Title (en)
METHOD FOR MODIFYING THE BLOOMING DATE OF A PLANT

Title (de)
VERFAHREN ZUR VERÄNDERUNG DES BLÜHUNGSZEITPUNKTES EINER PFLANZE

Title (fr)
METHODE POUR MODIFIER LA DATE DE FLORAISON D'UNE PLANTE

Publication
EP 2547772 A1 20130123 (FR)

Application
EP 11708284 A 20110315

Priority
- EP 10305259 A 20100316
- EP 2011053908 W 20110315
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Abstract (en)
[origin: EP2366791A1] Process for advancing the flowering date of a plant comprises inhibiting completely or partially the expression and/or activity, in the plant, of a protein called Prec31, of which the polypeptide sequence has at least 75% of identity with the SEQ ID NO:1 (comprising a fully defined 365 amino acid sequence given in the specification). Independent claims are included for: (1) use of at least one polynucleotide comprising: (a) a polynucleotide encoding the protein Prec31; (b) a polynucleotide complementary to the polynucleotide (a); (c) a fragment of at least 12 consecutive nucleotides, the polynucleotide (a) or (b), or capable of selectively hybridizing with the polynucleotide; (d) polynucleotide producing a duplex used for RNA interference, polynucleotide containing a polynucleotide X containing at least 12 nucleotides, preferably at least 50 nucleotides capable of selectively hybridizing with a polynucleotide defined in (a) and a polynucleotide Y1 complementary to the polynucleotide X for implementing the process; (2) an expression cassette comprising the polynucleotide under the transcriptional control of a suitable promoter; (3) a recombinant vector containing the expression cassette; (4) a plant obtained by the process and having a mutation in the gene encoding the protein Prec31 of which the sequence has at least 75% of identity with SEQ ID NO: 1, the mutation resulting in an inhibition of the expression and/or activity of Prec31; (5) a genetically modified plant obtained by the process; (6) a process of selecting corn, comprising searching for an allele of the gene of the protein Prec31 having a mutation resulting in early flowering date of the corn with respect to a corn, which does not have the allele; (7) a corn having one allele of the gene Prec31, called delta-Prec31 comprising a transposon insertion in the untranslated region 3' of the gene Prec31, where the insertion is located after the G at position 6125 of the sequence comprising SEQ ID NO: 2, and the allele is present in a sample representative of seeds deposited at NCIMB under number NCIMB 41706; (8) a corn grain having a gene allele Prec31, called delta-Prec31 comprising a transposon insertion in the 3 untranslated gene Prec31, where the insertion is located after the G at position 6125 of the reference sequence (SEQ ID NO: 2) and the allele is present in a sample of seeds deposited at NCIMB under number NCIMB 41706; and (9) a method to obtain a corn having a date of early flowering, comprising introgression of the allele delta-Prec31 in corn, comprising (i) crossing a first line of maize having the delta-Prec31 allele with a second corn not having the allele, (ii) genotyping of offspring obtained and selecting the offspring having the delta Prec31 allele, and optionally having the highest genome ratio with respect to the second corn, (iii) backcrossing of progeny with the second elite corn line used for the production of hybrids, (iv) repeating as necessary steps (ii) and (iii) to obtain an isogenic line of the second corn, having delta-Prec31 allele, and (v) optionally, a self-fertilization to obtain a homozygous plant for the delta-Prec31 allele.

IPC 8 full level
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