



Licensing opportunity

New method for breeding hybrid plants

Field of use

Plant breeding

Current state of technology

Laboratory and field tested

Patent status

Patent pending

Publication

In preparation

Developed by

University of Ljubljana,
Biotechnical Faculty
Agronomy Department

Reference

UL20160481011

Contact details

Urša Jerše,
Phone: +386 2418528
E-mail: ipr@uni-lj.si

www.uni-lj.si



Background

Hybrid varieties are preferred varietal forms since they can provide better yield, greater uniformity and faster identification of desired combinations of characters. Traditionally, breeders perform test crosses between putative parental lines to investigate the performance of the resulting offspring. This standard procedure allows only a very limited number of line to line crosses since it is laborious and long lasting.

Description of the Invention

The invention relates to innovative method of testing combining ability of inbred lines, which is based on genotyping of each genetically diverse inbred line followed by allowing the plants of the donor lines to intercross to obtain F1 hybrid progeny. In the next season progeny is phenotyped on individual basis. For superior individuals both parental lines are revealed by paternity testing.

Main Advantages

Testing for combining ability is a major bottleneck in F1 hybrid breeding. This new method combines already developed advanced protocols such as induction of doubled haploids or fast generation cycling, genetic profiling by various methods, pollination for intercrossing and others. By this method a much larger number of line to line combining abilities can be tested thus overcoming major bottleneck in breeding hybrid varieties.