

Indigenous Microorganism (IMO)



Cho Global Natural Farming(CGNF)

What is the indigenous microorganisms?

- ◆ In a variety of soil microorganisms.
- ◆ Their own ability and strength to live and find out alive.
- ◆ Environment, ability to cope.
- ◆ Soil Environment.

Characteristics of Indigenous microorganisms

- ◆ Ability to decompose organic compounds.
- ◆ Catalysis of chemical processes in the soil.
- ◆ Natural ecosystems to facilitate recovery.
- ◆ Suppression of diseases by circulating naturally active materials.

Collecting IMO

◆ Time of collection

IMO can be collected at any time

◆ Period of collection

In the spring and fall: 7 ~ 10 days

In the summer: 4 ~ 5 days

◆ Place of collection

Arable fields and closest

Field is slightly higher than

Collecting IMO

◆ Materials for collecting

- **"Lunch box"** (A square or rectangular box made of natural materials such as Japanese cedar or bamboo.)
- **Low moisture rice** (less moisture to collect aerobic microbes)
- **White paper through the air**
(Korean name 'Hanji' or paper towel)
- **Rubber band or rice straw**
- **Container box** (to protect the wooden lunch box from animals and to mark the location)

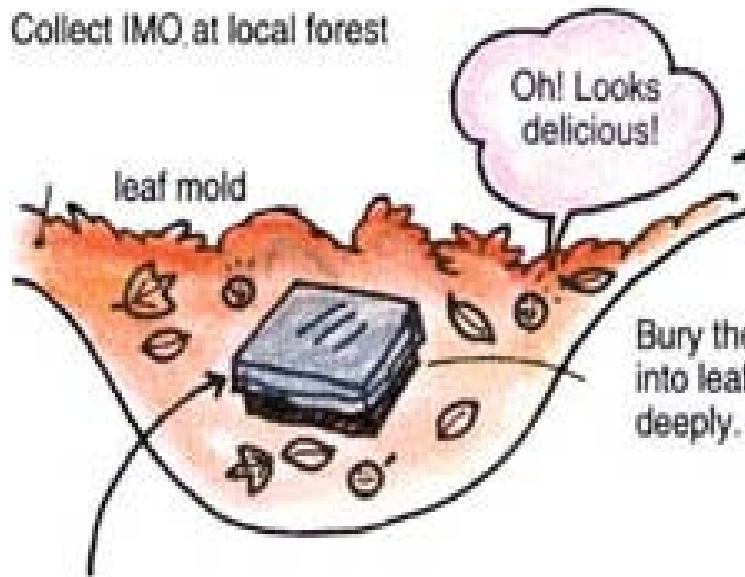
Collecting IMO

◆ Collection site

- **The sweetness from the roots of crops.**
 - Near the roots of bamboo
 - leaf mold of broadleaved
- **Rice stump**
- **It is better to collect in a slightly barren area rather than in a nutrient-rich area.**

IMO#1

Collect IMO at local forest



Bury the box into leaf mold deeply.



Cover it with plastic sheet to prevent rain water.

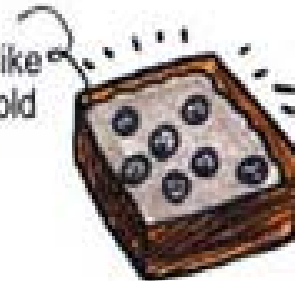


After 2 days (in hot area)
10 days (in cool area)



Cover a wooden lunch box (ceder is best!) with a sheet of paper and a string.

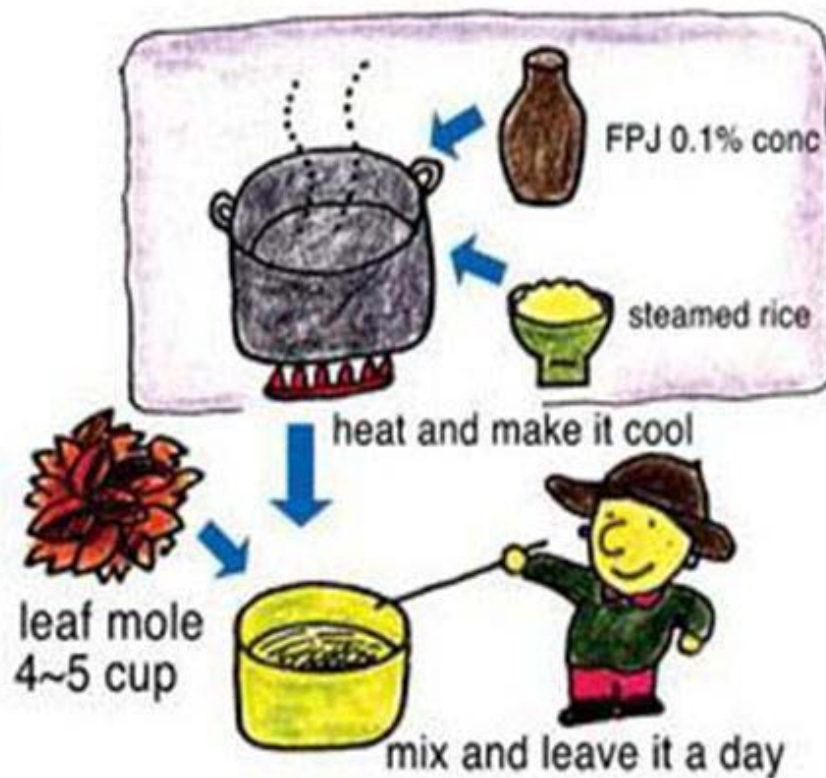
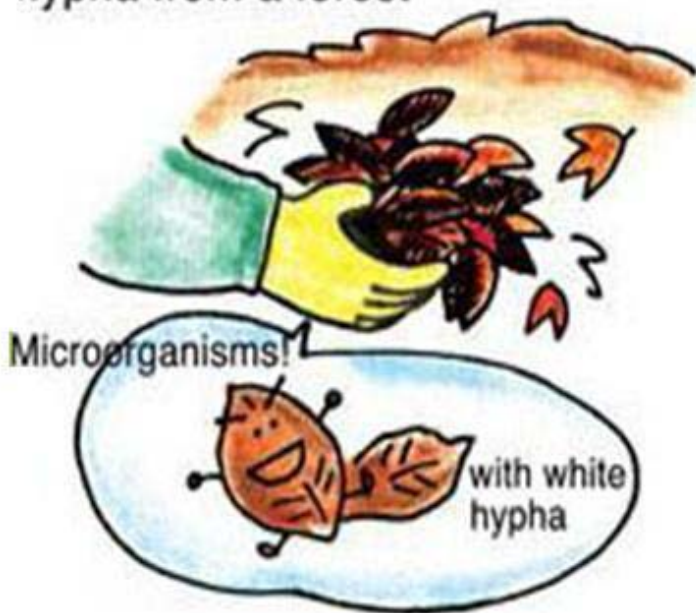
It looks like white mold



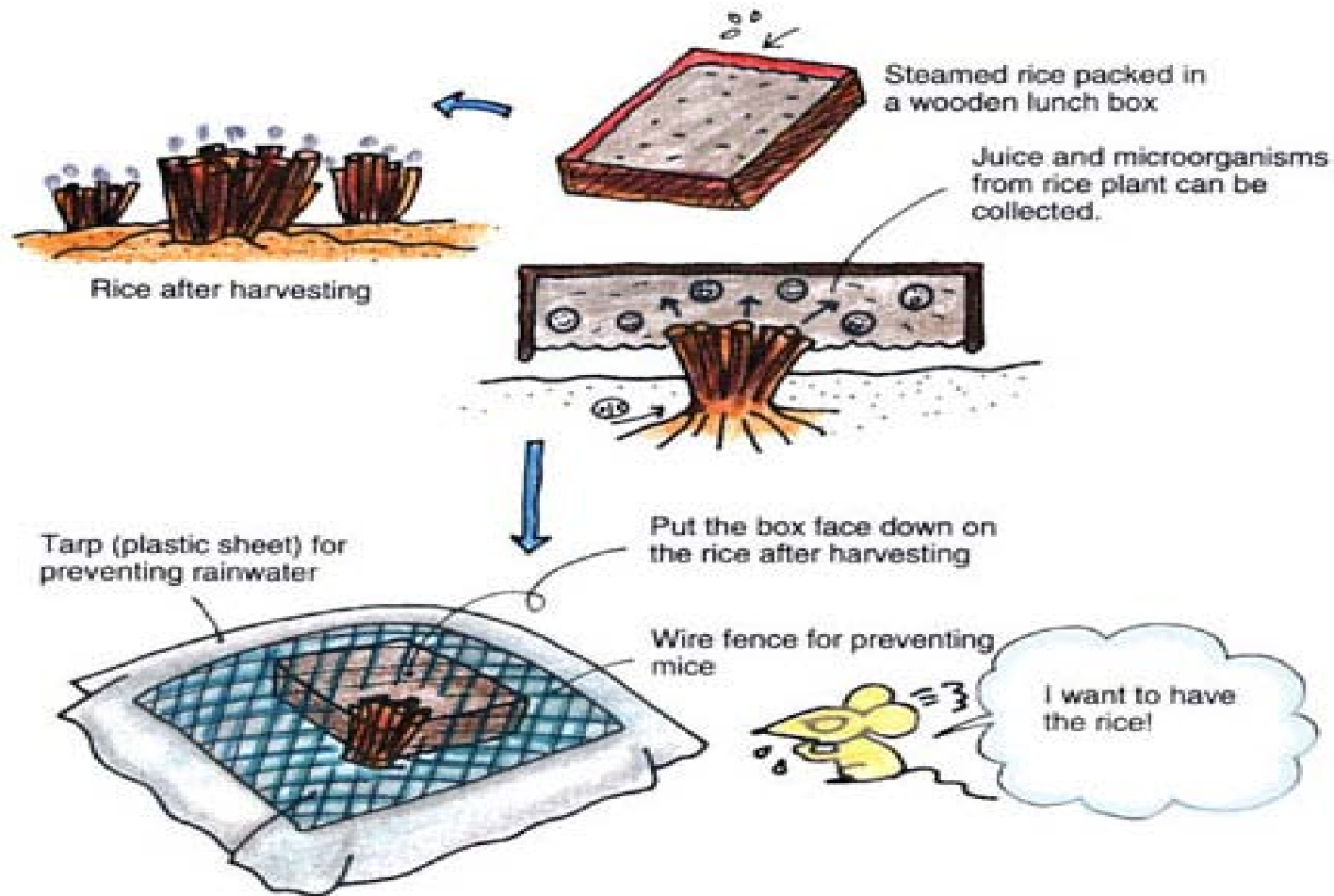
The surface looks wet

IMO#1

Take leaf mold with white hypha from a forest



IMO#1



Process of collecting IMO#1



Process of collecting IMO#1



Process of collecting IMO#1



IMO#1

- ◆ Aerobic microorganisms
- ◆ Color : White
- ◆ The smell of yeast floating
- ◆ Warm temperatures

IMO#1



Process of collecting IMO#2

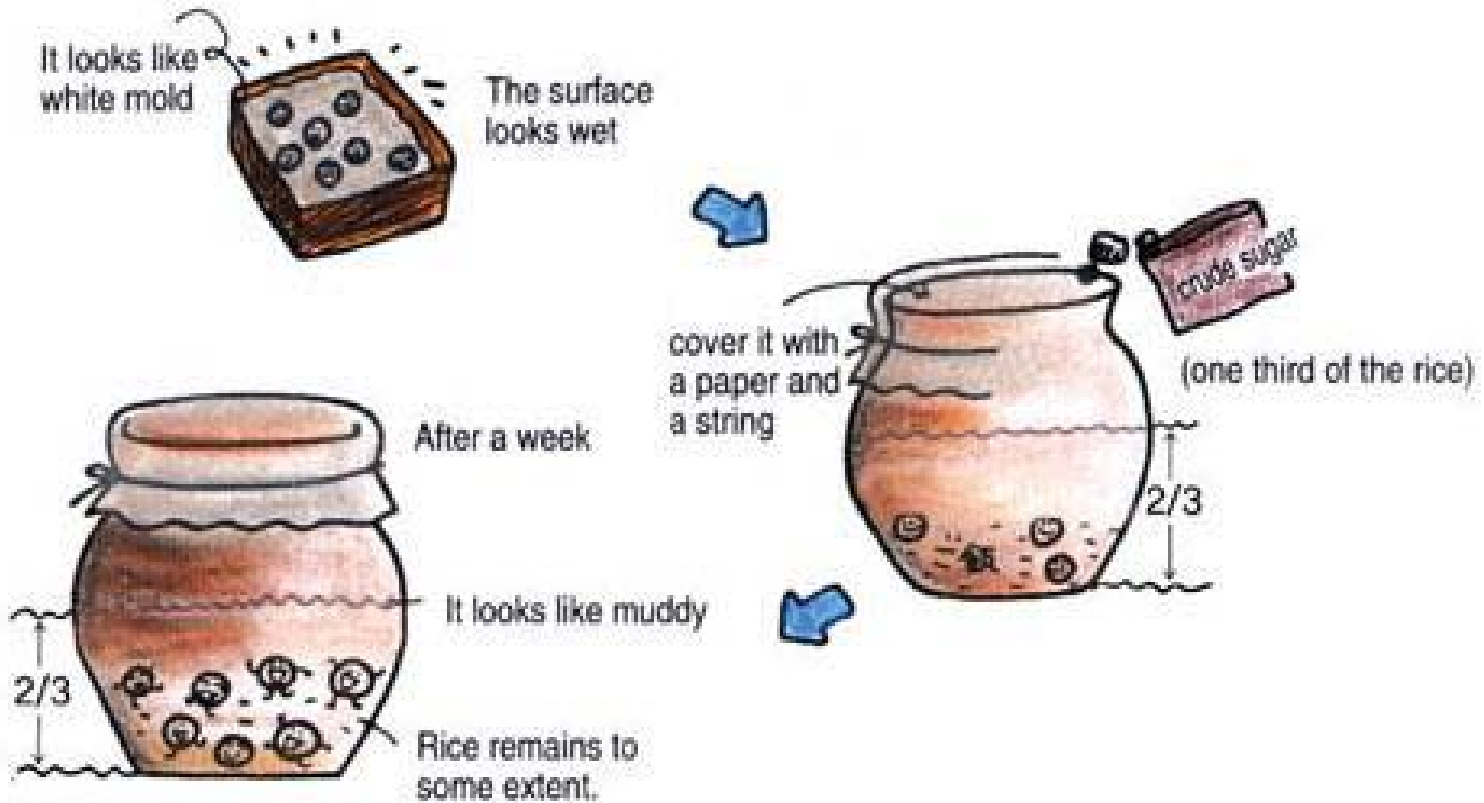
◆ Materials

- IMO#1
- brown sugar
- Clay jar
- White paper through the air
(Korean name 'Hanji' or paper towel)
- Rubber band or rice straw

Process of collecting IMO#2

- ◆ Mix **IMO #1** with **brown sugar** in **1:1** ratio (weight) and then put it in the jar.
- ◆ **Fill 2/3 of the clay jar** with the mixture. This creates the most favorable environment for fermentation.
- ◆ Cover the clay jar with paper and tie it with a rubber band or straws.
- ◆ Fermentation temperature : **23-25 °C**
- ◆ Fermentation period : **7days**

IMO#2



IMO#2



Process of collecting IMO#3

◆ Tools

- A shade that shields the working area from direct light
- Thermometer
- Rice straws, rice straw mats, and fallen leaves.

Process of collecting IMO#3

◆ Materials

- Rice bran
- IMO #2 ($\times 1/500 \sim 1/1000$)
- Nutrient liquid
 - OHN ($\times 1/1,000$)
 - FPJ of mugwort and dropwort ($\times 1/500$)
 - BRV ($\times 1/500$)
 - Mineral A ($\times 1/1,000$)

Process of collecting IMO#3

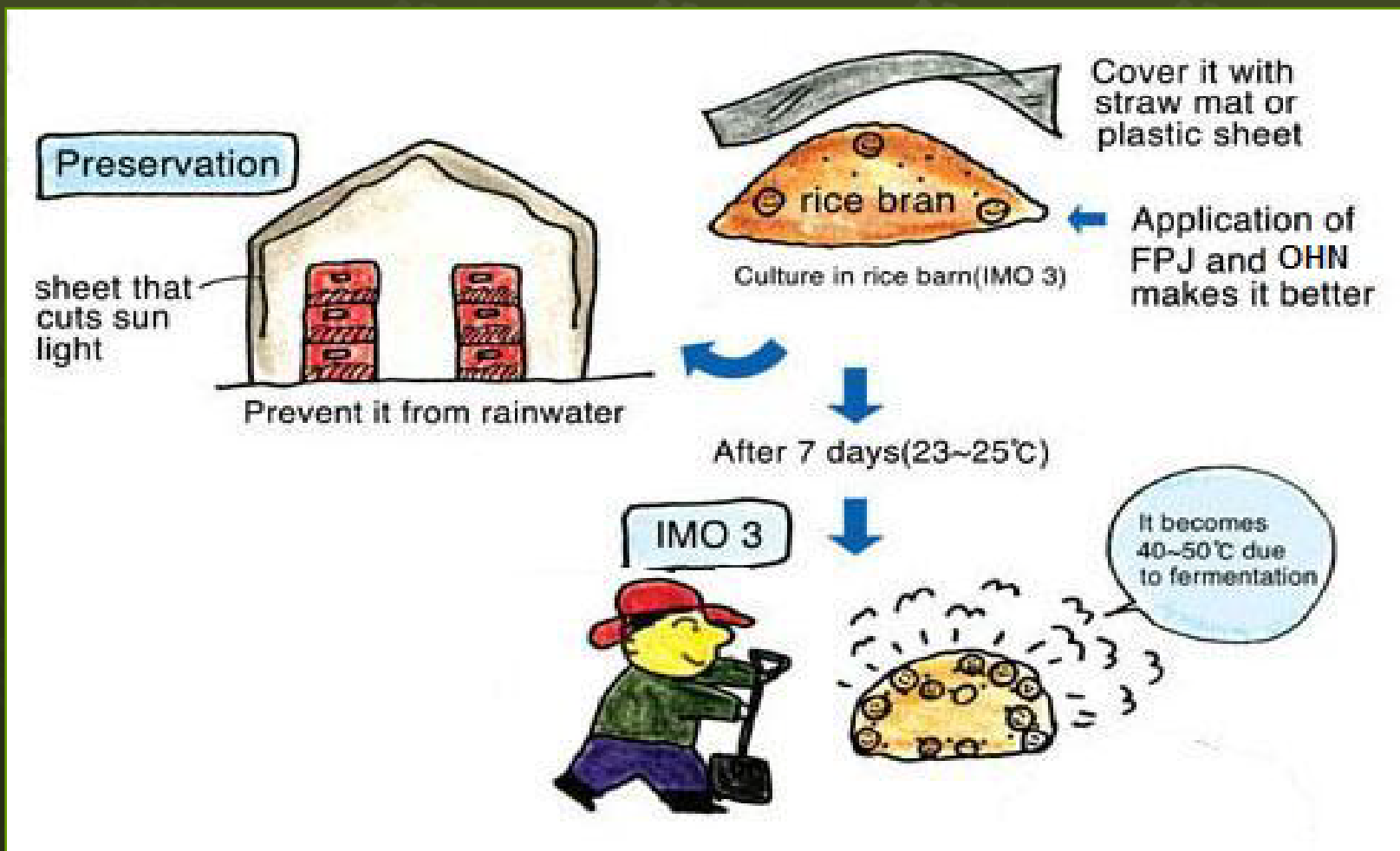
◆ Methods

- Moisture level : **65 ~ 70%**
- Temperature : **40 ~ 50 °C**
- IMO#3 stacking height : evenly **13.7 ~ 15.7in**

◆ Fermentation period : **7days**

◆ Keep the temperature : **1 ~ 15°C**

IMO#3



IMO#3



Process of collecting IMO#4

◆ Materials

- IMO #3: soil = (1:1) (bulk)
soil = soil: field soil : red clay (1:2:1)
- Nutrient liquid
 - OHN ($\times 1/1,000$)
 - FPJ of mugwort and dropwort ($\times 1/500$)
 - BRV ($\times 1/500$)
 - Mineral A ($\times 1/1,000$)
- Sea water ($\times 1/30$)

Process of collecting IMO#4

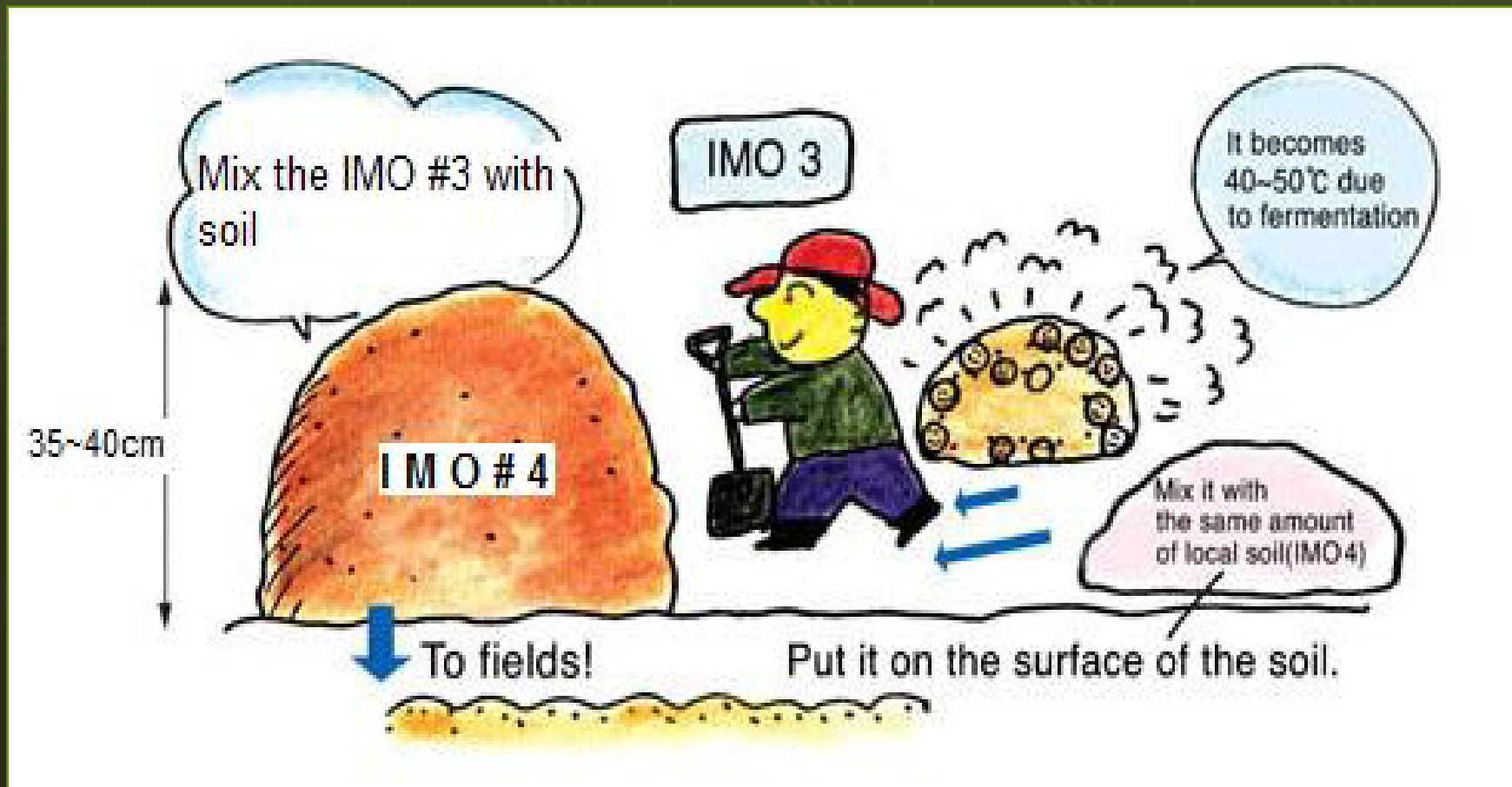
◆ Methods

- Moisture level : **65 ~ 70%**
- Temperature : **40 ~ 50 °C**
- IMO#3 stacking height : evenly **13.7 ~ 15.7in**

◆ Fermentation period : **7days**

◆ Keep the temperature : **1 ~ 15°C**

Process of collecting IMO#4



Process of collecting IMO#4



How to utilize IMO

◆ Making the soil foundation



Scatter IMO#4(150kg/0.1ha)
on the soil.

As recovering soil environment,
microorganism and small animal is
becoming more active.



How to utilize IMO



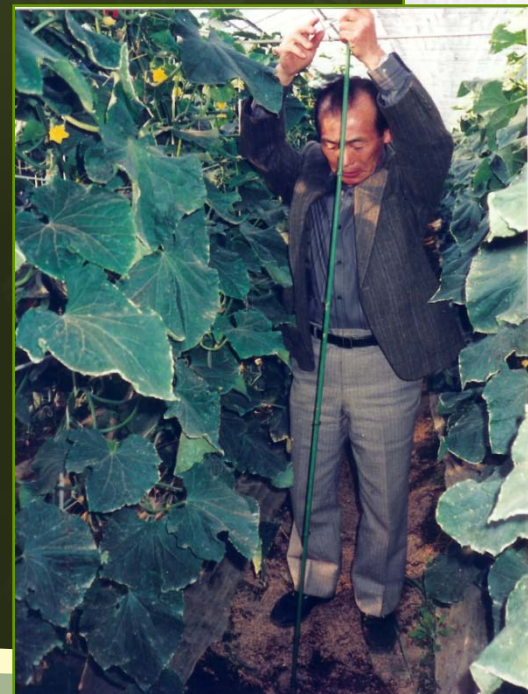
How to utilize IMO

- ◆ Using with fermented mixed compost
- ◆ Using IMO in liquid form
($\times 1/500 \sim 1/1000$)
- ◆ Other cases
 - Fermented mixed compost
 - Fermented feed,
 - Managing pigpen floors
 - Henhouses, etc.

How to utilize IMO

	Filed without successive cropping disorder	Field with successive cropping disorder
IMO #4	One week before seeding and planting	Two weeks before seeding and planting
Making soil foundation	Right after applying IMO #4	One time after applying IMO #4 One time 1 week before seeding and planting

How to utilize IMO



Thank you



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