



# RICE CULTIVATION AND ENVIRONMENTAL ISSUES

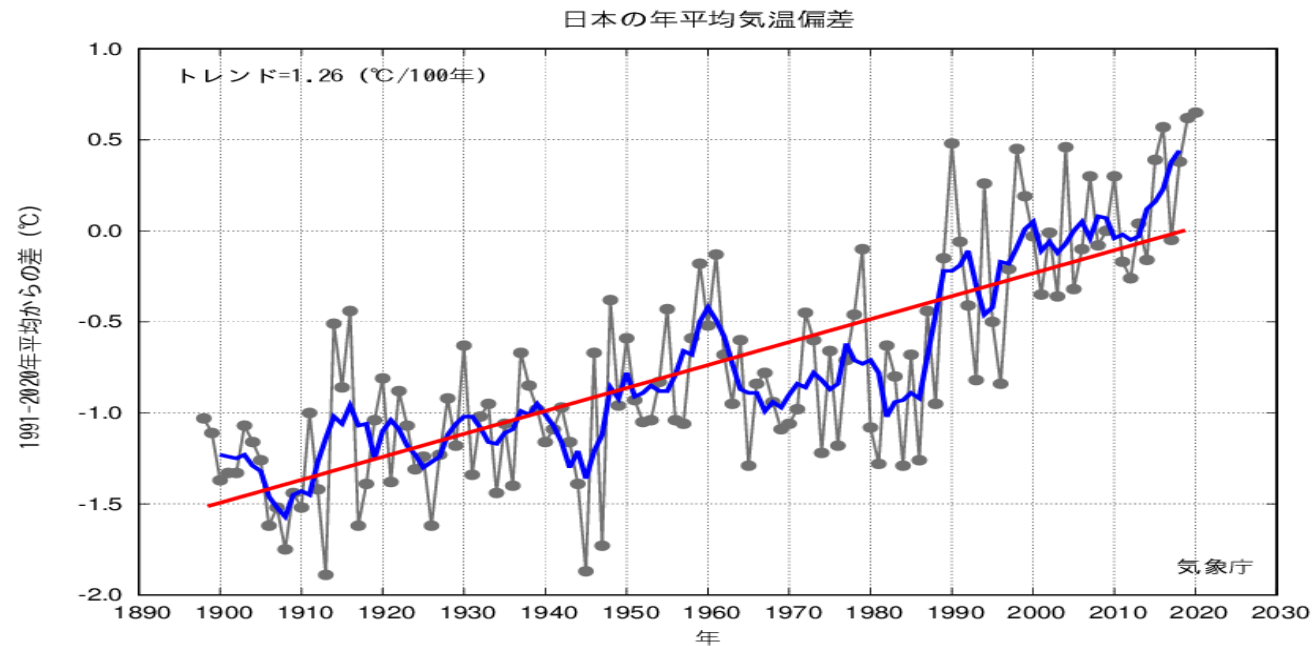
# Content

1. Rice Cultivation and Global Warming
2. Response to Global Warming
3. Rice Cultivation and the Problem of Marine Plastics
4. Addressing the Problem of Marine Plastics
5. Our Activities
6. References and People who cooperated

# 1. Rice Cultivation and Global Warming

## ◦ What is Global Warming?

- A phenomenon in which the Earth's temperature rises due to the effects of greenhouse gases such as carbon dioxide.



# 1. Rice Cultivation and Global Warming

- As global warming progresses, eating quality will decrease and rice quality will be greatly affected.

High-temperature ripening failure

- It is caused by high temperatures that inhibit the maturation of rice.
- The result is cloudy brown rice, reduced grain tension, and cracked grains.

Becomes less sweet  
And watery

## 2. Response to Global Warming

- By adding high temperature tolerance to existing tasty varieties, researchers are developing varieties that can maintain their delicious taste even with global warming.



High temperature resistant varieties

- In warmer regions such as Kyushu, the high temperature tolerant varieties that have been developed have won gold medals in many food quality contests.

### 3. Rice Cultivation and the Problem of Marine Plastics

- What is the Problem of Marine Plastics ?
  - A phenomenon in which plastics flowing into the ocean are affecting marine life. There is also a possibility that it may affect the human body.

Plastic trash on the beach in Miyagi Prefecture



Plastic pipes used in oyster farming.

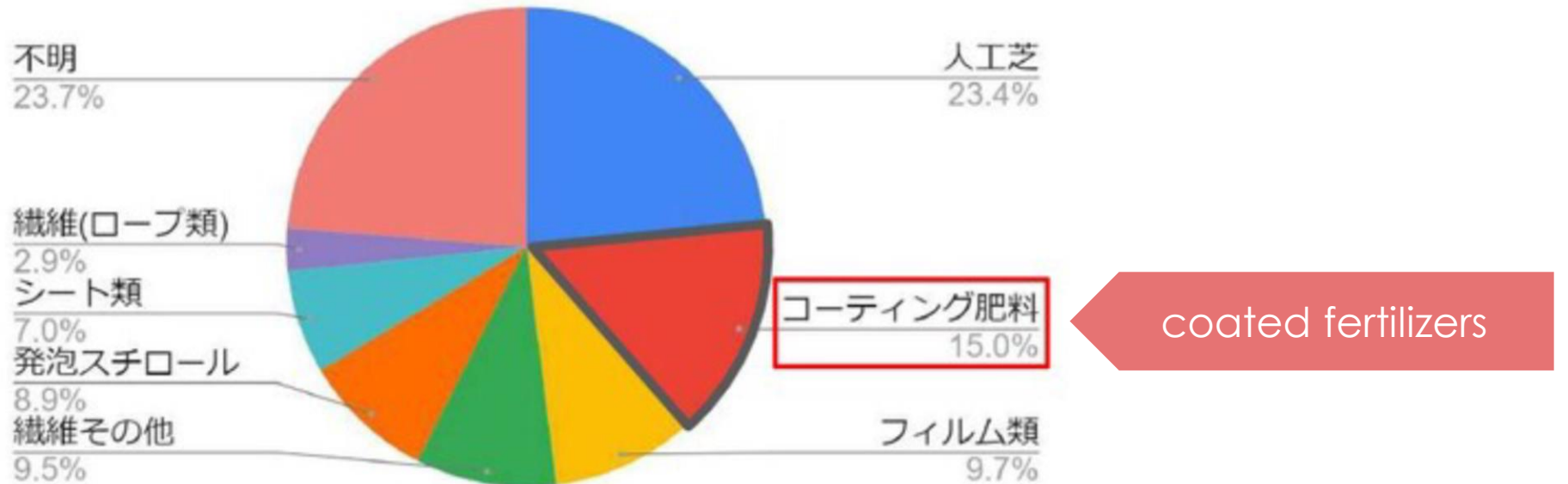


Plastic cap and Plastic film

### 3. Rice Cultivation and the Problem of Marine Plastics

- Of the 157 tons of microplastics generated in Japan, coated fertilizers account for a high percentage in terms of mass ratio.

マイクロプラスチック推定製品の質量比

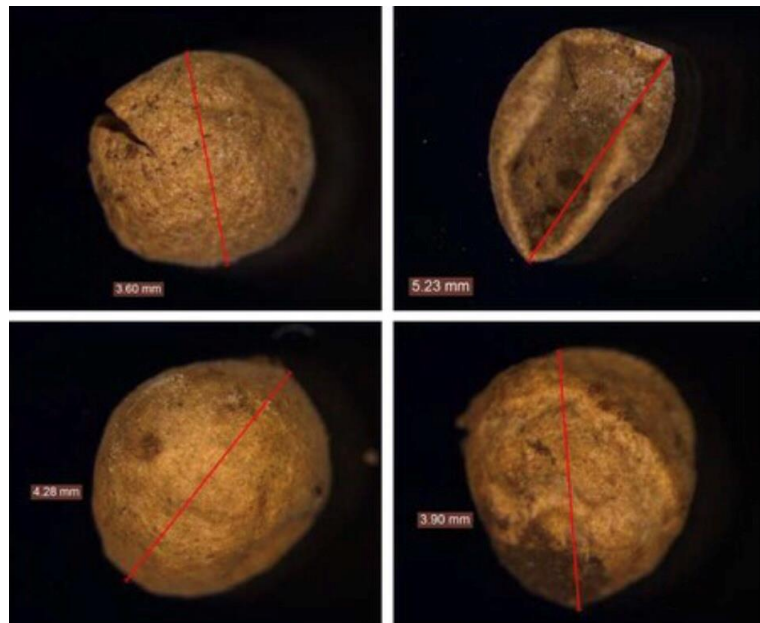


一般社団法人ピリカ作『マイクロプラスチック等浮遊状況データベース』

### 3. Rice Cultivation and the Problem of Marine Plastics

- What is Coated fertilizer ?

- The surface is covered with plastic for a long-lasting effect. Coated fertilizer is a fertilizer used mainly in rice Cultivation.



Therefore...

in rice cultivation areas, the number of plastic items In rice-growing areas, it can account for more than 60% of the total number of plastic runoff.



## 4. Addressing the Problem of Marine Plastics

- Investigation of spilled products and spill routes to stop spills.
- Develop technologies and businesses to solve the problem.
- Develop apps to encourage people to pick up trash.

# 5. Our Activities

- What we thought

We figured that not much is known about high temperature tolerant varieties and coated fertilizers.

- Farmer's Message

I would like as many people as possible to know about the current situation and to consider the environment when making decisions.

# 5. Our Activities

- Our future activities

Create and distribute pamphlets such as "Rice Farming and Global Warming" and "Rice Farming and Marine Plastic Problems" to make more people aware of rice farming and environmental issues.

# 6. References and People who cooperated

## ● References

- 一般社団法人ピリカ作 『マイクロプラスチック等 浮遊状況データベース』  
<https://opendata.plastic.research.pirika.org>
- 農林水産省ホームページ  
<https://www.maff.go.jp>
- 気象庁ホームページ  
<https://www.jma.go.jp/jma/index.html>
- 環境省ホームページ  
<https://www.env.go.jp>

## ● People who cooperated

- 古川農業試験場
- なりさわ生命食産



THANK YOU FOR  
YOUR ATTENTION