

Title (en)
APPARATUS AND METHOD FOR MEASURING AND CORRELATING CHARACTERISTICS OF FRUIT WITH VISIBLE/NEAR INFRA-RED SPECTRUM

Title (de)
VERFAHREN UND VORRICHTUNG ZUR MESSUNG UND KORRELATION VON EIGENSCHAFTEN VON OBST MIT DEM SICHTBAREN SPEKTRUM UND IM NAHEN INFRAROTBEREICH

Title (fr)
APPAREIL ET PROCEDE DE MESURE ET DE CORRELATION DE CARACTERISTIQUES DE FRUITS AVEC UN SPECTRE VISIBLE/ INFRAROUGE PROCHE

Publication
EP 1285244 A4 20080416 (EN)

Application
EP 01918659 A 20010312

Priority
• US 0108146 W 20010312
• US 52432900 A 20000313
• US 80461301 A 20010312

Abstract (en)
[origin: WO0169191A1] This disclosure is of 1) the utilization of the spectrum from 250 nm to 1150 nm for measurement or prediction of one or more parameters, e.g., brix, firmness, acidity, density, pH, color and external and internal defects and disorders including, for example, surface and subsurface bruises, scarring, sun scald, punctures, in N-H, C-H and O-H samples including fruit; 2) an apparatus and method of detecting emitted light from samples exposed to the above spectrum in at least one spectrum range and, in the preferred embodiment, in at least two spectrum ranges of 250 to 499 nm and 500 nm to 1150 nm; 3) the use of the chlorophyll band, peaking at 680 nm, in combination with the spectrum from 700 nm and above to predict one or more of the above parameters; 4) the use of the visible pigment region, including xanthophyll, from approximately 250 nm to 499 nm and anthocyanin from approximately 500 to 550 nm, in combination with the chlorophyll band and the spectrum from 700 nm and above to predict the all of the above parameters.

IPC 1-7
G01J 3/42; G01J 3/51

IPC 8 full level
G01J 3/28 (2006.01); **G01J 3/36** (2006.01); **G01J 3/42** (2006.01); **G01J 3/51** (2006.01); **G01N 21/27** (2006.01); **G01N 21/35** (2006.01); **G01N 21/85** (2006.01); **G01N 33/02** (2006.01); **G01J 3/02** (2006.01); **G01N 21/31** (2006.01)

CPC (source: EP)
G01J 3/02 (2013.01); **G01J 3/0218** (2013.01); **G01J 3/0224** (2013.01); **G01J 3/28** (2013.01); **G01J 3/36** (2013.01); **G01J 3/42** (2013.01); **G01J 3/51** (2013.01); **G01J 3/524** (2013.01); **G01N 21/3563** (2013.01); **G01N 33/025** (2013.01); **G01J 3/501** (2013.01); **G01J 3/513** (2013.01); **G01N 21/359** (2013.01); **G01N 2021/3155** (2013.01); **G01N 2021/8466** (2013.01)

Citation (search report)
• [X] WO 9852037 A1 19981119 - SINCLAIR INT LTD [GB], et al
• [X] WO 9940419 A1 19990812 - DSQUARED DEV INC [US]
• [X] JP H04104041 A 19920406 - MITSUI MINING & SMELTING CO
• [A] WO 0002036 A1 20000113 - CPRO DLO [NL], et al
• See references of WO 0169191A1

Cited by
AU589841B2; WO2013157946A1; US11270245B2; US11816625B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
WO 0169191 A1 20010920; AU 2001245710 B2 20050217; AU 4571001 A 20010924; BR 0109219 A 20040622; CA 2402669 A1 20010920; CA 2402669 C 20060718; CN 1430723 A 20030716; EP 1285244 A1 20030226; EP 1285244 A4 20080416; IL 151751 A0 20030410; JP 2003527594 A 20030916; MX PA02009027 A 20040819; NZ 521919 A 20040326

DOCDB simple family (application)
US 0108146 W 20010312; AU 2001245710 A 20010312; AU 4571001 A 20010312; BR 0109219 A 20010312; CA 2402669 A 20010312; CN 01809360 A 20010312; EP 01918659 A 20010312; IL 15175101 A 20010312; JP 2001568026 A 20010312; MX PA02009027 A 20010312; NZ 52191901 A 20010312