JUDIT SZENTKIRÁLYI-VARGA

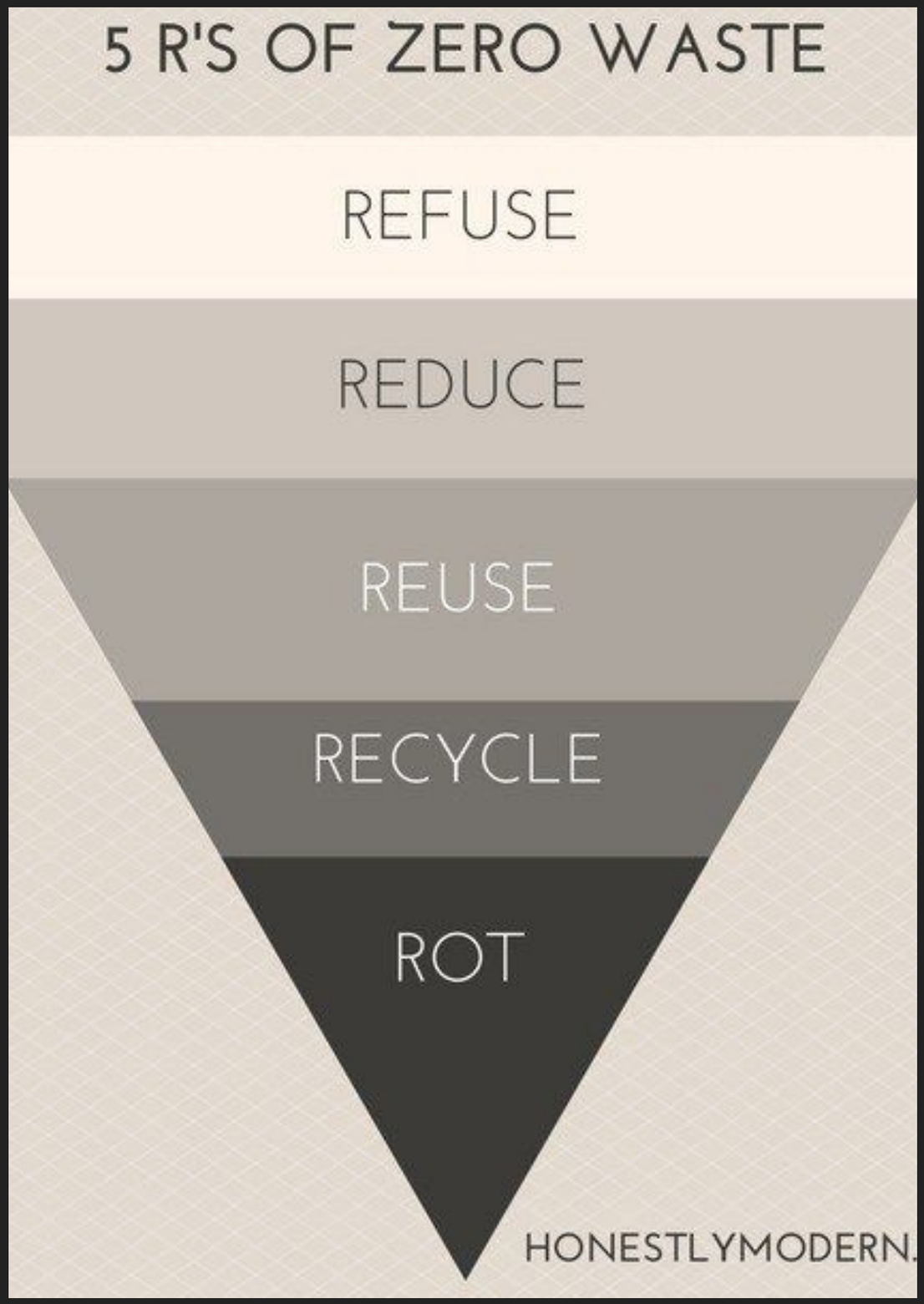
URBAN COMPOSTING

OUR (ALMOST) ZEROWASTE JOURNEY

THE 5 "R"S

WHAT ARE THE 5 R'S?

- REFUSE: packaged goods, disposables and stuff you don't need
- REDUCE: your consumption
- REUSE/REPAIR: what you already have
- RECYCLE: all things possible
- ROT (!!)



BIN ANALYSIS

- Bea Johnson* suggests analyzing the contents of your bin
- Which parts of your consumption need improvement?
- 60-80% food scraps/biodegradables
- We need to compost… (which is fancy for “rot” :))

*The author of The Zero waste home

URBAN COMPOSTING

TRADITIONAL OR VERMICULTURE?

OUR IDEA OF COMPOSTING – THE MYTHS

- Huge, wooden frame
- Needs space
- Needs contact with soil
- Takes years to decompose
- Smells
- Open and prey to animals

THE MAGIC WORD: VERMICULTURE

vermiculture

/ˈvəːmɪkʊlʃə/

noun

the cultivation of earthworms, especially in order to use them to convert organic waste into fertilizer.

TRADITIONAL COMPOST

- Huge, wooden frame
- Needs space
- Needs contact with soil
- Takes years to decompose
- Smells
- Open and prey to animals

VERMICULTURE

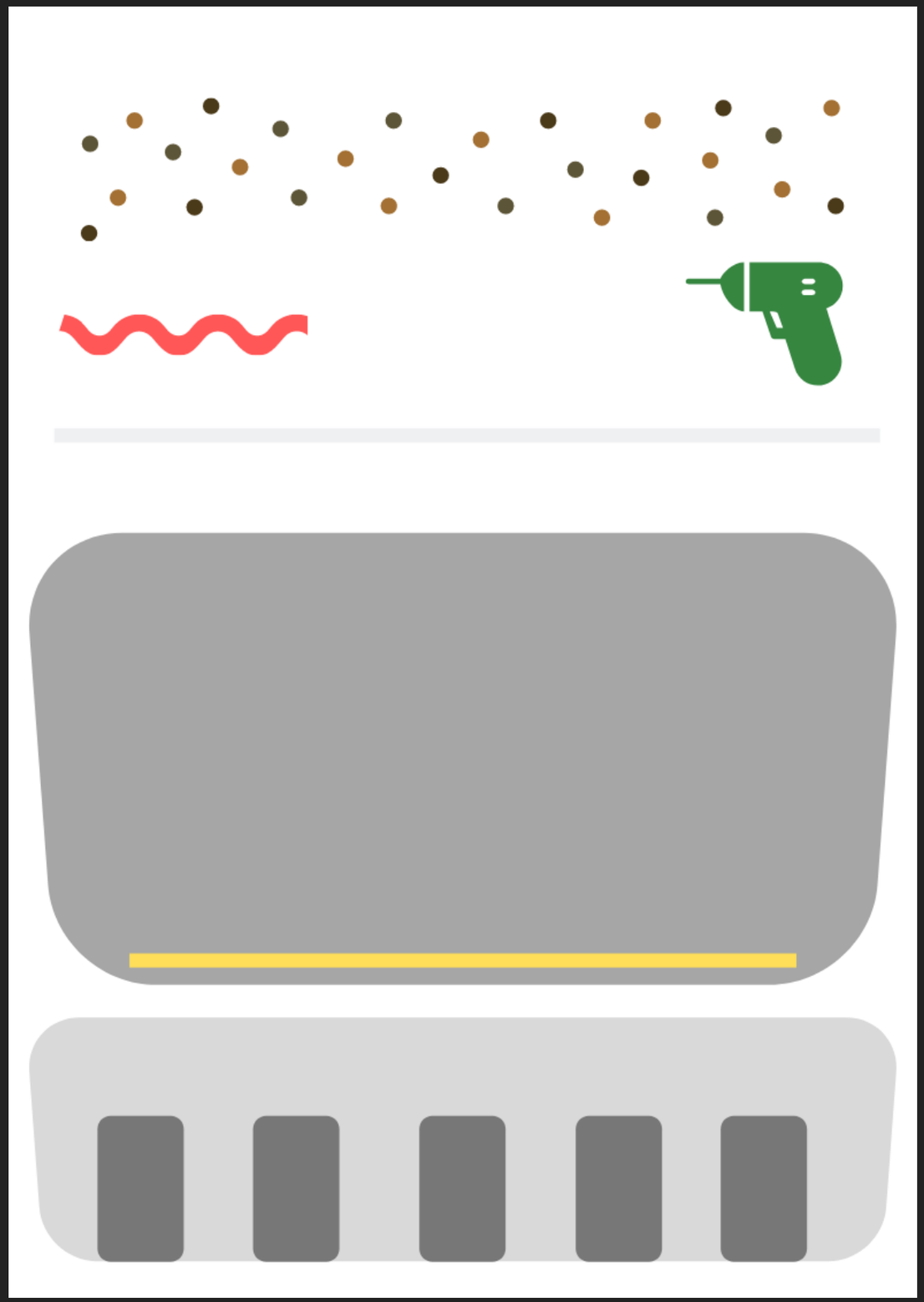
- Small box
- Needs little space
- Enclosed system
- Takes weeks to decompose
- No smell
- Has a lid

URBAN COMPOSTING

HOW TO BUILD A VERMICULTURE BOX?

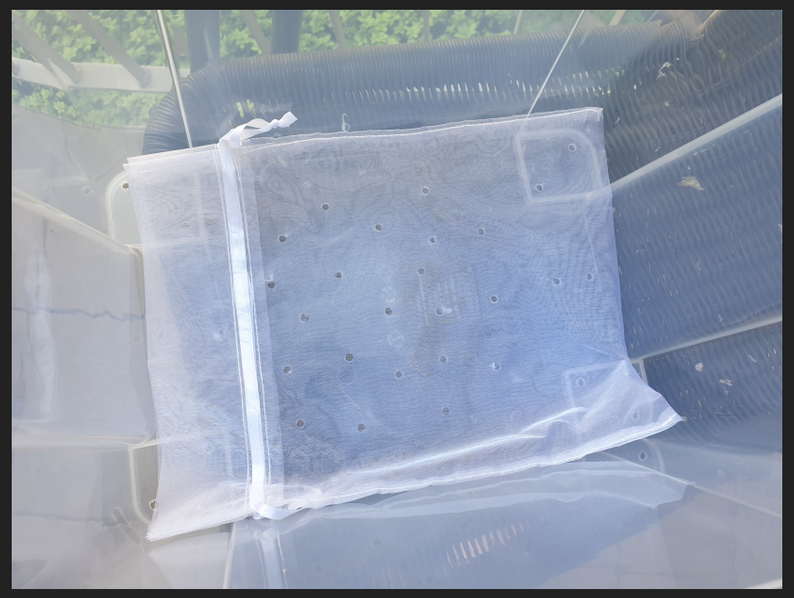
EQUIPMENT

- 2 buckets (we used IKEA Samla boxes)
- 1 lid
- 6 yoghurt containers
- A piece of polyester fabric (old curtain/mosquito net)
- A knife/power drill
- 3-6 bins of worms
- Some soil



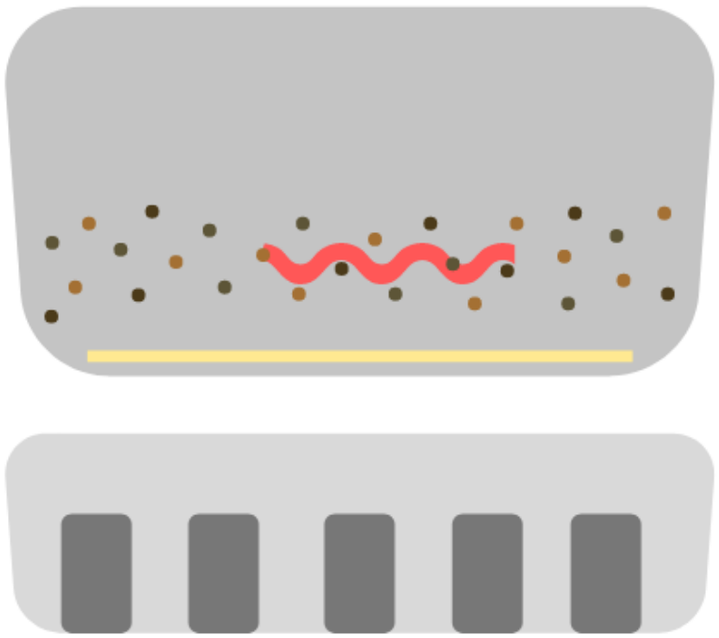
THE UPPER BOX

- Make drainage holes
- Line the box with polyester
- Insert the worms and optional scraps



THE LOWER BOX AND THE LID

- Place the yoghurt containers in the box
- Drill ventilation holes in the lid
- Place bigger box in the smaller box
- DONE!

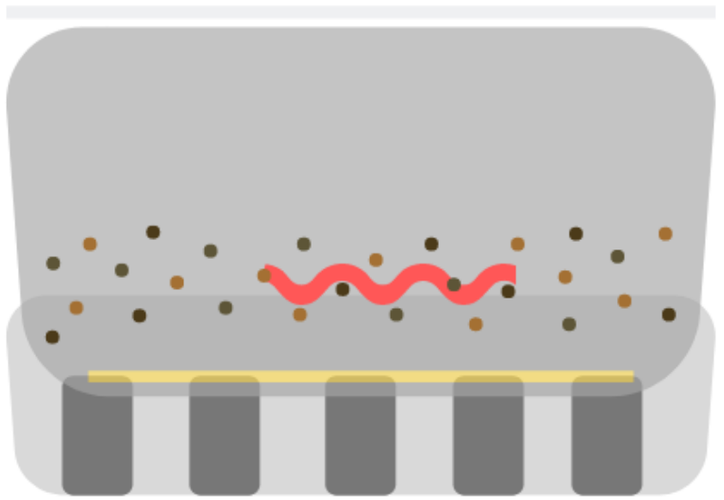


lid with ventilation holes

big box with worms and soil

polyester lining

shallow box + yoghurt cups



URBAN COMPOSTING

CARING FOR YOUR NEW PETS

COLLECT THE SCRAPS!

- Find a container!
- Kitchen scraps + All things bioderadable*
- Chop them
- Store in the fridge/on the counter
- Use it up regularly -> Feed the worms

*list at the end of the slideshow

FEED THE WORMS!

- Find your rhythm (for us: 1 week)
- Mix up the contents
- Layer new and old
- Cover with soil
- THIS LAYER OF SOIL IS VERY IMPORTANT: It helps regulating the temperature and the humidity, keeps out insects that are not necessarily welcome and ensures that the worms don’t have to come all the way up to the surface for food.

KEY INDICATORS

- Humidity
- Temperature
- Speed of composting

MAINTAIN A BALANCE!

Keep in mind a few thing about worms:

- They love to be in a dark, humid place
- They suffocate when the soil gets too wet
- They slow down at around 7 degrees C
- They die (freeze) under 0 degrees C
- They work faster when it’s warm
- The more worms, the faster the process
- Worms avoid daylight

WHAT MAKES BALANCE?

An efficient compost pile is a careful balance of:

dry or brown things
that contain **carbon** (like leaves, straw, or dried plant parts)

and

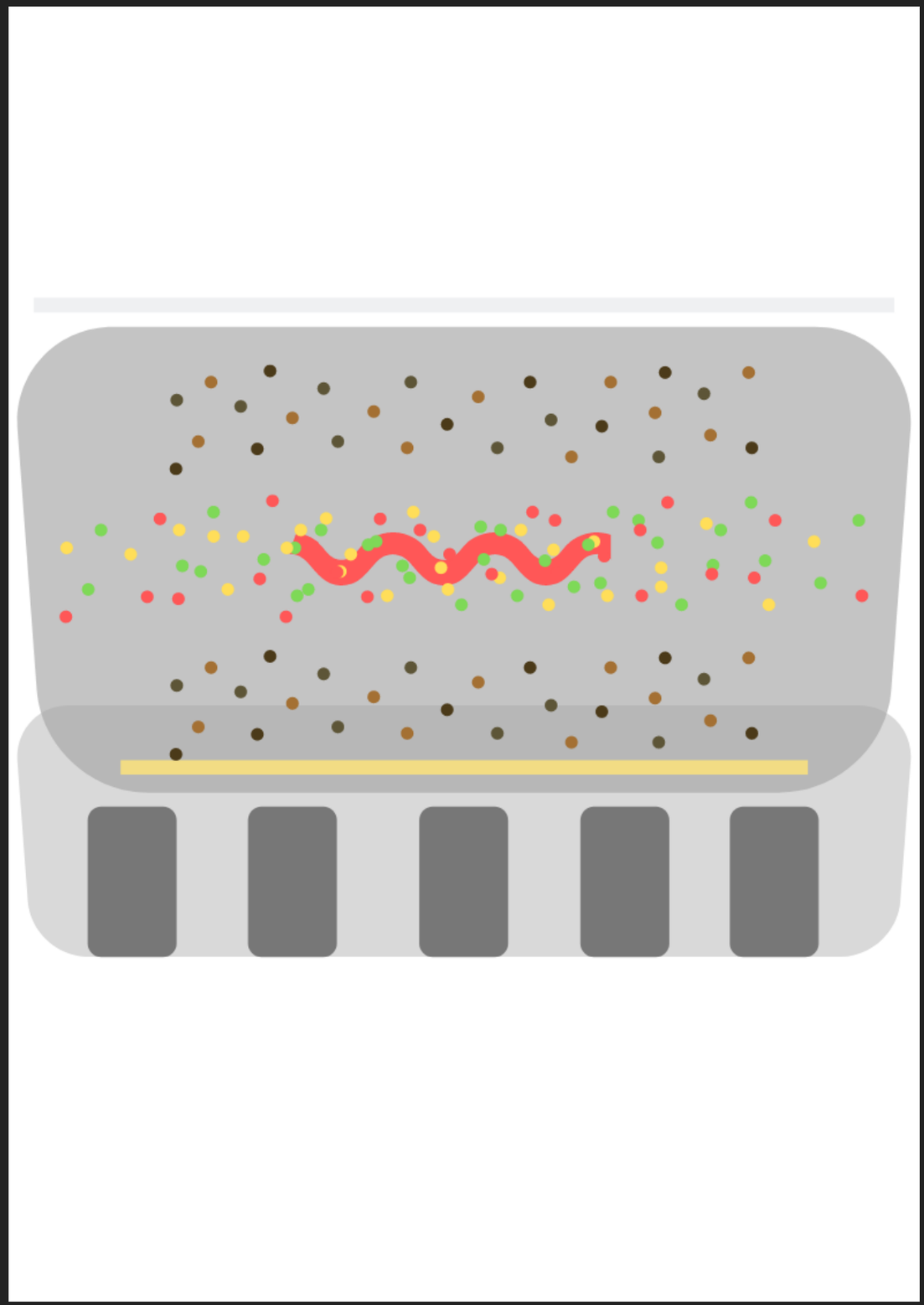
wet or green things
that contain **nitrogen** (like food scraps).

COMMON MISTAKES:

YOUR COMPOST IS EITHER. . .

- TOO WET: add some dry ingredients
- TOO DRY: add some juicy bits
- TOO COLD: bring it in (e.g.: garage/ basement)

It doesn’t really get too warm - but avoid direct sunlight



WHAT SHOULD YOUR COMPOST LOOK LIKE?

- it doesn’t have a bad odour!
- It smells like potting soil
- hardly any mould or other signs of rotting on the surface
- worms are INSIDE the box
- there might be a few other insects
- the top layer can be dry, but the inside is moist

So, all in all, it is “just a box of soil”, from what it looks like.

Keep on layering every week, and results will come eventually!

WHEN WILL I SEE ANY RESULTS?

- The first few weeks are boring…
- The system needs 6-8 weeks for the earliest results
- Keep feeding them, reach a state of equilibrium

WHAT ARE THE RESULTS? HOW TO HARVEST?

- The main goal is to have compost. (And worm-tea*…)
- After 6-8 weeks, leave them alone for 2 weeks
- Sift the contents of the box
- Store your potting soil for up to 6-12 months
- Harvest 3-4 times a year or as needed

*potent fertilizer solution!

A YEAR WITH YOUR VERMICULTURE

- 6-8 weeks of starting up + 2 weeks break + harvesting
- 3x (10-12 weeks feeding + 2 weeks break + harvesting)

GOING PRO

FREQUENTLY ASKED QUESTIONS

WHAT IF MY BOX IS FULL?

- It takes a long time for the box to fill completely
- The content packs up -> 5 cm/week
- Chop/blend the scraps
- Add more worms

WHAT ARE THESE INSECTS/LARVAE IN MY BOX?!

- Decomposer (saprotroph) organisms exists in a lot of forms, not just worms!
- Mites, centipedes, flies (black soldier fly), rotifers and many more may find your vermiculture box on the balcony (or come from the food scraps).
- They speed up the process - they are harmless
- You can use a lightweight mosquito net against fruit flies

WHAT ABOUT MOLD?

Mould is not an easy question, and it has 2 aspects.

1. Can I put mouldy food in the box?
   We hesitated a lot before we actually started including mouldy food in our compost, but from what we have read, mould is just another form of decomposing, so a small amount doesn’t make any difference in your compost, or might even speed it up (and it usually disappears.)

2. Is it okay if we see mould forming within the box?
   For this, I would say… to some extent. Big batches of scraps might become mouldy inside the box, however, if the top of the contents start to get mouldy, that is the sign of your compost being too wet - so you might need to adjust the humidity of the box, otherwise your worms will try to escape.

WHAT ABOUT FLUIDS?

- Your compost has the worm-tea as a byproduct.
- But there isn’t much of it!
- So if your compost is constantly dripping and the conditions are rather “rainforesty“ inside the box, you should add more dry ingredients (like dried leaves, etc.)
- If the worm tea has dead worms in it, check the polyester fabric at the bottom and/or the conditions: why did worms escape?

WHAT CAN I PUT IN THE COMPOSTER BOX?

- There are lots of things you can put in the composter that will eventually rot and turn into compost.
- As this is a smaller and faster thing then a regular garden composter, I would avoid:
    - paper (as worms might die if they get too many),
    - lots of wood (some is okay, but it rots slowly),
    - Hard shell/stone-fruits (e.g.: peach pits)

HERE IS A LIST OF EXAMPLES:

LIST OF COMPOSTABLE ITEMS IN YOUR HOUSEHOLD - B=BROWN, G=GREEN

From the Kitchen

1. Fruit and vegetable scraps (G)
2. Egg shells (crushed) (B)
3. Coffee grounds (G)
4. Tea bags (Only hemp or cotton, and not rayon or other synthetics. (B)
5. Loose leaf tea (G)
6. The crumbs you sweep off of the counters and floors (B)
7. Cooked pasta (G)/Cooked rice (G)
8. Stale bread, pitas, or tortillas (in small amounts) (B)
9. Stale tortilla chips or potato chips (in small amounts) (B)
10. Spoiled pasta sauce or tomato paste (G)
11. Crumbs from the bottom of snack food packaging (B)
12. Stale crackers (B)/Stale cereal (B)
13. Unpopped, burnt popcorn kernels (B)
14. Old herbs and spices (G)
15. Old oatmeal (B)
16. Peanut shells (B)
17. Stale pumpkin, sunflower or sesame seeds (chopped up so they can't sprout) (G)
18. Wine corks (chop up so they decompose faster) (B)
19. Moldy cheese (in moderation) (G)
20. Old jelly, jam, or preserves (G)
21. Stale beer and wine (G)
22. Toothpicks (B)
23. Bamboo skewers (break them into pieces) (B)

From the Bathroom

25. Hair from your hairbrush (B)
26. Trimmings from an electric razor (B)
27. Old loofahs (cut up, natural only) (B)
28. Nail clippings (B)
29. 100% cotton cotton balls (B)
30. Cotton swabs made from 100% cotton and cardboard (not plastic) sticks (B)

From the Laundry Room

31. Dryer lint (from 100% natural fabrics only!) (B)
32. Cotton fabric scraps (shredded) (B)
33. Old wool clothing scraps (ripped or cut into small pieces) (B)
34. Old cotton towels and sheets (shredded) (B)

Around the House

35. "Dust bunnies" from wood and tile floors (B)
36. Contents of your dustpan (pick out any inorganic stuff, like pennies and Legos) (B)
37. Crumbs from under your couch cushions (again, pick out any inorganic stuff) (B)
38. Burlap sacks (cut or torn into small pieces) (B)
39. Old rope and twine (chopped, natural, unwaxed only) (B)
40. Leaves trimmed from houseplants (G)
41. Dead houseplants and their soil (B)
42. Flowers from floral arrangements (G)
43. Natural potpourri (B)
44. Used matches (B)
45. Ashes from untreated wood burned in the fireplace, grill, or outdoor fire pits (in very small amounts) (B)
46. Grass clippings (G)
47. Dead autumn leaves (B)
48. Sawdust (from plain wood that has NOT been pressure-treated, stained or painted) (B)
49. Jack O'lanterns (smashed) (G)
50. Natural holiday wreaths (chop up with pruners first) (B)

Pet-Related

51. Fur from the dog or cat brush (B)
52. Feathers (B)