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Wild plant seed conservation in Baekdudaegan National Arboretum, South Korea

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Recently, it was reported that 45% of flowering plant species are at risk of extinction and it has become a duty for the whole world to conserve biodiversity. For this reason, the Korean government opened Bakedudaegan National Arboretum (BDNA) that has two important facilities, the Baekdudagan Global Seed Vault (BGSV) and the Baekdudagan Wild Plant Seed Bank (BWSPB), for conservation and research of wild plant seeds around the world, in 2018. In BWSPB, wild plant seeds are collected from Korea and collaborating Asian countries, and the seed traits – quality, storage behaviour, dormancy, chemicals and so on – are recorded to get insights into how long they are viable when stored and their values for conservation and applications. At the end of 2023, BWSPB has 2,009 species and 14,228 accessions with various seed traits data (35,953): collection (14,228), storage (2,381), germination (7,718), morphology (5,055), morphology images (1,561), usability (2,524), and so on. These data are managed in the 'Seed Database Management System', and they will be shared globally, through our website 'Seed-pedia' in 2025. The collected and viable seeds of BWSPB with over 50% viability are divided in half and regularly moved to BGSV. In 2022, about 4,000 accessions were deposited in BGSV from BWSPB. BGSV also has their own seed conservation system using black-boxes only for back-up seeds from other seed banks like the Svalbard Global Seed Vault, so there are deposited seeds of around 200,000 accessions from 80 institutes in the world. BDNA is now working together with 11 partner institutes from six countries for wild plant seed conservation, including crop wild relatives (CWRs), and is also focusing on expanding our seed conservation network in Small Island Developing States against climate change. To contribute to the new Post-2020 Global Biodiversity Framework, BDNA is continuously expanding a global network for conservation of wild plant seeds.