

# **Taiwan Agricultural Industry Moves towards Sustainable Development**

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In response to regulations of the United Nations Framework Convention on Climate Change (UNFCCC) and in order to show to the international community the results of Taiwan's implementing the mitigation of greenhouse gas emission, the Council of Agriculture (COA) used to commission scholars and experts to calculate carbon footprint emissions in different industries. The agricultural sector emitted carbon dioxide equivalent (CO<sub>2</sub>) of 3,764,000 metric tons in 2012, the number that accounted for about 1% of the nation's total carbon emissions. However, the forestry sector sequestered CO<sub>2</sub> of 19,129,000 metric tons, the number being five times more than the agricultural sector's emission. The amount of greenhouse gas sequestration is far more than that of emission, which contributes significantly to the nation's works of carbon reduction.

Agricultural production will produce greenhouse gas. In the agricultural sector, rice cultivation, land farming and ignition of crop residues all release methane or nitrous oxide. In the livestock sector, stomach ferments methane, and manure management produces methane and nitrous oxide. In contrast, our forest resources in the forestry sector play the function of absorbing carbon dioxide of greenhouse gas. Therefore, Taiwan's agricultural industry is one of the sectors that both emits and absorbs greenhouse gas.

In collaboration with the Environmental Protection Agency's compilation of "National Greenhouse Gas Inventories 1990-2012," the COA commissioned National Taiwan University, National Yunlin University of Science and Technology, and Agricultural Research Institute to estimate the amount of greenhouse gas emission. In 2012, the methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) of agricultural sector emitted CO<sub>2</sub> of 3,764,000 metric tons, the number that accounted for about 1% of total carbon emissions, lower than the percentage of agricultural GDP in overall GDP.

The COA noted that the forestry sector absorbed CO<sub>2</sub> of 19,129,000 metric tons, the number being five times more than agricultural sector's emission. It contributes considerably to the nation's works of carbon reduction. As international carbon trading price is US\$3.5 per metric ton, Taiwan can generate a value of NT\$2 billion by selling carbon emission rights. In other words, Taiwan's agricultural annual output can reach about NT\$400 billion. Taiwanese agricultural sector will become a sustainable green industry.

(Data Sources: Council of Agriculture)

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