

## Carbon emission by open burning from a paddy field and decomposition of the residual biomass in the paddy soil

OKADA, Kazuya<sup>1</sup> ; ONO, Keisuke<sup>2</sup> ; IWATA, Toru<sup>1\*</sup>

<sup>1</sup>Graduate school of Environmental and Life Science, Okayama University, <sup>2</sup>National Institute for Agro-Environmental Sciences

Twice sampling surveys of residual biomass above ground surface were conducted before and after the open burning, and carbon contents compared for the estimation of carbon emission by the burning. It is suggested that about 43% of carbon contents of above-ground rice plant was yield out as grain by the harvest, and about 30% of carbon emitted as CO<sub>2</sub> by burning. Coarse Organic Matter (COM) in the paddy soil of a single-crop rice field was sampled on a regular schedule for three years. The carbon emission from the COM decomposition of residual biomass was estimated by analyzing of the variations in carbon content of COM. Decrease in COM was accelerated at the warming season between April and June, but it was resisted during rice cultivated season. It is estimated that 70% of COM was decomposed after a year.

Keywords: Organic Carbon, Rice Paddy, Soil, Decomposition, Carbon Dioxide