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Historical Changes in Urban Rice Production Systems in Tokyo, Japan

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Abstract: Historical changes in planting area, yield improvements, and production of both paddy and upland rice (*Oryza sativa* L.) in Tokyo and the whole of Japan from 1877 to 2003 were reviewed. The area of rice in Tokyo was at its peak (17,000 ha) at the beginning of the 20th century but dramatically reduced thereafter except for the period of 1950s, to 200 and 30 ha for paddy and upland rice, respectively, in 2003, due to urbanization. After the 1950s, the land-use efficiency rate in Tokyo was reduced from 180 to 100% and rice self-sufficiency rate from 4 to 0.1%. There was historical yield improvement of paddy rice in Tokyo particularly after 1960s in the Southern and Northern Tama regions, but the current yield level in Tokyo (ca. 400 g m⁻²) is lower than that in the whole of Japan (more than 500 g m⁻²) even though crop damage due to low temperatures is not serious. The reasons were discussed from the viewpoints of (1) less agricultural inputs and agronomic management, (2) declining rice research after the 1970s, (3) higher elevating air temperature (e.g. 1.4°C for the last 40 years), in Tokyo, and (4) yield component differences. Upland rice in Tokyo has a planting area comparable with paddy rice (ca. 7,000 to 8,000 ha) during the 1950s, but yield improvement during the last 50 years is not noticeable (ca. 150 g m⁻²) with no development of cultivars, and with greater fluctuation of crop situation index due to drought compared with paddy rice. This review paper discusses the importance of urban rice production system, along with a proposal of the alternatives.

Keywords: [Agricultural history](#), [Paddy](#), [Upland rice](#), [Urbanization](#)

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