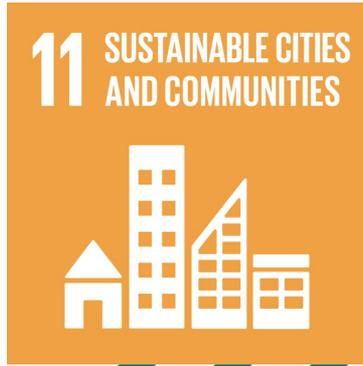


Let's Use CARDBOARD BOX COMPOSTING in Niigata!



W202102-1
Niigata Prefectural
Sanjo Senior High School



The amount of waste by prefecture

Prefecture	population	total amount of waste(kg/year)	amount of waste per person(kg/year)	gap between average(kg/year)
Hokkaido	5,430,909	2019000000	371.761	19.2
Tokyo	13,286,735	4572000000	344.103	-8.5
Niigata	2,330,797	894000000	383.560	30.9
Toyama	1,076,158	405000000	376.339	23.7
Ishikawa	1,159,015	422000000	364.102	11.5
Fukui	794,492	286000000	359.978	7.4
Yamanashi	845,956	310000000	366.449	13.8
Nagano	2,120,076	667000000	314.611	-38.0
Gifu	2,053,286	696000000	338.969	-13.6
Shizuoka	3,715,901	1274000000	342.851	-9.8
Aichi	7,434,996	2572000000	345.932	-6.7
Kyoto	2,620,210	884000000	337.378	-15.2
Osaka	8,860,280	3300000000	372.449	19.8
Hiroshima	2,840,211	947000000	333.426	-19.2
Okinawa	1,416,587	436000000	307.782	-44.8
Japan	127,293,595	44885000000	352.610	////////////////////

Source:Ministry of the Environment

To reduce the amount of waste

Cardboard Box Composting

People in Nagano prefecture, which produces the third least waste of all prefectures, use this system.

Hypothesis

○ If we use the cardboard box composting system, we can reduce the total amount of waste in Niigata prefecture.

Most people in Niigata don't use cardboard box composting.

What is cardboard box composting? (Mechanism)

Put kitchen waste into a box.



Microorganisms consume the kitchen waste.

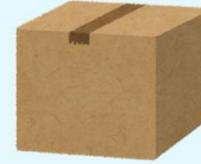


The kitchen waste becomes compost.

What is cardboard box composting?(How to make and use)

Materials

- 1 large cardboard box
- Spare cardboard for reinforcing the box floor
- Masking tape
- Table for compost
- *Kuntan* (rice husk ash)
- Coco peat (coconut ash)
- Small hand shovel or scoop to stir the compost
- Cloth to cover the box



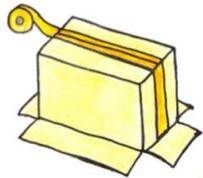
Kuntan

(rice husk ash)



Coco peat

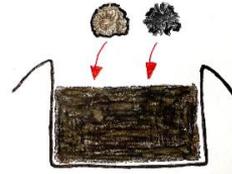
(coconut ash)



1. Tape and secure the bottom and sides of your box against moisture and unwanted insects.



2. Line your box floor with corrugated cardboard. Place the box on a table for compost.



3. Add coco peat and kuntan to the box until it is about 2/3 full.

Repeat steps 4 to 6



4. Stir the mixture using your shovel.



5. Dig a hole in the center of the mixture. Add up to 500 grams of kitchen waste per a day into the hole and the cover with topsoil.



6. Close and cover your box.



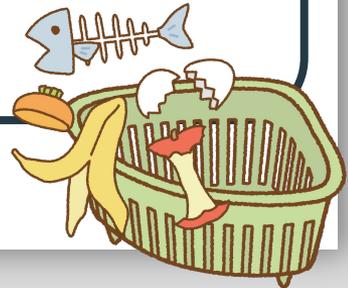
Effect of cardboard box composting in Niigata

$$48,400\text{t} \div 210,000\text{t} \times 100 = 23\%$$

Amount of kitchen waste
per year in Niigata

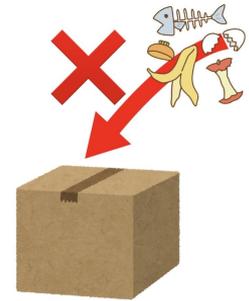
Total amount of
waste per year

Percentage of the
amount of kitchen waste
out of the total amount
of waste



Effect of cardboard box composting

cardboard box composting 1 cycle



Effect of cardboard box composting

$$23\% \times \frac{3}{4} = 17.3\%$$

Percentage of the amount of kitchen waste in total waste

Percentage of the amount of kitchen waste that can be processed by cardboard box composting

Percentage of the amount of kitchen waste that can be processed by cardboard box composting in total waste

Conclusion

By using cardboard box composting,
we can reduce the amount of waste.

Prefecture	population	total amount of waste(kg/year)	amount of waste per person(kg/year)	gap between average(kg/year)
Niigata	2,330,797	739338000	317.204	-35.4
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Niigata which start to use cardboard box composing

Advantages of using cardboard box composting

- We can use it easily.
- We can enjoy using it.
- We don't feel guilty about leftovers by using cardboard Box composting.
- We can feel as though we have a pet, and we can become attached to it.
- Increased awareness of kitchen waste reductions

Prospects

- What to do with the finished compost
- How to adopt it into our lifestyle