

(51) International Patent Classification:
A23K 1/00 (2006.01)

(21) International Application Number:

PCT/US2014/015729

(22) International Filing Date:

11 February 2014 (11.02.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/787,842 15 March 2013 (15.03.2013) US
14/109,359 17 December 2013 (17.12.2013) US(71) Applicant (for all designated States except US): **ALL-TECH, INC.** [US/US]; 3031 Catnip Hill Pike, Nicholasville, KY 40356 (US).

(72) Inventors; and

(71) Applicants (for US only): **MCKINNEY, Kyle** [US/US]; 2400 Dogwood Trace Blvd, Lexington, KY 40514 (US). **LOVELL, Allyson** [US/US]; 1383 Strawberry Lane, Lexington, KY 40502 (US). **HENRY, Benjamin** [US/US]; 485 Warriors Way, Shelbyville, KY 40065 (US). **BECKER, Patrick** [US/US]; 3701 White Pine Drive, Lexington, KY 40514 (US). **TIMMONS, Rebecca, A.** [US/US]; 1830 McDonald Avenue, Lexington, KY 40503 (US).(74) Agent: **KOWALCHYK, Katherine, M.**; Merchant & Gould P.C., P.O. Box 2903, Minneapolis, MN 55402-0903 (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, BN, 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, IR, IS, JP, KE, KG, 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, 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.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, KM, ML, MR, NE, SN, TD, TG).

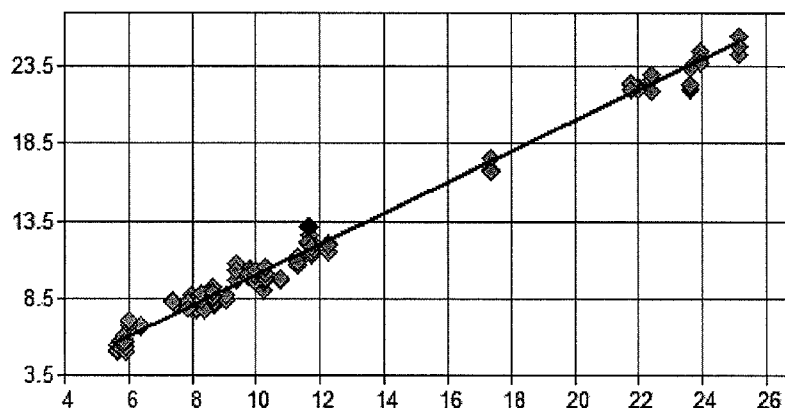
Published:

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

(54) Title: SYSTEMS AND METHODS FOR ANALYZING ANIMAL FEED

Figure 3

Prediction vs True / Protein [%] / Cross Validation

Rank: 9 $R^2 = 98.91$ RMSECV = 0.555 Bias: -0.029 RPD: 9.6
Validation No 2 + swine protein 3-12.q2

(57) Abstract: The present invention relates to systems and methods for analyzing animal feeds. In particular, the present disclosure relates to in vitro systems and methods for analyzing animal feed for metabolism of nutrients and energy sources. Most animal feeds have as a primary goal the provision of at least a minimum requirement of nutrition to sustain the animals to which it is fed. Live-stock (e.g., bovines, porcines, poultry, fish, etc.) have been selected over the past 20-50 years for specific characteristics such as growth, leanness, and metabolism efficiency.