I’m going to grow vegetables in my garden!

We’ll be able to save money too.

Eh… they don’t look healthy.

Oh, there must be something wrong with the soil.

In a couple of months we’ll have some delicious vegetables.

After a month

You’re right…

Looking forward to having them!

What’s wrong

Whish! Whish!

Droop!

Bo bo bo…

Whoosh!

To the Reader of This Book

This book tells you how to make and use compost. Making compost brings many great benefits.

CONTENTS

Soil Friendly for Microorganisms 3
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The essence of the soil

You called?

Saving waste collection and transportation fees

Fun experiments

Changing organic waste into a valuable resource

Enjoy our eco life

Every year, Kitakyushu City, Japan spends about 10,000 yen per person on waste management fees

Things you don’t need can be used to grow vegetables

We can learn about the soil and its microorganisms

You’ll understand Biology, Chemistry and Living Things

Growing Vegetables

Growing Vegetables

Fertiliser

You called?

Looking forward to having them!

What’s wrong

Whish! Whish!

Droop!

Bo bo bo…

Whoosh!

Soil Friendly for Microorganisms

Reducing Waste at Home

How to Make Compost Part 1

How to Make Compost Part 2

Let’s Use Compost
Using too much fertiliser does not help make good quality soil!

Compost is a natural way of making plants stronger

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**So chemical fertilisers are no good?**

Chemical fertilisers can help growing plants in the short term. However, they are not natural and damage the balance of the soil in the long term.

Using too much fertiliser does not help make good quality soil!

Compost is a natural way of making plants stronger
Reducing Waste at Home

Southeast Asian cities have started using composting – let’s have a look at how they got on

It’s become really clean and green

Waste all over the streets

Starting to make compost

Waste reduced by 30%

It has helped to change the mind-set of the people

All these changes happened with the technical assistance of Kitakyushu’s people

Down!

University students making compost in class rooms (St. Teresa University, Cebu City)

People start to work together, building community bonds (Cebu City)

Oh really?

Annually, Kitakyushu city spends about 10,000 yen per person on waste collection and transportation.

Annually, Kitakyushu city spends about 10,000 yen per person on waste collection and transportation.

Animals attack waste in the streets

Waste makes a bad smell

It goes bad in the summer

So organic waste is good for both the environment and your wallet!

Around half of household waste

Organic waste 48.2%

Paper 25.6%

Plastic 7.4%

Metal 0.6%

Glass 0.6%

Others 7.4%

Glass 0.6%

Around half of household waste

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Annually, Kitakyushu city spends about 10,000 yen per person on waste collection and transportation.
Let’s Try Making Compost!!

Once preparations are finished, we can make the compost!

Step 1  What You Need

- Containers
  - Use an aerated container

- Fermented liquid
  - Suger
  - Water
  - Fermented foods
    - Yoghurt, Miso, Sake, Natto, Yeast, Kimchi etc
  - The More Fermented Foods The Better!

- Carpet and thick cloth

Don’t let insects get in!
Stop the inside getting wet!

Step 2  Growing the Micro-organisms

- Rotten Leaves Soil (15 litres)
- Rice (2 cups)

Fill up a vinyl bag

Move all of the contents of the vinyl bag to the box
Mix it once a day
Do this for a week!

Fermented liquid
Rice and rotten leaves soil
Squeeze into a ball shape,
it’s ok if there is water left in

Step 3  Putting the organic waste into the box

Cut the organic waste into small pieces,
put into the container and mix well

Put sugar, water and fermented foods
into the container and mix together.

Mix it well once a day!

Make sure insects cannot get in
Put the cover over the basket

POINT
1. Separate the water well
2. Cut the organic waste into small pieces
3. Mix it well so the air can get in

If you let the air in then the bad micro-organisms go out and the good micro-organisms come in

Step 4  Maturing the compost

Take compost out and keep it for maturing

By filling up half the box with compost and waiting 2 to 3 weeks, it can be used for flowers and vegetables

Finished!

Note:
In addition, if you keep the warm compost inside the plastic bag for several months, it will mature removing any unpleasant odours. Using it this way, vegetables and flowers can grow up healthily.
Let’s See What is Going On Inside the Compost!!

In the compost there are lots of microorganisms.

The living organisms need regular watering to grow.

The microorganisms in the yoghurt and the natto help make the compost.

something smells…

During this time, heat is emitted.

If the compost gets hot then the micro-organisms can eat the organic waste.

Tasty!

The microorganisms are working!
Let's Try to Use Compost!!

- Compost is mixed with the soil
  - After 2-3 weeks, it's matured
  - It's still hot inside the compost
  - Settled down

- When applying the compost in the planting area
  - Cover the soil with the compost after planting crops (Mulching)
  - Cut a 10cm deep circular furrow around the tree (ahead of its root tips) and put the compost in.
  - Approx. 10cm deep

- Spread the compost on the whole area of a field, and plough it to a depth of about 10 cm

- This method has the effect of improving the topsoil as well as softening the entire field

- The decomposition of the compost gets stimulated which gradually brings about the effect.

Main Vegetables Planting Calendar

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- How the Compost helps the Plants Grow
  - Healthy plants are strengthened against disease and bugs
  - Lots of living things working together raises the soil temperature by 1 or 2 degrees
  - Many living things working together enriches the vegetables
  - At the roots of the plant, there are lots of different types and many microorganisms
  - The living things working together makes the soil puffy

- Phosphorus growth accelerate substances amino acids
- Micro-organisms will make the roots healthy

- Let's Try to Use Compost

- "Growing Healthy Vegetables through Recycling, Making Food Healthier" by NPO Daiicho to inochi no Kai (2011)
What are the benefits of eating healthy vegetables grown in compost

The vegetables can always keep the benefits they receive and we can get the power from the vegetables

The skin of the vegetables can be composted to give the benefits to the next batch

It works in a continuous cycle

If you eat a lot of vegetables grown in compost soil, you can get the power

Thanks! Thank you