnat has a slim, black body and is more likely to be in the soil or humus. Both types of flies

do not harm the worms but are of course a nuisance if they fly around the apartment. Fortunately, there are several ways to combat this!

The classic method with fruit flies is a fruit fly trap. To do this, take a glass or a small bowl and fill it with 2 parts vinegar, 1 part apple juice, 2 parts water and a drop of washing-up liquid. The fruit flies are attracted by the sweet and sour smell and drown in the liquid. If that seems too brutal for you, you can also look on the Internet for instructions for living traps or use one of the following methods.

The second option is to either wrap the fruit residue in a newspaper, bury it in some substrate or cover it with a layer of soil with roots. As a result, the fruit flies no longer feel good and the eggs, which are often already on the purchased fruit, do not even hatch.

If none of this helps, the fruit flies can also be starved by only feeding cardboard boxes for 2-3 weeks. In order to prevent them from bringing new fruit fly eggs back into the Ringelbox when you feed them with fruit bowls later, you can put them briefly in the microwave to kill any eggs.

Fungus gnats feed on dead plant debris and lay their eggs directly in the ground. To combat them, there are yellow sticky traps in drugstores and hardware stores. The fungus gnats are attracted by the yellow colour and stick to the trap. Alternatively, neem oil can also be used. To do this, prepare a mixture according to the package insert and spray it directly onto the insects twice a day for two weeks.

...is getting mouldy

If the worms and their microbial friends cannot break down the waste quickly enough, it can start to go mouldy. This is also not harmful to the Ringelbox, but of course uncomfortable for people. To prevent mould, you should therefore feed a little less in the future and then slowly increase the amount of food until the normal amount is reached so that the worm population can adapt to the amount. But if it is already too late, you can either remove the mouldy parts from the box and dispose of them in the bio bin, or cover them with some substrate

...is germinating

Worms only feed on dead plant materials, i.e. germinating seeds are left alone by them. Therefore, as a preventive measure, you can either not put any seeds in the Ringelbox, or you can prevent germination by cutting the seeds or putting them in the microwave for a short time. You can simply tear out the existing seedlings and place them on top of the compost, snap them off or plant them yourself and wait to see what happens to the plant. We have already been able to pull new pumpkins and peppers out of our Ringelbox.

...contains worms that are leaving the substrate

This "worm flight" can occur especially in the first few days, when the worms are still irritated by the transport of the box and still have to find their way into their new habitat. As an immediate measure, you can open the lid and let a light source (which does not get warm!) shine over the Ringelbox for 48 hours, which shows the worms the way back into the substrate. However, if this happens more often later, the smell (putrid? Sour?), food (amount? The right one?) and moisture should be checked. If you have any further questions, please do not hesitate to contact us ;-)

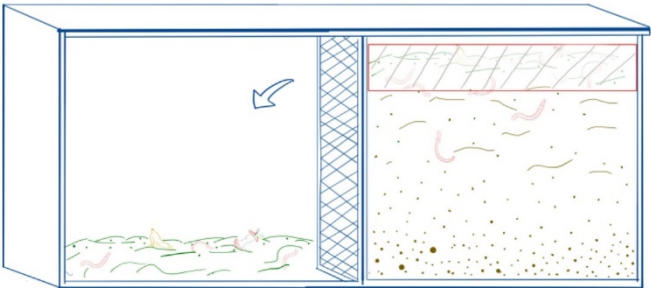
...is full

That's great! This means that you can now start harvesting the worm humus. To do this, you remove the top layer with the fresh organic waste and the half-finished humus and fill the empty side of the box with it. There you feed the worms for about two weeks so that they switch to the new side through the grid. Then you can carefully remove the humus from the box (there may still be a few worms in it) and use it to fertilize your plants. If you do not use everything immediately, it can be

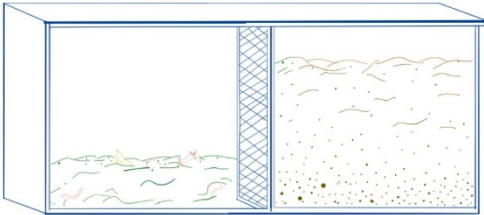
stored in a cool, dark place in a breathable container, where it is moistened again from time to time so that the soil life is preserved



1. Prepare the chamber



2. Transfer the upper layer



3. Harvest!