

Licensing opportunity

Chemical hybridization of hermaphrodite plant varieties by easily soluble oxanilic acid derivatives

Field of use

Production of hybrid seeds

Current state of technology

Fully developed method (TRL 9)

Patent status

Granted patent valid in Republic of Slovenia (pub.: 30.10.2013)

Publication

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Prior Art

In order to produce a hybrid seed of plant species with hermaphrodite florets an efficient system for inducing male sterility is needed. Induction of male sterility means that only the female sex starts expressing on a hermaphrodite plant species. In the past, several genetic and transgenic approaches were suggested for the induction of male sterility in hermaphrodite plant species. Common to the systems for the induction of male sterility based on cytoplasmic-genetic male sterility, the transgene for the synthesis of cytotoxic or cytostatic polypeptides and the transgene for the formation of an exogenous double-stranded RNA for the induction of RNA interference, is the preservation of male-sterile female component with its fertile analogue (three-component system).

Description of the invention

The invention refers to a method for the exploitation of a heterosis in plants with hermaphrodite florets (hereinafter referred to as hermaphrodites or hermaphrodite plant species), especially in common wheat, with a chemical induction of male sterility. Heterosis presents superiority of the first filial generation (F) generation) over the parental generation, which is expressed for instance in a higher yield, lower mycotoxin content, more rational consumption of plant nutrients etc. For the exploitation of heterosis hybrids produced by a controlled cross between two genetically different homozygous parental components are used.

Main advantages

Higher yield, lower mycotoxin content, more rational consumption of plant nutrients.