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# Preliminary Study on the Nut Production of Japanese Chestnut (*Castanea crenata*) in Aichi Prefecture (1)

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To clarify the strategy of food acquisition by Jomon people, we must construct a resource utilization model that includes ecosystems in which human and the environment mutually interact. It has been recognized recently that Japanese chestnut is important food for Jomon people. We, therefore, investigated several characters of Japanese chestnut and its natural occurrence in the secondary forests to construct the model.

In order to investigate some characters and the harvesting term of Japanese chestnut, nineteen individuals of wild chestnut and three of supposed cultivar were selected in the secondary forests in Obara-mura. All fallen nuts were collected everyday under the each chestnut tree from September 6 to October 20 in 1999. The collected nuts were all dried and weighed. Dry weight of edible parts (cotyledons) was also weighed after peeling the fruit coat. The results showed that most wild chestnut trees produced less than 1000 nuts, and that mean dry weight of nuts of wild chestnut was mostly less than 2.0 g, being smaller compared with that of the cultivars. The ratio of the edible part was about 70% in both the wild and the cultivar. The duration of the nut falling was one and a half month in all the 22 individuals. Most of peaks of the nut falling were in the latter half of September.

Investigation of density of Japanese chestnut in the secondary forest was carried out in Obara-mura and Fujioka-cho in Aichi Prefecture. Five plots were selected in each locality, and a quadrat of 5×5 square meter was laid in each plot. All individuals more than 3 cm at breast height were identified, counted and recorded. The investigation was carried out June 7 to 9, 2000. The results showed that the number of the chestnut trees ranged from 0 to 11 (mean = 4.4) of about 90 to 190 individuals per one quadrat.

Assuming that Jomon people had harvested the nuts under the condition above described, the calorie which feeds one person for 6 days is to be provided from the area of 400 square meter. This value is rather smaller than expected. The reason for this may be due to the poor soil in the study area. It is needed further study how much crops could be gained under the more fertile soil conditions.