



Noah's Ark for plants

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The Kew Seed Bank, located at Wakehurst Place in Sussex, has been in existence since 1974 and holds the largest and most diverse collection of wild-origin seeds in the world. More than 20,000 samples of seed from over 10,000 species are stored at low temperatures and can be kept alive under these conditions for decades or even centuries to come.

There are two main reasons for storing seeds in this way; the first is the "Noah's Ark" principle - seeds of threatened species are held as a back-up in case of extinction in the wild. The second reason is for research; studies of rare species can aid their conservation *in situ*, whilst a wider range of species are screened for potential uses, for instance as crops or sources of pharmaceutical drugs.

The Millennium Seed Bank Project (MSBP) is a thirteen year global conservation programme (1997-2010), conceived, developed and managed by the Seed Conservation Department at Kew. The two principal aims of the Programme are to:

- Collect and conserve 10% of the world's seed-bearing flora (some 24,000 species), principally from the drylands, by the year 2010.
- Collect and conserve effectively the entire seed-bearing flora of the UK.

The drylands cover a third of the Earth's land surface, including many of the world's poorest countries, and support almost one fifth of its population. Many of the plant species of these areas, as well as being under threat from desertification, are important to human survival as food, wild medicines, forage for livestock or fuelwood. Currently, as part of the MSB Project, conservation work is being undertaken in 17 countries, in close collaboration with 40 partner organisations.

However, before embarking on a programme overseas, it seemed appropriate to tackle the conservation of plant species closer to home. The UK Flora Programme aimed to collect and store seeds of as many native plant species as possible. The UK has a relatively small flora, at around 1450 species, but one that has been intensively studied for centuries. As such, the location of most species is reasonably well-known. In addition, the Seed Bank already held seeds of 579 species as a result of conservation work beginning in the 1970s. Between 1997 and 2000, an intensive programme of seed collecting tackled to conservation of the 800 or so species not then represented in the Bank. Working with organisations such as the Wildlife Trusts and the Botanical Society of the British Isles, staff at the MSB co-ordinated the collection of seed samples from the length and breadth of the British Isles, from the Channel Islands to Shetland.

Thanks to the efforts of a team of more than 250 volunteers, the Seed Bank now holds samples of 96% of the UK's native flora. Those species not now represented in the Bank include the very rarest species, where taking seed might threaten their survival in the wild, species that rarely or never produce seed, relying instead on

vegetative propagation, and those species whose seed cannot be stored using conventional banking techniques.

Although the UK Programme has now technically finished, a few new species arrive at the Bank every year, bringing us closer to our target of being the only country in the world to have underpinned the survival of its entire flora in this way.