



Press information

Kew's Millennium Seed Bank

Kew's Millennium Seed Bank Partnership is the world's most ambitious plant conservation initiative. It is the largest wild plant seed bank and will eventually hold the seeds of at least half of all known plants.

By 2010 seed from 10% of the world's c.300,000 wild plant species will be banked, including the rarest, most threatened and most useful species known. It already holds 96% of UK plant life, and more than 75% of threatened UK plant species.

Collecting and conserving wild plant seeds provides an insurance policy against extinction and provides options for their future use. In the eight years since its launch, the project has supplied thousands of seeds and information for research in areas such as water, energy, health and agriculture. Examples of how seed is currently being used include:

- counteracting salination of agricultural lands in Australia
- developing drought-resistant forage plants in Pakistan and Egypt
- developing crops with improved yields in the USA
- culturing threatened medicinal plant species in Pakistan
- improving and controlling the quality of essential oils in Brazil
- understanding the poisoning of livestock by 'locoweeds' (*Astragalus*) in Canada
- developing new food plants in Mexico.

The Partnership has developed a global network of 123 organisations from 54 countries, making it unique in its capacity to collect, conserve and research a major proportion of the world's flora. Seeds preserved in Kew's Millennium Seed Bank are also stored in their country of origin, and assistance to support this through facilities, advice and training is as important as the seed collecting itself.

The future

Kew's Millennium Seed Bank is at a critical stage in its life, with the current phase nearing completion. The second phase will run from 2010 to 2020 and will focus on combating threats to human wellbeing by safeguarding wild plant diversity and enabling its sustainable use. This will include:

- A collection programme to conserve a further 15% of the world's plant species by 2020, storing a total of 25% of known plant life;
- Making seeds, scientific information and expertise available to organisations involved in researching and delivering the sustainable use of plants and the re-establishment of damaged vegetation.

By 2020, Kew's Millennium Seed Bank and its partners will have collected, conserved, used and carried out research on 75,000 wild and semi-domesticated plant species. The cost of this 10 year partnership is estimated to be £130 million. These funds will need to be raised both in the UK and overseas.

The partnership will continue to focus on developing economies where plant diversity is tightly bound to people's livelihoods, and it will continue to work with mega-diverse countries such as Madagascar, Mexico and China.

Collection projects will prioritise species from alpine, dryland, coastal and island ecosystems, which research shows are most vulnerable to climate change. Sustainable use initiatives will prioritise species with the greatest benefit:

- drought resistant crop and forage species that sustain the world's poorest communities;
- salt tolerant and desert pioneer species that combat desertification;
- photosynthetically efficient and energy rich plants with potential as biofuels;
- medicinal species that are effective against microbial pathogens and cancer.

Restoration efforts will help combat the deforestation of temperate and tropical forests that currently accounts for 20% of global carbon emissions.

Why now?

Plants are the basis of all life on earth. They capture energy from the sun and convert it into food for both humans and animals. They are used for medicine, building materials and fuel. They regulate the climate, regenerate and maintain soil fertility, provide pest and flood control, purification of water and air, and crop pollination. They are important in counteracting global warming by acting as carbon sinks, extracting carbon dioxide from the atmosphere. Without them, we could not survive.

It is estimated that almost a third of known plants – 60,000 to 100,000 species – are under threat due to habitat degradation, invasive alien species and over-exploitation. The current rate of species loss is thought to be at least 100 times the rate shown in the fossil record and climate change is likely to increase the threats.

Once extinct, the genetic diversity of a species is lost for ever – there is no scope for re-introducing it to the wild or exploring potential uses. Losing up to a third of known species would be catastrophic for our future, severely restricting our opportunities for adaptation, innovation and development.

Beyond Kew's Millennium Seed Bank Partnership, worldwide seed conservation concentrates on a tiny proportion of plant diversity, driven by agriculture. Currently, eighty percent of our plant-based calorie intake comes from just 12 crop species – eight grain species and four tuber species. This is despite the fact that over 30,000 species of plants are regularly eaten by people. Similarly, three quarters of the world's population use wild plants in traditional medicine, and yet these species are not banked in seed banks nor fully researched. Continuing to rely on such a narrow range of plants for all our future needs puts us in a precarious position for adapting to the challenges climate change will pose.

Kew's Millennium Seed Bank Partnership will ensure that all of the world's rare, threatened and useful plants are safely conserved and available for use by current and future generations.

For more information www.kew.org/msbp

Ends

For more information please contact the RBG Kew press office, telephone 020 8332 5607 or e-mail pr@kew.org