

# Rice Straw Management in the Philippines



**Engr. Eleonor F. Santiago**  
**Supervising Science Research Specialist**  
**Andres M. Tuates, Jr., Ph.D.**  
**Chief Science Research Specialist**  
Department of Agriculture-PHilMech/ Philippines



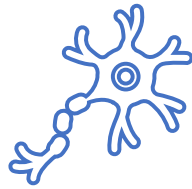
**CSAM**

Centre for Sustainable  
Agricultural Mechanization

# Introduction

- **Palay production in the Phils: 20.06 M mt (PSA 2024)**
- **7<sup>th</sup> in production worldwide (USDA 2024)**
- **Palay to straw ratio: 0.7-1.4 depending on variety (IRRI)**
- **Rice straw per hectare: 0.91-5.84 mt based on average of 4.17 mt/ha yield (PhilRice)**
- **Rice Straw is considered waste**
- **Collection in the rice field is labor intensive and laborious**
- **Burn the rice straws in the field**





- **Current Farmers' practice:**

- **Straw decomposition**

- [Emissions of CH<sub>4</sub>]



- **STRAW BURNING**

- [Emissions of CO<sub>2</sub>]



- **Effects:**

- **Environmental impacts**

- **Health impacts**

# Challenges and Opportunities

## • Challenges:

- 50% of 1 B tons rice straw wasted
- 1 Gt CO<sub>2</sub> emissions
- 51 B USD value left in fields
- Climate change
- Straw removal from the fields

## • Opportunities:

- Potential source as biochar, activated carbon, fuel, feedstock, fertilizer, substrates, etc

# Good Practices

- **Incorporation in the soil during land preparation**
- **Development and utilization of balers in the collection of rice straw**
- **Straw-based mushroom substrates**
- **Feed silage**
- **Composting**
- **Source of fuel**
- **Biochar/ Activated carbon**
- **Source of fibers**

# Recommendations:

## Harvesting

- Straw reaper
- Combine harvesters as straw collectors
- Promotion on the utilization of half fed combine harvester
- Distribution of balers

## Straw processing/ Research/ Ways forward

- Establishment of Biochar and activated carbon processing plant
- Power generation
- Establishment of silage processing plant
- Value adding such filler in bioplastic production

## Government support & Policies

- Sustainable agricultural practices
- Support for local manufacturers
- Incentive for collection and utilization of rice straw



*Thank you*

**Philippine Center for Postharvest Development and Mechanization (PHilMech)**

**Department of Agriculture**

**CLSU Compound, Science City of Munoz, Nueva Ecija, Philippines**

**od@philmech.gov.ph | [www.philmech.gov.ph](http://www.philmech.gov.ph)**