Abstract

Zanthoxylum gilletii (African satinwood) is an indigenous tropical tree species that is valued for its structural timber, agroforestry and medicinal properties. Seed of many Zanthoxylum species have been reported to have poor germination. The study investigated the germination of fresh *Z. gilletii* seed harvested at two maturity stages: green and red (ripe) follicles; harvested from two provenances: Kakamega and Koiwa in November and December 2006 respectively. Follicles were dried at controlled temperature of 20°C and relative humidity of 18 to 20%. During harvesting, Satinwood seed had high moisture content (MC) of 26%, which decreased to 12% after processing and drying. Seed dried to 12.5% MC were divided into two: one seed lot remained unwashed while the other was washed with sodium hydroxide (NaOH) solution. Unwashed seed from Kakamega and Koiwa provenances sown on sand in the glasshouse gave a germination of 3% and 8%; compared to seed washed with NaOH solution, which germinated up to 10% and 23% respectively by the 17th week. Washed seed sown on 1% agar in incubators at various constant temperatures (20, 25, 30 and 35°C±1) and alternating temperatures (20/30°C and 15/35°C±1) recorded poor germination of less than 3%, probably due the presence of chemicals which inhibited germination. These findings suggest that the hard seed coat and oil on the testa influences seed germination and possibly contribute to the dormancy of *Z. gilletii* seed. Germination of seed from mature green and ripe fruits was similar and therefore *Z. gilletii* fruits should be harvested when they start to ripen. African Satinwood seed should be washed with soap solution to remove the oil film and fruit appendages on the testa before initiating germination tests. These results are still low and there is need for further investigation to improve germination of *Z. gilletii* seed.