

(12) International Application Status Report

Received at International Bureau: 15 October 2018 (15.10.2018)

Information valid as of: 31 January 2019 (31.01.2019)

Report generated on: 22 September 2019 (22.09.2019)

(10) Publication number:

WO2019/067571

(43) Publication date:

04 April 2019 (04.04.2019)

(26) Publication language:

English (EN)

(21) Application Number:

PCT/US2018/052895

(22) Filing Date:

26 September 2018 (26.09.2018)

(25) Filing language:

English (EN)

(31) Priority number(s):

62/563,260 (US)

(31) Priority date(s):

26 September 2017 (26.09.2017)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

C12N 15/113 (2010.01); C12N 15/82 (2006.01)

(71) Applicant(s):

RUTGERS, THE STATE UNIVERSITY UNIVERSITY OF NEW JERSEY [US/US]; 83 Somerset Street New Brunswick, NJ 08901 (US) *(for all designated states)*

(72) Inventor(s):

MESSING, Joachim; 17 Neuville Drive Somerset, NJ 08873 (US)
PLANTA, Jose; 431 Abbot Road, Apt. 7 East Lansing, MI 48823 (US)

(74) Agent(s):

RIGAUT, Kathleen, D.; Dann, Dorfman, Herrell And Skillman 1601 Market Street, Suite 2400 Philadelphia, PA 19103-2307 (US)

(54) Title (EN): QUALITY PROTEIN MAIZE BASED ON INCREASED SULFUR REDUCTION IN LEAF CELLS

(54) Title (FR): MAÏS À PROTÉINES DE QUALITÉ BASÉ SUR UNE RÉDUCTION ACCRUE DU SOUFRE DANS DES CELLULES DE FEUILLES

(57) Abstract:

(EN): Compositions and methods to produce maize with improved nutritional content are disclosed. Provided is a method for obtaining maize with kernels that have altered essential amino acid content, comprising crossing a maize plant that has a transgene for leaf-specific expression of 3'-phosphoadenosine-5'-phosphosulfate reductase (PAPR) enzyme with another maize plant that has a RNAi transgene that downmodulates expression of one or more of α -zein, β -zein, and γ -zein. The present invention also provides for compositions with kernels or ground kernel material obtained from maize plants that have altered essential amino acid content.

(FR): L'invention concerne des compositions et des procédés pour produire du maïs présentant un contenu nutritionnel amélioré. L'invention concerne un procédé pour obtenir du maïs dont les grains ont une teneur en acides aminés essentiels modifiée, le procédé consistant à croiser une plante de maïs qui possède un transgène pour l'expression spécifique à la feuille de l'enzyme 3'-phosphoadénosine-5'-phosphosulfate réductase (PAPR) avec une autre plante de maïs qui possède un transgène d'ARNi qui module à la baisse l'expression d'une ou plusieurs des α -zéine, β -zéine et γ -zéine. La présente invention concerne également des compositions dont les grains ou matériau de grains broyés obtenus à partir de plantes de maïs ont une teneur en acides aminés essentiels modifiée.

International search report:

Received at International Bureau: 18 January 2019 (18.01.2019) [US]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

European Patent Office (EPO) : AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM