CLAIMS

The invention is claimed as follows:

1. A method for ~~predicting an appropriate age at which a child should be provided with a new food product~~modifying or preparing a new snack food product, the method comprising:

(i) evaluating ~~at least~~ two texture attributes selected from firmness and breakdown of each of a plurality of known snack food products to obtain a numerical value for each texture attribute of each of the plurality of known snack food products, wherein the evaluating is performed by at least one machine, thereby analyzing a firmness of the snack food product to obtain a firmness value and analyzing a breakdown of the snack food product to obtain a breakdown value;

(ii) characterizing each of the plurality of known snack food products according to an appropriate age and an appropriate developmental stage for a child to consume the known snack food products;

(iii) preparing a collection of information containing the plurality of known snack food products, the appropriate age for each known snack food product, the appropriate developmental stage for each known snack food product, and the textural attribute numerical values for each known snack food product, wherein the collection of information is a database; and

(iv) using a computer running appropriate software to perform a multiple regression analysis using the collection of information to ~~predict~~ calculate the~~an~~ appropriate age of the child for the new snack food product, by inserting the firmness value and the breakdown value into the following formula:

$$\text{age} = 78.5 - 1.4*(\text{firmness value}) - 0.4*(\text{breakdown value}) + 0.0123*(\text{firmness value})^2;$$

~~wherein the at least two texture attributes are selected from the group consisting of amount of pieces in matrix, surface roughness, firmness, moistness, breakdown, cohesiveness of the mass, adhesiveness of the mass, moisture absorption, number of manipulations (to prepare to swallow), ease of swallow, residual mouthcoating, denseness, fracturability, roughness of the mass, force, work, and slope, length, width, thickness, moisture, Bostwick, and combinations thereof; and~~

~~wherein the collection of information is a database.~~

(v) modifying or preparing the new snack food product according to the calculated appropriate age.

2. The method according to Claim 1 further comprising ~~at least one of~~ the steps of:

~~a) determining driving texture attributes from the at least two evaluated texture attributes;~~

~~b)~~ performing statistical analysis on a first set of numerical values describing at least two texture attributes of each of a plurality of known snack food products;

identifying at least two driving texture attributes selected from firmness and breakdown~~that are good predictors of age from the at least two texture attributes, the at least two driving texture attributes selected from the group consisting of firmness, breakdown, residual mouthcoating, roughness of mass, and combinations thereof~~;

evaluating the new snack food product to obtain a second set of numerical values describing the at least two driving texture attributes selected from firmness and breakdown; and

using ~~a~~ the computer running appropriate software to perform the regression analysis using the second set of numerical values to predict the appropriate age~~; or~~

~~c) combinations thereof~~.

~~3. The method according to Claim 1, wherein the evaluating is performed by at least one of:~~

~~at least one person by placing the known food products in the person's mouth;~~

~~at least one expert panel of at least two individuals;~~

~~at least one machine; or~~

~~combinations thereof.~~

~~4. The method according to Claim 1, wherein the at least one known food products and the at least one new food product are at least one of: at least one children's food products; at least one snack food product; at least one food product that has been modified or designed; at least one meal food product; at least one food product that is being modified or designed to provide different texture attributes that relate to an older or younger appropriate age; a new food product that is being sold or offered for sale; a new food product that is being marketed; or combinations thereof.~~

~~5. The method according to Claim 1, wherein the at least two texture attributes comprise firmness, moisture, breakdown, ease of swallow and residual mouthcoating.~~

~~6. The method according to Claim 1, wherein method for predicting an appropriate age at which a child should be provided with a new food~~

~~product is a method for predicting an appropriate developmental stage at which a child should be provided with a new food product.~~

~~7. The method according to Claim 1, wherein method for predicting an appropriate age at which a child should be provided with a new food product is a method for classifying a new food product with respect to an appropriate age at which a child should be provided with the new food product.~~

~~8. The method according to Claim 1, wherein method for predicting an appropriate age at which a child should be provided with a new food product is a method for predicting an appropriate age for a child to consume at least one new food product.~~

~~9. The method according to Claim 1, wherein method for predicting an appropriate age at which a child should be provided with a new food product is a method for classifying a meal food product with respect to an appropriate age for a child to consume the food product.~~

~~10~~3. The method according to Claim 1, wherein the method ~~for predicting an appropriate age at which a child should be provided with a new food product is a method for~~allows reducing the risk of a child choking on a food product.

~~11. The method according to Claim 1, further comprising analyzing a firmness of the snack food product to obtain a firmness value;~~

~~analyzing a breakdown of the snack food product to obtain a breakdown value; and~~

~~calculating the appropriate age of the child by inserting the firmness value and the breakdown value into a formula, the formula comprising:~~

~~age = 78.5 1.4*(firmness value) 0.4*(breakdown value) + 0.0123*(firmness value)2.~~

~~1.~~

~~12~~4. The method according to Claim 1, comprising analyzing ~~at least one of~~:

a firmness of the snack food product;

a breakdown of the snack food product;

~~analyzing a roughness of mass of the snack food product; or~~

~~combinations thereof;~~

wherein the analysis is performed using a Chewing method.

~~13~~5. The method according to Claim 1, wherein the step of analyzing a firmness of the snack food product comprises at least two analysis of the food product to obtain first and second firmness values, and wherein the firmness value is an average of the first and second firmness values.

~~14~~6. The method according to Claim 1, wherein the step of analyzing a breakdown of the snack food product comprises at least two analysis of the food product to obtain first and second breakdown values, and wherein the breakdown value is an average of the first and second breakdown values.

~~15~~7. The method according to Claim 1, further comprising analyzing a residual mouthcoating of the meal food product to obtain a residual mouthcoating value;

analyzing a roughness of mass of the meal food product to obtain a roughness of mass value; and

calculating the appropriate age of the child by inserting the residual mouthcoating value and the roughness of mass value into a formula, the formula comprising

age = 2.45 – 0.11*(residual mouthcoating value) + 0.50*(roughness of mass value).

~~16~~8. The method according to Claim ~~15~~7, wherein the step of analyzing a residual mouthcoating of the meal food product is performed using a Tongue to Palate method.

~~17~~9. The method according to Claim ~~1~~7, wherein the step of analyzing a residual mouthcoating of the meal food product comprises at least two analysis of the food product to obtain first and second residual mouthcoating values, and wherein the residual mouthcoating value is an average of the first and second residual mouthcoating values.

~~18~~10. The method according to Claim ~~1~~7, wherein the step of analyzing a roughness of mass of the meal food product comprises at least two analysis of the food product to obtain first and second roughness of mass values, and wherein the roughness of mass value is an average of the first and second roughness of mass values.

~~19~~11. The method according to Claim ~~1~~7, further comprising:

training an individual to predict an appropriate age for a child to consume a food product, the method comprising at least one of:

~~a)~~ (1) instructing the individual to analyze a residual mouthcoating of the meal food product to obtain a residual mouthcoating value;

(2) instructing the individual to analyze a roughness of mass of the meal food product to obtain a roughness of mass value;

(3) calculating the appropriate age of the child by inserting the residual mouthcoating value and the roughness of mass value into a formula, the formula comprising

age = 2.45 – 0.11*(residual mouthcoating value) + 0.50*(roughness of mass value); and

(4) comparing the calculated age to a known age~~;~~.

~~b) instructing the individual to analyze a residual mouthcoating of the food product to obtain a residual mouthcoating value;~~

~~instructing the individual to analyze a roughness of mass of the meal food product to obtain a roughness of mass value;~~

calculating the appropriate age of the child by inserting the residual mouthcoating value and the roughness of mass value into a formula, the formula comprising

age = 2.45 − 0.11*(residual mouthcoating value) + 0.50*(roughness of mass value); and

comparing the calculated age to a known age;

c) instructing the individual to analyze texture attributes of firmness, breakdown, ease of swallow and residual mouthcoating of a known food product;

providing a database comprising a plurality of known texture attribute values for each of a plurality of known food products, the database further comprising an appropriate developmental stage for each of the plurality of known food products, and the plurality of known food products including the known snack food product;

using a computer running appropriate software to perform discriminant analysis to determine probabilities of the known snack food product being classified into each of a plurality of development stages; and

comparing the probabilities with the known appropriate developmental stage of the known snack food product;

d) instructing the individual to analyze texture attributes of moistness, ease of swallow and denseness of a known food product;

providing a database comprising a plurality of known texture attribute values for each of a plurality of known food products, the database further comprising an appropriate developmental stage for each of the plurality of known food products, and the plurality of known food products including the known meal food product;

using a computer running appropriate software to perform discriminant analysis to determine probabilities of the known meal food product being classified into each of a plurality of development stages; and

comparing the probabilities with the known appropriate developmental stage of the known meal food product; or

combinations thereof.

20. A method for marketing a new food product, the method comprising:

~~modifying an existing food product or designing a new food product using a method for evaluating at least two texture attributes of the product, the method selected from the group consisting of those claimed in Claim 1 to Claim 19; and~~

~~marketing the new food product.~~

~~21. A method for selling or offering for sale a new food product, the method comprising:~~

~~preparing a new food product or modifying an existing food product using a method for evaluating at least two texture attributes of the product, the method selected from the group consisting of those claimed in Claim 1 to Claim 19; and~~

~~selling or offering for sale the new food product.~~