(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
1 December 2011 (01.12.2011)

PCT

(10) International Publication Number
WO 2011/150194 A1

(51) **International Patent Classification**:
G01N 33/50 (2006.01) *C12Q 1/68* (2006.01)

(21) **International Application Number**:
PCT/US2011/038119

(22) **International Filing Date**:
26 May 2011 (26.05.2011)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
61/349,577 28 May 2010 (28.05.2010) US

(71) **Applicants** *(for all designated States except US)*: **ROHM AND HAAS COMPANY** [US/US]; 100 Independence Mall West, Philadelphia, PA 19106 (US). **DOW AGROSCIENCES LLC** [US/US]; 9330 Zionsville Road, Indianapolis, IN 46268 (US).

(72) **Inventors; and**

(75) **Inventors/Applicants** *(for US only)*: **FOBES, Jon, Frederick** [US/US]; 1240 Red Barn Road, Lower Gwynedd, PA 19002 (US). **ROSICHAN, Jeffrey, L.** [US/US]; 950 Red Stone Lane, Ambler, PA 19002 (US). **GONZALEZ, Delkin, Orlando** [CO/US]; 1280 Shadow Ridge Road, Indianapolis, IN 46280 (US).

(74) **Agents**: **BAK, Mary, E.** et al.; Howson & Howson LLP, 501 Office Center Drive, Suite 210, Fort Washington, PA 19034 (US).

(81) **Designated States** *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, 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.

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

WO 2011/150194 A1

(54) **Title**: METHODS FOR IDENTIFYING COMPOSITIONS THAT ALTER WILDTYPE EXPRESSION OF GENES AND PROTEINS IN A PLANT CELL

(57) **Abstract**: A method for identifying compounds that selectively alter wildtype gene expression of a plant cell includes comparing a first expression profile from a plant cell or tissue contacted with a first test compound, an additional expression profile from the same plant cell or tissue contacted with an additional test compound, and a combined compound expression profile from the same plant cell or tissue contacted with the first test compound and the additional test compound, wherein each plant cell or tissue was contacted for a time sufficient to produce an alteration in the expression of at least one gene or gene product in the plant's cells or tissues; and wherein each expression profile comprises the expression level or pattern of at least one gene or gene product of the plant cell or tissue; and identifying a significant, unexpected alteration in the level or pattern of expression between the genes or gene products of the combined compound profile and those of the additive alterations of the first profile and the additional profile.