



Harvest time of *Cryptomeria japonica* seeds depending on climate factors

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Sound seeds should have good germination rates and seed germination can be influenced by several factors. Seed picking time is regarded as one of the necessary elements to obtain sound seeds. From a clonal seed orchard of *Cryptomeria japonica* located in southern part of Korean peninsular, cones were picked about every 10 days from 30th of July 2005 to 30th of October in both 2005 and 2006. We have also analyzed the effects of climatic factors about two consecutive years on seed productivity. From the picked cones, seeds were collected and these germination ability, seed size and embryo shapes were investigated according to cone picking time. The 1,000-seed weight picked on 18th of August was 3.3 g and 5.3 g on 30th of September 2005 and 2006. The size of seeds picked from 18th of August to 30th of September increased from 19.3 mm to 21.3 mm in length and from 15.8 mm to 18.5 mm in width. Depending on picking time, various shapes of embryos, including embryos with liquid material, jellied material and fully matured ones were observed. Germination aspects also varied throughout the test days. About two weeks after seeding in a glass petri-dish, germinal apparatuses appeared from each test seed sets which had been picked from after 10 August 2005 and 10 August 2006. The germination rates started from 10.7% from seeds picked 20 August 2006. Average germination rate in 2005 was 18.3 and 19.6 in 2006. In 2005, the highest germination rate was 34.3% from seeds picked on the 30th of September. In 2006, the highest germination rate was 31.7% for seeds picked at the same date as the 2005 seeds. After September, the highest germination rate for picked seeds decreased in both 2005 and 2006. Among the climatic factors, monthly sum of temperature and of precipitation were the main factors for maturation of *C. japonica* seeds. The results implied that the best cone picking time for the Korean *C. japonica* seed orchard to be around the end of September.