

Evaluation of mangrove ecosystems as a dissolved iron supplying system to tropical coastal waters

*Yasuhiro Nakanishi¹, Ko Hinokidani¹

1. Tokyo University of Agriculture

Iron, one of the essential micro elements for plants, is normally contained in the insoluble forms in sea water, content of the dissolved forms greatly affects propagations of marine phytoplankton which are origins of the marine food chain and absorb CO₂ in sea water.

As one of the studies on natural systems for dissolved forms of iron from land to sea, we focused on mangrove ecosystems located at boundary between the land and sea in the tropical regions. To clarify the dissolved iron supplying systems, we have conducted studies on polyphenols content in leaves of some mangrove species and elution of dissolved iron generated in reactions between the polyphenols and mangrove floor soils. Additionally, we surveyed dissolved iron elution from the floor soils mixed with fecal materials of benthos, such as *Neosarmatium smith* and *Telebralia palustris* which feed on mangrove leaves.

Keywords: Mangrove, Ecosystem, Dissolved iron, Benthos, Polyphenole