

**A report on structural changes in a hackberry (*Celtis Sinensis*)
as a result of the atomic-bombing in Hiroshima**

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Abstract

To explore the structural changes in trees exposed to an atomic bomb, we studied a hackberry (*Celtis sinensis*) located 1.27km from the epicenter in Hiroshima. With microscopic examination, distorted ray tissue and tissue injuries were observed in tree rings from post 1945. With PIXE analyses, a significant amount of calcium was detected in tree rings formed before 1945 as well as around the vessels formed in 1945. The former was observed to be crystals of calcium oxalate, the latter was as another compound containing calcium. Presence of calcium suggests severe stress resulting from the Atomic-bombing.