



(51) International Patent Classification:

A23P 1/08 (2006.01) A23L 1/30 (2006.01)
A23L 1/00 (2006.01) A23G 3/20 (2006.01)
A23L 1/22 (2006.01) A21D 13/00 (2006.01)

(21) International Application Number:

PCT/EP2011/051729

(22) International Filing Date:

7 February 2011 (07.02.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/316,740 23 March 2010 (23.03.2010) US

(71) Applicant (for all designated States except US):
NESTEC S.A. [CH/CH]; Av. Nestlé 55, CH-1800 Vevey (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BELZOWSKI, Marla D.** [US/US]; 4196 New Milford Rd, Rootstown, Ohio 44272 (US). **NILSSON, Urban** [SE/SE]; Sångarevägen 8E, S-224 71 Lund (SE). **SHARMA, Richa** [IN/US]; 316 Buckingham Drive, Aurora, Ohio 44202 (US).(74) Agent: **LYNCH, Gregory**; Nestec S.a., Av. Nestlé 55, CH-1800 Vevey (CH).

(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).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report (Art. 21(3))

(54) Title: ENHANCING THE NUTRITIONAL VALUE OF FOOD PRODUCTS

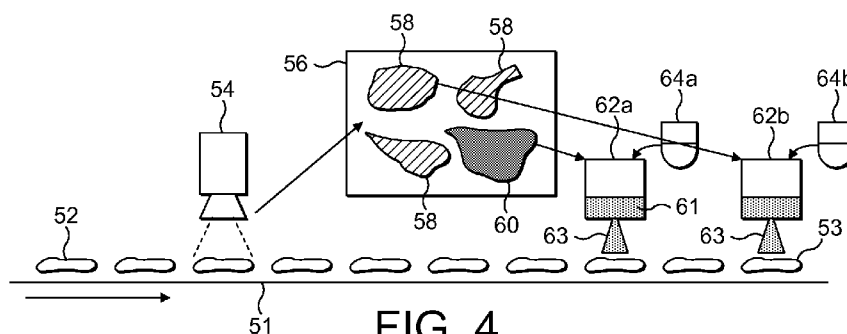


FIG. 4

(57) **Abstract:** This invention provides processes and apparatus for enhancing the nutritional value of food products. Nutrition-enhancing agents are applied or dispensed onto or into food products during their manufacture by food-grade controlled-droplet dispensing heads (or head). In preferred embodiments, the dispensing heads are controlled by a controller, such as a programmed PC-type computer, in dependence on sensor data, such as electromechanical, optical, or image sensor data. The controller and sensors operate so that different food items can have selected nutrition-enhancing agents properly applied or dispensed without waste or overspray. The invention also provides food products which have been enhanced according to the provided processes and apparatus with nutrition-enhancing agents.