

Title

Lettuce molecular characterization protocol

Background

Molecular characterization of plant genetic resources continues to play an important role in PGR management. However, many different technologies are being used, even within a single crop. Moreover, a large number of different marker loci is usually available per technology. As a result, different studies mostly generate different molecular datasets that cannot be related to each other. However, the importance of the ability to integrate different datasets has increased substantially within the field of PGR management because of enhanced co-operation between genebanks. In particular, this applies to the implementation of the AEGIS philosophy. For example, the ability to compare accessions from different genebank collections will support the identification of most appropriate accessions and the further optimization of the genetic diversity within the AEGIS collection. Because a common molecular characterization protocol is currently lacking for lettuce, the development of such a protocol will be the main aim of the project proposal. Issues to be addressed will include choice of marker technology (neutral/functional, ease of use, platform dependence, costs), choice of marker loci (resolving power, genome coverage), data management (ease of access and comparison) and experimental design (sample sizes and standard references).

Objectives

Development of a unified molecular characterization protocol for lettuce

Workplan

Activities

- Inventory of molecular marker technologies in use for lettuce
- Identification of key experts involved in molecular characterization of lettuce
- Workshop directed to recommendations for a unified molecular characterization protocol

Expected output

- Overview of marker technologies in use for lettuce
- Overview of strengths and weaknesses of the different technologies
- Recommendations for a unified molecular characterization protocol
- Written report on the project results

Timetable

- 2010: Inventory marker technologies and identification key experts
- 2011: Workshop with invited key players

Project coordination

WG chair and vice-chair