



WEBINAR



2016 Nutrition Labeling Guidelines Review

Presented by ESHA Research

Wednesday, July 17, 2019

11:00 AM PDT | 1:00 PM CDT | 2:00 PM EDT



ESHA Research



ESHA Research was established in 1981 as one of the very first nutrition software solutions. Today, ESHA's suite of nutritional software products, services, and databases are recognized as the industry's top choice for food and supplement formulation, recipe development, labeling, nutritional analysis, and regulatory compliance.

ESHA Solutions

- Genesis R&D® Food Formulation
- Genesis R&D® Supplement Formulation
- Food Processor® Nutrition & Diet Analysis
- Consulting Services

Our mission is to help remove the complexity of product development and regulatory compliance for the food, beverage, and supplement industries through software, services, and nutritional databases.

Genesis R&D Food



Genesis R&D® Foods, first released in 1991, is designed to help users manage processes, overcome industry challenges, and meet federal requirements. Industry professionals use Genesis R&D for quick and accurate nutrient evaluation, virtual product development, nutrition labeling, and regulatory compliance.

- Product Development
- Formulation Analysis
- Menu Analysis
- Reporting
- Regulatory Compliance



Upcoming Webinars



Working with Proprietary Blends in Genesis R&D Supplements | July 31, 2019

Genesis R&D Supplements offers supplement formulators the ability to create proprietary blends, and then incorporate them into final formulations. During this webinar, we will demonstrate how to create a proprietary blend, add it to a final formula and review a variety of display options on the supplement facts label.

Calculating PDCAAS for %DV Protein | August 14, 2019

The PDCAAS (protein digestibility corrected amino acid score) indicates the quality of a food's protein and is commonly used to determine the %DV to show on your label. A PDCAAS either comes from lab analysis or through manual calculation. This webinar will show you how to determine a PDCAAS value and how to use that calculated value to display a %DV for protein on your nutrition facts label in Genesis R&D Foods.

Top Genesis R&D User Q&A's | September 25, 2019

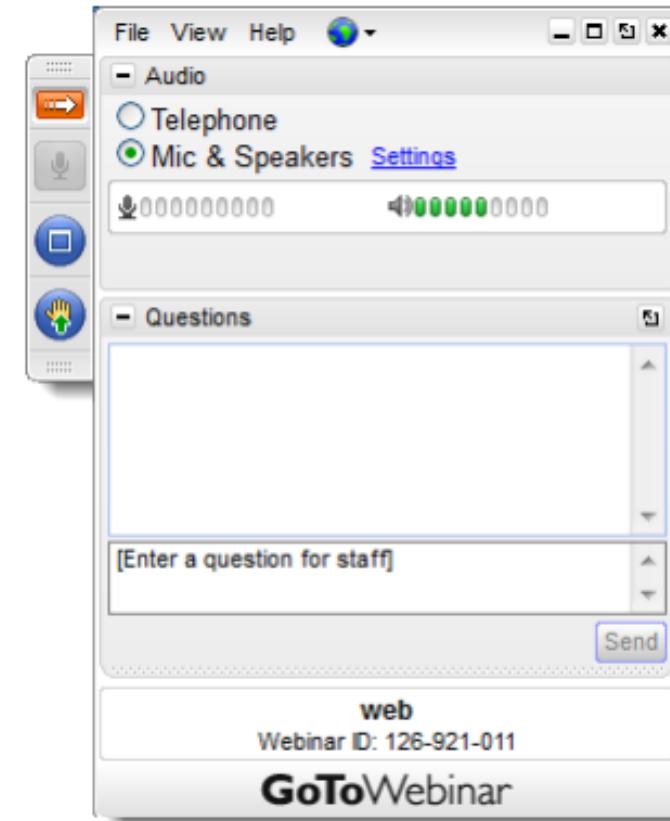
Taken from user suggestions, this session covers the most common questions we receive from users about working with the software. In addition we will cover questions you ask during registration and during the live session. To ensure your question gets answered, drop your question in the registration form below.

To register or view archived webinars please visit: www.esha.com/news-events/webinars

Please Note!



- ✓ The webinar is being recorded
- ✓ All webinars available on our website
- ✓ Submit your questions in the GoToWebinar control panel



What we'll cover today

- Compliance Dates
- Changes to Nutrient Requirements
- Dietary Fiber
- Added Sugars
- Servings Sizes and RACC
- Dual Column Labels
- Best Practices
- Q&A





2016 U.S. Nutrition Facts Labels

- Final rule for changes to the U.S. Nutrition Facts label went into effect May 2016.
- Since then, FDA guidance has been published to clarify and express current thinking on various pieces of the label.
- ESHA Research training provides instruction on current labeling as well as the Genesis R&D software.



1990 & 2016 Labels - What's the Difference?



Nutrition Facts		
Serving Size 2/3 cup (55g)		
Servings Per Container 8		
Amount Per Serving		
Calories 230	Calories from Fat 70	% Daily Value*
Total Fat 8g	12%	
Saturated Fat 1g	5%	
Trans Fat 0g		
Cholesterol 0mg	0%	
Sodium 160mg	7%	
Total Carbohydrate 37g	12%	
Dietary Fiber 4g	16%	
Sugars 12g		
Protein 3g		
Vitamin A 6%	• Vitamin C 10%	
Calcium 25%	• Iron 45%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:		
Calories: 2,000 2,500		
Total Fat	Less than	65g 80g
Saturated Fat	Less than	20g 25g
Cholesterol	Less than	300mg 300mg
Sodium	Less than	2,400mg 2,400mg
Total Carbohydrate		300g 375g
Dietary Fiber		25g 30g

Nutrition Facts		
8 servings per container		
Serving size 2/3 cup (55g)		
Amount per serving		
Calories	230	% Daily Value*
Total Fat 8g	10%	
Saturated Fat 1g	5%	
Trans Fat 0g		
Cholesterol 0mg	0%	
Sodium 160mg	7%	
Total Carbohydrate 37g	13%	
Dietary Fiber 4g	14%	
Total Sugars 12g		
Includes 10g Added Sugars		20%
Protein 3g		
Vitamin D 2mcg	10%	
Calcium 260mg	20%	
Iron 8mg	45%	
Potassium 235mg	6%	
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.		

Note: Both formats are available in Genesis R&D as we transition through effective and compliance date timelines. Format options include the appropriate regulations for both.

Timeline for Compliance

The compliance date for the updated Nutrition Facts labels is **January 1, 2020**, for companies with \$10 million or more in annual food sales

OR

January 1, 2021, for companies with less than \$10 million in annual food sales

Manufacturers of single-ingredient sugars and certain cranberry products have until July 1, 2021 to make the changes to 2016 format labels



Nutrition Facts

2 servings per container

Serving size 1 cup (140g)

Amount per serving

Calories 160

% Daily Value*

Total Fat 8g 10%

Saturated Fat 3g 15%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 60mg 3%

Total Carbohydrate 21g 8%

Dietary Fiber 3g 11%

Total Sugars 15g

Includes 5g Added Sugars 10%

Protein 3g

Vitamin D 5mcg 25%

Calcium 20mg 2%

Iron 1mg 6%

Potassium 230mg 4%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2000 calories a day is used for general nutrition advice.

Font Style & Size



No smaller than 10 pt. with 1 pt. of leading.*

Bold, no smaller than 10 pt.

Bold, no smaller than 6 pt.

Bold, no smaller than 16 pt.

No smaller than 8 pt. with 4 pt. of leading.

Nutrients that are not indented (Total Fat, Cholesterol, etc.) should be **bold** and flush left.

1/4-pt. rule centered between nutrients.
(2-pt. space above and below).

Shortened 1/4-pt. rule above Added Sugars.

7-pt. rule.

3-pt. rule.

Bold, must be larger than all other text except “Calories” numerical value.

2 servings per container

Serving size **1 cup (140g)**

Amount per serving

Calories **160**

% Daily Value*

Total Fat 8g 10%

Saturated Fat 3g 15%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 60mg 3%

Total Carbohydrate 21g 8%

Dietary Fiber 3g 11%

Total Sugars 15g

Includes 5g Added Sugars 10%

Protein 3g

Vitamin D 5mcg 25% • Calcium 20mg 2%

Iron 1mg 6% • Potassium 230mg 4%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2000 calories a day is used for general nutrition advice.

No smaller than 8 pt.
(including bullets)
with 4 pt. of leading.

1/2-pt. box (text inset 3 pts.)

No smaller than 6 pt. with 1 pt. of leading.

“leading” is the amount of space between rows of text.



Nutrient Listing Changes

Current MANDATORY, VOLUNTARY, and NOT LISTED nutrients
(shown with previous requirements and, if applicable new DV)

MANDATORY

Added Sugars
(was not listed)
New DV: 50 g

Vitamin D
(was voluntary)

Potassium
(was voluntary)

VOLUNTARY

Vitamin C
(was mandatory)
New DV: 550 mg

Choline
(was not listed)

Vitamin A
(was mandatory)

Fluoride
(was not listed)

NOT LISTED

Other Carbohydrate
(was voluntary)

Calories from Fat
(was mandatory)

Nutrient DV Changes



INCREASES

Potassium
4700 mg
up from 3500 mg

Calcium
1300 mg
up from 1000 mg

Vitamin C
90 mg
up from 60 mg

Dietary Fiber
28 gm
up from 25 gm

Total Fat
78 gm
up from 65 gm

Phosphorus
1250 mg
up from 1000 mg

Vitamin K
120 mcg
up from 80 mcg

Magnesium
420 mg
up from 400 mg

Manganese
2.3 mg
up from 2 mg



Daily Value Changes - Potassium

1990 Label

- DV = 3500 mg
- 1750 mg = 50% DV

Nutrition Facts	
Serving Size 1 slice (59g) Servings Per Container 8	
Amount Per Serving	
Calories 180	Calories from Fat 60
	% Daily Value*
Total Fat 6g	9%
Saturated Fat 4g	20%
Trans Fat 0g	
Cholesterol 25mg	8%
Sodium 190mg	8%
Potassium 1750mg	50%
Total Carbohydrate 30g	10%
Dietary Fiber 1g	4%
Sugars 15g	
Protein 3g	
Vitamin A 4%	• Vitamin C 0%
Calcium 6%	• Iron 8%

*Percent Daily Values are based on a 2,000 calorie diet.

2016 Label

- DV = 4700 mg
- 1750 mg = 35% DV

Nutrition Facts	
8 servings per container	
Serving size	1 slice (59g)
Amount per serving	
Calories	180
	% Daily Value*
Total Fat 6g	8%
Saturated Fat 4g	20%
Trans Fat 0g	
Cholesterol 25mg	8%
Sodium 190mg	8%
Total Carbohydrate 30g	11%
Dietary Fiber 1g	4%
Total Sugars 15g	
Includes 14g Added Sugars	28%
Protein 3g	
Vitamin D 0mcg	0%
Calcium 55mg	4%
Iron 2mg	10%
Potassium 1750mg	35%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet.



Nutrient DV Changes

DECREASES

PANTOTHENIC
ACID

5 mg
down from
10 mg

TOTAL
CARBS

275 gm
down from
300 gm

VITAMIN
B12

2.4 mcg
down from
6 mcg

NIACIN
16 mg NE

down from
20 mg

SELENIUM
55 mcg

down from
70 mcg

THIAMIN
1.2 mg

down from
1.5 mg

CHROMIUM
35 mcg

down from
120 mcg

CHLORIDE
2300 mg

down from
3400 mg

SODIUM
2300 mg

down from
2400 mg

VITAMIN B6
1.7 mg

down from
2 mg

ZINC
11 mg

down from
15 mg

BIOTIN
30 mcg

down from
300 mcg

COPPER
0.9 mg

down from
2 mg

RIBOFLAVIN
1.3 mg

down from
1.7 mg

MOLYBDENUM
45 mcg

down from
75 mcg



Daily Value Changes - Carbohydrate

1990 Label

- DV = 300 g
- 30 g = 10% DV

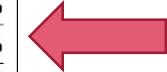
Nutrition Facts	
Serving Size 1 slice (59g)	
Servings Per Container 8	
Amount Per Serving	
Calories 180	Calories from Fat 60
	% Daily Value*
Total Fat 6g	9%
Saturated Fat 4g	20%
Trans Fat 0g	
Cholesterol 25mg	8%
Sodium 190mg	8%
Potassium 1750mg	50%
Total Carbohydrate 30g	10%
Dietary Fiber 1g	4%
Sugars 15g	
Protein 3g	
Vitamin A 4%	• Vitamin C 0%
Calcium 6%	• Iron 8%
*Percent Daily Values are based on a 2,000 calorie diet.	



2016 Label

- DV = 275 g
- 30 g = 11% DV

Nutrition Facts	
8 servings per container	
Serving size	1 slice (59g)
Amount per serving	
Calories	180
	% Daily Value*
Total Fat 6g	8%
Saturated Fat 4g	20%
Trans Fat 0g	
Cholesterol 25mg	8%
Sodium 190mg	8%
Total Carbohydrate 30g	11%
Dietary Fiber 1g	4%
Total Sugars 15g	
Includes 14g Added Sugars	28%
Protein 3g	
Vitamin D 0mcg	0%
Calcium 55mg	4%
Iron 2mg	10%
Potassium 1750mg	35%
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet.	





Nutrient Unit Changes

Niacin (Voluntary Nutrient)

- Change from mg of Niacin to mg of Niacin Equivalents (NE)

Vitamin A (Voluntary nutrient - previously mandatory)

- Change from IU to mcg Retinol Activity Equivalents (RAE)

Vitamin E (Voluntary nutrient)

- Change from IU to mg a-tocopherol

Folate (Voluntary nutrient)

- Change from mcg to mcg Dietary Folate Equivalents (DFE)

Vitamin D (Mandatory nutrient - previously voluntary)

- Change from IU to mcg





Genesis R&D® Nutrient Calculator

- Assists in Calculating the Following Nutrients
 - Carbohydrates
 - Dietary Fiber fields
 - Vitamin A
 - Vitamin B3
 - Niacin Equivalents
 - Tryptophan
 - Vitamin D
 - Vitamin E
 - Folate/Folic Acid
- Auto Calculation – prompts as you enter Ingredient data
- Calculate Nutrients button – can select after you have entered data

RACC

noun | racc | \rak\

: reference amounts customarily consumed

DEFINITION

Serving sizes of foods that can be reasonably consumed at one eating occasion. These have recently been updated to reflect real-world consumption. A RACC table can be found in the Code of Federal Regulations, 21CFR101.12.

Nutrition Facts			
2 Servings Per Container			
Serving size	12 fl oz (360 mL)		
Calories	per serving	per container	
150		300	
Total Fat	% Daily Value*	% Daily Value*	
1g	1%	2g	3%
Saturated Fat		0%	
Trans Fat		0g	
Cholesterol	0mg	0%	
Sodium	10mg	0%	
Total Carbohydrate	38g	14%	
Dietary Fiber	0g	0%	
Total Sugars	37g		
Includes Added Sugars	35g	70%	
Protein	0g		
Vitamin D	0mcg	0%	
Calcium	4mg	0%	
Iron	0mg	0%	
Potassium	18mg	0%	

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

updated in 2016

FOODS WITH CHANGED RACCS

40g



MOST BREAKFAST CEREALS

8 sq inch*



PIE CRUST, PASTRY SHEETS

50g



FRUITS USED AS INGREDIENTS

360 mL



CARBONATED, NON CARBONATED BEVERAGES

15g/15 mL



HARD CANDIES/LIQUID CANDIES

360 mL



COFFEE OR TEA

8g



SUGAR

170g



YOGURT

240 mL



MILK BEVERAGES, FRUIT JUICES

2 TBSP



CAKE FROSTINGS, ICINGS

85g



CANNED FISH, SHELLFISH, GAME MEAT

2/3 c



ICE CREAM, FROZEN YOGURT

formula

Recipe weight / RACC = XX

XX multiplied by 100 = XX%

USING RACC TO DETERMINE DUAL COLUMN USAGE

With the new rules, containers that hold between 2 and 3 servings of a food may now need to show a Dual Column label to show nutrition information for a single serving and per the whole container. To determine this, check the determined serving size for your product. If your package weighs at least 200 percent and up to and including 300 percent of the applicable reference amount, you need to use the Dual Column label.





RACC Change & Claims

1990 Label: 225 g RACC & Serving Size

Nutrition Facts		
Serving Size 1 Container (225g)		
Amount Per Serving		
Calories 170 Calories from Fat 10		
% Daily Value*		
Total Fat 1g	2%	
Saturated Fat 0g	0%	
Trans Fat 0g		
Cholesterol 10mg	3%	
Sodium 75mg	3%	
Total Carbohydrate 23g	8%	
Dietary Fiber 1g	4%	
Sugars 21g		
Protein 19g		
Vitamin A 0% • Vitamin C 0%		
Calcium 20% • Iron 0%		
*Percent Daily values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:		
Calories: 2,000 2,500		
Total Fat	Less than	65g 80g
Saturated Fat	Less than	20g 25g
Cholesterol	Less than	300mg 300mg
Sodium	Less than	2,400mg 2,400mg
Total Carbohydrate		300g 375g
Dietary Fiber		25g 30g
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4		

Excellent
Source of
Calcium

- RACC changes may affect Nutrient Content Claims
- Be sure to evaluate your entire package when updating labels with RACC changes

2016 Label: 170 g RACC & Serving Size

Nutrition Facts		
Serving size 1 Container (170g)		
Amount per serving		
Calories 130		
% Daily Value*		
Total Fat 0.5g	1%	
Saturated Fat 0g	0%	
Trans Fat 0g		
Cholesterol 5mg	2%	
Sodium 60mg	3%	
Total Carbohydrate 17g	6%	
Dietary Fiber 1g	4%	
Total Sugars 16g		
Includes 10g Added Sugars	20%	
Protein 14g	14%	
Vitamin D 0mcg	0%	
Calcium 155mg	10%	
Iron 0mg	0%	
Potassium 210mg	4%	
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2000 calories a day is used for general nutrition advice.		
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4		

Good
Source of
Calcium



Dual Column Labeling

Nutrition Facts				
2 servings per container				
Serving size	1 cup (255g)			
Calories	Per serving 220	Per container 440		
Total Fat	5g	8%	10g	15%
Saturated Fat	2g	10%	4g	20%
Trans Fat	0g		0g	
Cholesterol	15mg	5%	30mg	10%
Sodium	240mg	10%	480mg	21%
Total Carb.	35g	12%	70g	23%
Dietary Fiber	6g	21%	12g	43%
Total Sugars	7g		14g	
Incl. Added Sugars	4g	8%	8g	16%
Protein	9g		18g	
Vitamin D	5mcg	25%	10mcg	50%
Calcium	200mg	15%	400mg	30%
Iron	1mg	6%	2mg	10%
Potassium	470mg	10%	940mg	20%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.				

- Required on packages that contain 200% and up to and including 300% of the RACC
- Nutrition information presented per serving and per package



Dual Column Exemptions

- Products that meet the requirements for tabular or linear label formats
- Raw fruits, vegetables and seafood that provide voluntary labeling/advertising or when claims are made
- Products that require further preparation (e.g. pancake mix) *and* voluntarily provide an additional column “as prepared”
- Products that are commonly consumed in combination with another food (e.g. cereal and milk) *and* voluntarily provide an additional column as combined with the other food
- Products that provide information for two or more groups (e.g. infants and children less than 4 years)
- Popcorn where the second column states information for one cup popped
- Varied weight products (e.g. cheeses sold at random weights)



FDA Guidance Documents

- Between final rule, the FDA may release Draft Guidance and Guidance documents to present current thinking on specific topics
- Rules may develop and adapt as more information becomes available and as industry and public provides feedback and requests clarification
 - Compliance Dates
 - Dietary Fiber
 - Added Sugars
 - Declaration of Quantitative Amounts
 - RACC – additional examples for food categories
- Enforcement Discretion - the FDA does not intend to object to certain declarations or claims that fall within the framework of the guidance

Vitamin & Mineral Declarations on the Label



- FDA Guidance, November 2, 2018
- Recommendations for declaration of levels of significance for quantitative amounts of vitamins and minerals
- Example: Potassium
 - Genesis R&D Default: 31mg
 - Guidance Option: 30mg

A screenshot of the Genesis R&D software interface. At the top, there's a toolbar with icons for View Label, Edit Label, Ingredient Stmt, Allergen Stmt, Claims, Barcode, Front of Package, Default Package Layout, Zoom, Show, and Export. Below the toolbar is a 'Label Settings' dialog box. On the left side of the dialog box is a sidebar with options: General (selected), Format Options (highlighted in blue), Nutrient Options, Voluntary Nutrients, Object Properties, Supplement Facts, Supplement Nutrients, and Supplement Dietary Ingredient. The main area contains a table of settings with checkboxes. One checkbox, 'Use FDA Draft Guidance for nutrient rounding', is checked and highlighted in blue. Other options include: No Bolding of text in Linear Label, Hide Trans Fat, Show Standard Footnote without Chart, Hide lines between Vitamins and Minerals, Wrap bilingual nutrients, Hide Vitamin D, Calcium, Iron and Potassium, Italicize Trans fat, Hide %DV Footnote, Hide Quantitative Values, Show Insignificant Footnote, and Show Added Sugars symbol and statement (with an 'Added Sugars statement text' link). At the bottom of the dialog box, there are two buttons: 'Use FDA Draft Guidance for nutrient rounding' and 'Use the FDA Draft Guidance for nutrient rounding'.

General	Nutrition Facts Text	Proportional
Format Options	No Bolding of text in Linear Label	<input type="checkbox"/>
Nutrient Options	Hide Trans Fat	<input type="checkbox"/>
Voluntary Nutrients	Show Standard Footnote without Chart	<input type="checkbox"/>
Object Properties	Hide lines between Vitamins and Minerals	<input type="checkbox"/>
Supplement Facts	Wrap bilingual nutrients	<input type="checkbox"/>
Supplement Nutrients	Hide Vitamin D, Calcium, Iron and Potassium	<input type="checkbox"/>
Supplement Dietary Ingredient	Italicize Trans fat	<input type="checkbox"/>
	Use FDA Draft Guidance for nutrient rounding	<input checked="" type="checkbox"/>
	Hide %DV Footnote	<input type="checkbox"/>
	Hide Quantitative Values	<input type="checkbox"/>
	Show Insignificant Footnote	<input type="checkbox"/>
	Show Added Sugars symbol and statement	<input type="checkbox"/>
	Added Sugars statement text	

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Added Sugars

2016 FDA final rule for food labeling includes
Added Sugars as a new, mandatory label
nutrient.



Nutrition Facts	
8 servings per container	
Serving size	1 slice (59g)
Amount per serving	
Calories	180
% Daily Value*	
Total Fat 6g	8%
Saturated Fat 4g	20%
Trans Fat 0g	
Cholesterol 25mg	8%
Sodium 190mg	8%
Total Carbohydrate 30g	11%
Dietary Fiber 1g	4%
Total Sugars 15g	
Includes 14g Added Sugars	28%
Protein 3g	
Vitamin D 0mcg	0%
Calcium 55mg	4%
Iron 2mg	10%
Potassium 1750mg	35%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet.



Added Sugars - Definition



Sugars that are either added during the processing of foods or packaged as such and includes sugars (free, mono- and disaccharides), sugars from syrups and sugars concentrated from fruit or vegetable juices that are in excess of what would be expected from the same volume of 100% fruit or vegetable juice of the same type.

EXAMPLES:

- Sugar
 - White sugar, brown sugar, beet sugar, cane sugar, invert sugar, raw sugar, turbinado sugar, dextrose, fructose, galactose, glucose, lactose, maltose, sucrose
- Honey
- Molasses
- Syrups
 - Agave syrup, high fructose corn syrup, malt syrup, maple syrup
- Juice Concentrates (in some cases)

AND MORE...

Total Sugars vs. Added Sugars

Recipe Information

Selected Nutrients to View: 2016 mand + water
* %DV based on US Label 2016 standards.
Nutrient values based on 50.0000 grams

Nutrients	Value	% DV*	Override
Basic Components			
Gram Weight (g)	50.000		
Water (g)	28.741		
Calories (kcal)	86.756		
Protein (g)	2.267	4.534	
Carbohydrates (g)	18.488	6.723	
Total Dietary Fiber (g)	0.732		
Dietary Fiber (2016) (g)	0.732	2.613	
Total Sugars (g)	3.187		
Added Sugar (g)	2.352	4.703	
Fat (g)	0.355	0.455	
Saturated Fat (g)	0.054	0.271	
Trans Fatty Acid (g)	0.001		
Cholesterol (mg)	0	0	
Vitamins			
Vitamin D - mcg (mcg)	0	0	
Minerals			

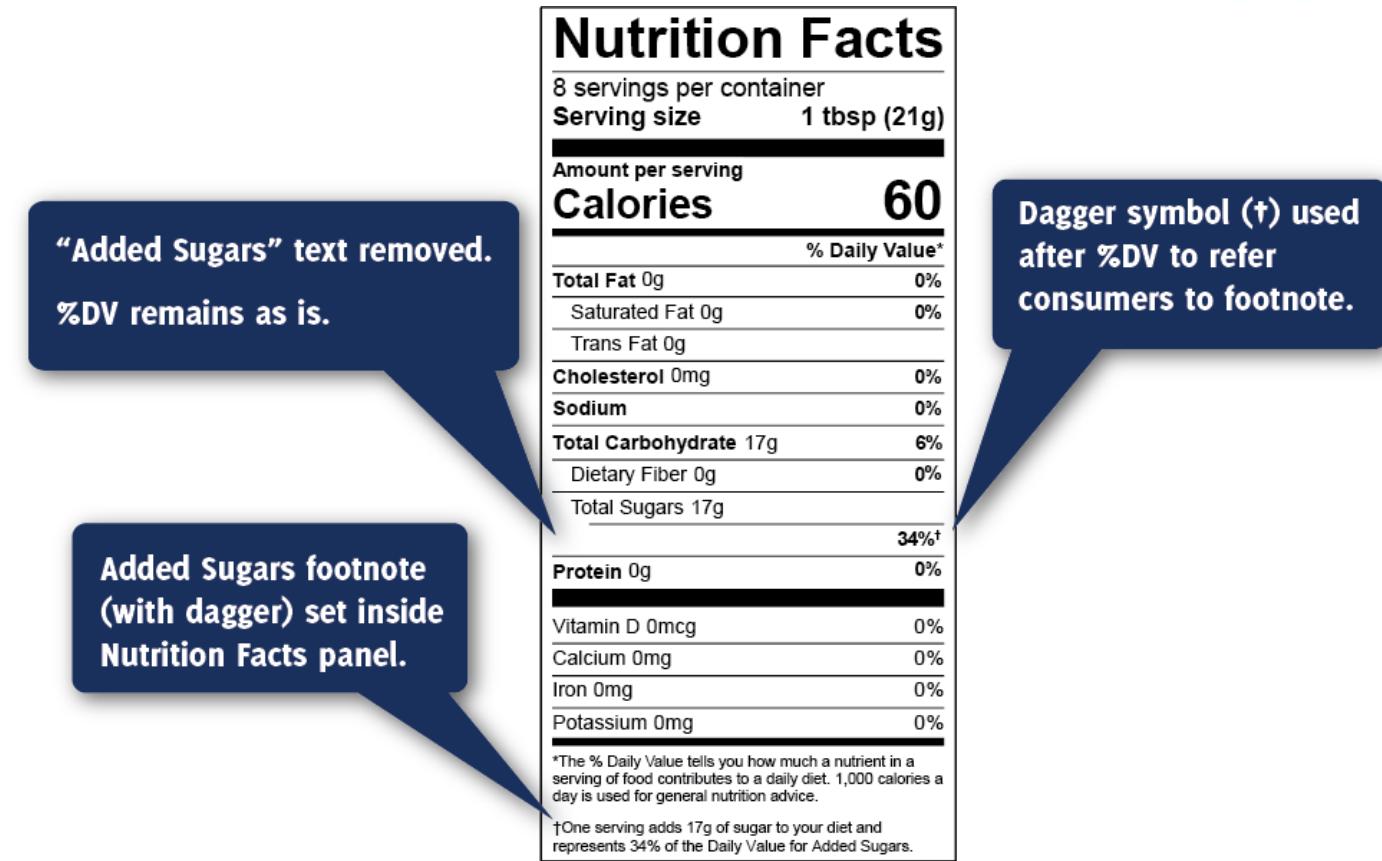
Total Sugars: Includes both naturally occurring and added sugar.

Added Sugars: From empty Calorie ingredients such as: sugar, honey, high fructose corn syrup, etc.
Mixed foods may contain Added Sugars.



Labeling of Single Ingredient Sugars

- Foods that *are* single ingredient sugars
- Farm Bill – shall not require “Includes Xg Added Sugars”
- Latest FDA Guidance provides options:
 - Omit “Includes Xg Added Sugars” on label
 - Must list %DV
 - FDA encourage use of dagger symbol following %DV and a footnote within the label that further describes the Added Sugars content



Added Sugars on the Label



Whole food with only naturally occurring sugars

Nutrition Facts	
6 servings per container	
Serving size	1 apple (182g)
Amount per serving	
Calories	90
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 25g	9%
Dietary Fiber 4g	14%
Total Sugars 19g	
Includes 0g Added Sugars	0%
Protein 0g	
Vitamin D 0mcg	0%
Calcium 11mg	0%
Iron 0mg	0%
Potassium 195mg	4%
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

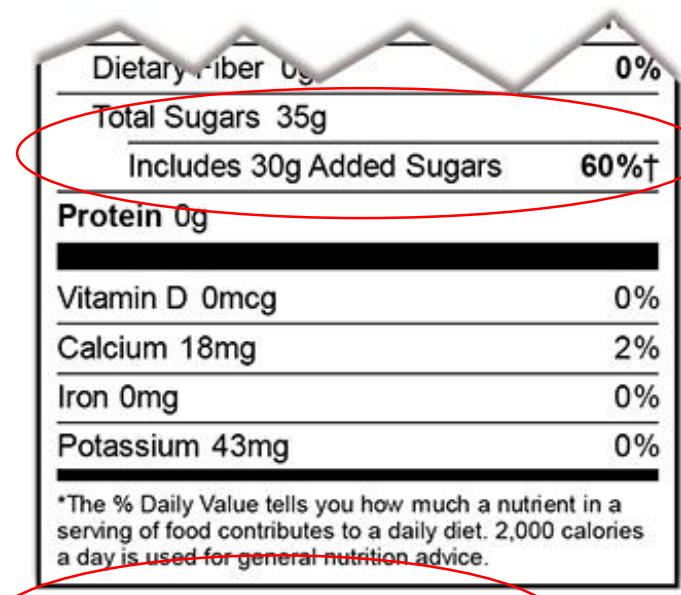
Mixed food containing naturally occurring and added sugars

Nutrition Facts	
8 servings per container	
Serving size	1 slice (59g)
Amount per serving	
Calories	180
% Daily Value*	
Total Fat 6g	8%
Saturated Fat 4g	20%
Trans Fat 0g	
Cholesterol 25mg	8%
Sodium 190mg	8%
Total Carbohydrate 30g	11%
Dietary Fiber 1g	4%
Total Sugars 15g	
Includes 14g Added Sugars	28%
Protein 3g	
Vitamin D 0mcg	0%
Calcium 55mg	4%
Iron 2mg	10%
Potassium 1750mg	35%
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Single ingredient sugar product with footnote within label

Nutrition Facts	
8 servings per container	
Serving size	1 tbsp (21g)
Amount per serving	
Calories	60
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 17g	6%
Dietary Fiber 0g	0%
Total Sugars 17g	
	34%†
Protein 0g	0%
Vitamin D 0mcg	0%
Calcium 18mg	2%
Iron 0mg	0%
Potassium 43mg	0%
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	
†One serving adds 17g of sugar to your diet and represents 34% of the Daily Value for Added Sugars.	

Cranberry product with statement outside of label



*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

†Sugars added to improve the palatability of naturally tart cranberries.



Dietary Fiber 2016

- FDA adopted specific definition
- Increase in DV from 25g to 28g
- Evolving since the 2016 introduction with several Guidance documents to clarify
- Non-digestible Carbohydrates
 - All dietary fiber is non-digestible carbohydrate
but
 - Not all non-digestible carbohydrate is dietary fiber
- “Beneficial” – is the key

Nutrition Facts	
8 servings per container	
Serving size	1 slice (59g)
Amount per serving	
Calories	180
% Daily Value*	
Total Fat 6g	8%
Saturated Fat 4g	20%
Trans Fat 0g	
Cholesterol 25mg	8%
Sodium 190mg	8%
Total Carbohydrate 30g	11%
Dietary Fiber 1g	4%
Total Sugars 15g	
Includes 14g Added Sugars	28%
Protein 3g	
Vitamin D 0mcg	0%
Calcium 55mg	4%
Iron 2mg	10%
Potassium 1750mg	35%
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet.	



Dietary Fiber – 2016 FDA Definition

Dietary fiber is defined as non-digestible soluble and insoluble carbohydrates (with 3 or more monomeric units), and lignin that are intrinsic and intact in plants; isolated or synthetic non-digestible carbohydrates (with 3 or more monomeric units) determined by FDA to have physiological effects that are beneficial to human health.



21 CFR 101.9

Dietary Fiber – List of Beneficial Isolated



- Arabinoxylan
- Alginate
- Beta-Glucan Soluble Fiber
- Cellulose
- Galactooligosaccharide (GOS)
- Guar Gum
- High Amylose Starch (Resistant Starch 2)
- Hydroxypropylmethylcellulose
- Inulin and Inulin-type Fructans
- Locust Bean Gum
- Mixed Plant Cell Wall Fibers
- Pectin
- Polydextrose
- Psyllium Husk
- Resistant Maltodextrin/Dextrin
- Cross linked phosphorylated RS4

“Non-Beneficial”, Non-Digestible Carbohydrates

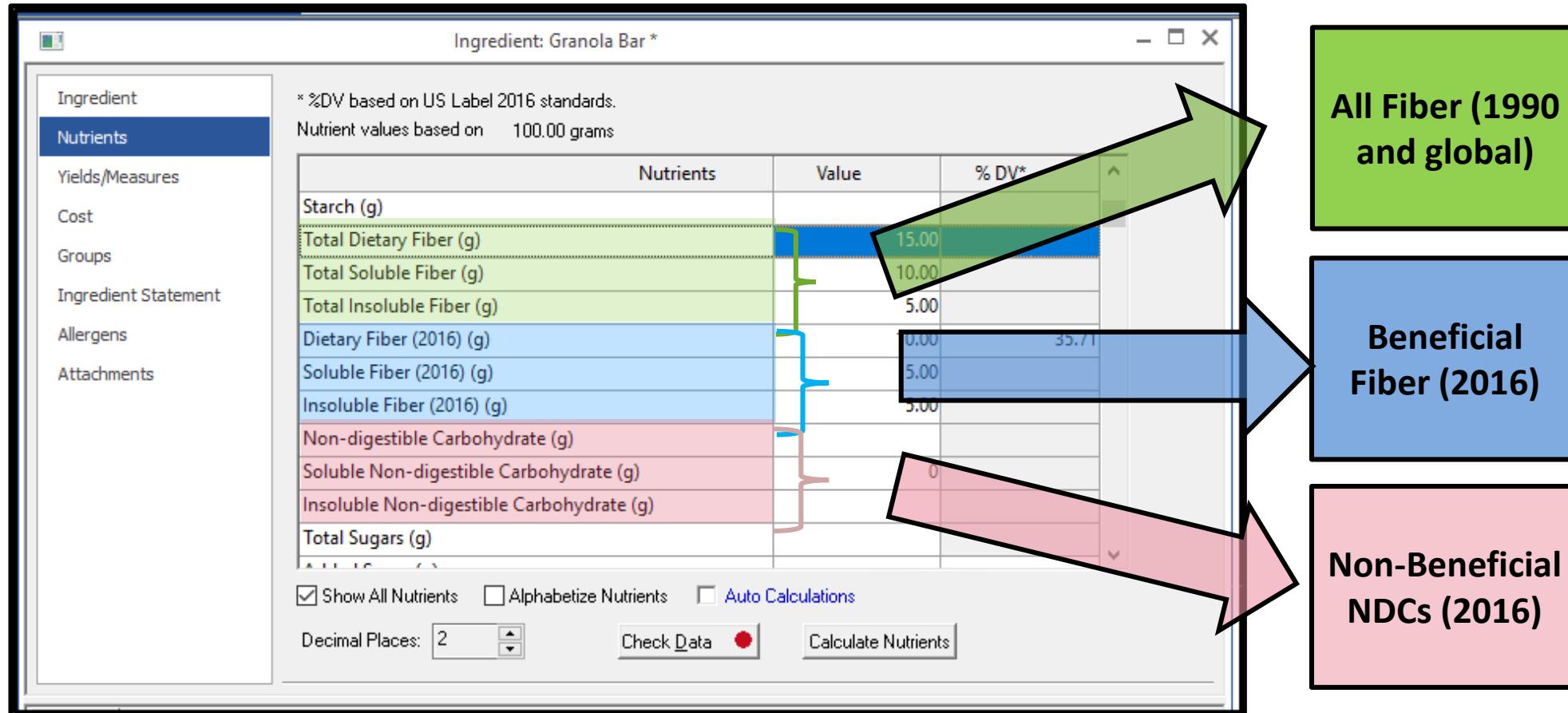


- CARBOXYMETHYLCELLULOSE
- GUM ACACIA
- KARAYA GUM
- PULLULAN
- RETROGRADED CORN STARCH (Resistant Starch 3)
- RESISTANT WHEAT AND MAIZE STARCH (Resistant Starch 4)
- XANTHAN GUM
- XYLOOLIGOSACCHARIDES





Fiber-Related Fields in Genesis R&D



Working with Supplier Data

Ingredient

Nutrients

Yields/Measures

Cost

Groups

Ingredient Statement

Allergens

Attachments

* %DV based on US Label 2016 standards.

Nutrient values based on 100.0 grams

Nutrients	Value
Total Dietary Fiber (g)	2.71
Total Soluble Fiber (g)	
Total Insoluble Fiber (g)	
Dietary Fiber (2016) (g)	2.21
Soluble Fiber (2016) (g)	
Insoluble Fiber (2016) (g)	
Non-digestible Carbohydrate (g)	0.50
Soluble Non-digestible Carbohydrate (g)	
Insoluble Non-digestible Carbohydrate (g)	

Show All Nutrients Alphabetize Nutrients Auto Calculations

Decimal Places: 2

03/25/2019

GOODFOOD
4444 Broadstreet Rd. • Central City, Wyo. • 99999

PRODUCT
Blueberry Filling

INGREDIENTS

Corn syrup, sugar, water, blueberries, xanthan gum. Contains 2% or less of the following: egg whites, salt, propylene glycol, sodium, carboxymethylcellulose, tartaric acid, natural and artificial flavors, hydrochloric acid

ALLERGENS

Eggs

NUTRITIONAL INFORMATION

Serving Size	100 g
Calories	303.87
Total Fat	0
Sat Fat	0
Trans Fat	0
Cholesterol	0
Sodium	182.68 mg
Total Carbohydrate	74.76 g
Total Dietary Fiber	2.71 g
Dietary Fiber for 2016* U.S. label	2.21 g
Total Sugars	52.18 g
Added Sugars	49.13 g
Protein	1.21 g
Vitamin D	0 mcg
Potassium	0.46 mg
Calcium	6.08 mg

TDF as reported

DF 2016 as reported

NDCs by subtraction

*As defined per U.S. FDA regulations.



Importance of Populating Data

Nutrition Facts		
Serving Size 2/3 Cup		
Servings Per Container About 3		
Amount Per Serving		
Calories	190	Calories from Fat 90
% Daily Value*		
Total Fat 10g	15%	
Saturated Fat 6g	30%	
Cholesterol 30mg	10%	
Sodium 65mg	3%	
Total Carbohydrate 25g	8%	
Dietary Fiber 1g	4%	
Sugars 22g		
Protein 3g		
Vitamin A 8%	• Vitamin C 2%	
Calcium 10%	• Iron 4%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:		
Calories:	2,000	2,500
Total Fat	Less than	65g 80g
Saturated Fat	Less than	20g 25g
Cholesterol	Less than	300mg 300mg
Sodium	Less than	2,400mg 2,400mg
Total Carbohydrate		300g 375g
Dietary Fiber		25g 30g
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4		

Nutrition Facts		
About 3 servings per container		
Serving size 2/3 Cup		
Amount per serving		
Calories	190	
% Daily Value*		
Total Fat 10g	13%	
Saturated Fat 6g	30%	
Cholesterol 30mg	10%	
Sodium 65mg	3%	
Total Carbohydrate 25g	9%	
Dietary Fiber --g	--%	
Total Sugars 22g		
Includes 15g Added Sugars	30%	
Protein 3g		
Vitamin D 0mcg	0%	
Calcium 96mg	8%	
Iron 1mg	6%	
Potassium 220mg	4%	
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2000 calories a day is used for general nutrition advice.		
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4		

**Missing Dietary Fiber 2016 displayed here with dashes
NOT COMPLIANT**

NOTE: If only one of your ingredients reports the required dietary fiber information, only that one ingredient's dietary fiber will appear on the label. This can result in understated label values.

Review the Spreadsheet Report

Item Name	Quantity	Measure	Cals (kcal)	Prot (g)	Carb (g)	TotFib (g)	Fib(16) (g)	Sugar (g)	SugAdd (g)	Fat (g)	Sa
Gluten Free Bread	1 Serving		217.88	4.79	35.96	1.55	0.19	4.35	3.24	5.96	
flour, baking, gluten free	38.1807 Gram		134.15	2.06	30.96	1.03	—	0	0	0	0
water, distilled	15.2865 Gram		0	0	0	0	0	0	0	0	0
egg, raw	12.8928 Gram		18.44	1.62	0.09	0	0	0.05	0	1.23	
butter, unsalted	4.8822 Gram		35.01	0.04	0.00	0	0	0.00	0	3.96	
sugar, white, granulated	3.2469 Gram		12.57	0	3.25	0	0	3.24	3.24	0	
powdered milk, whole	2.7492 Gram		13.64	0.72	1.06	0	0	1.06	0	0.73	
yeast, dry, instant, food service	0.6873 Gram		2.65	0.31	0.27	0.19	0.19	0	0	0	0.04
salt, table	0.6478 Gram		0	0	0	0	0	0	0	0	0
gum, xanthan, Novaxan, 200 granular	0.4266 Gram		1.43	0.03	0.33	0.33	—	0	0	0	0.00
Total	1 Serving		217.88	4.79	35.96	1.55	0.19	4.35	3.24	5.96	

Identify missing values (indicated by dashes) and populate the **Ingredient record** to fill in the blanks.
Can you determine the Dietary Fiber value from the ingredient list or by the nature of the ingredient?

Nutrients to View

- Label sets already available
- Label – U.S. 2016
 - Mandatory
 - All
- Add your own custom sets as needed



Tutorial: <https://www.esha.com/tutorials/using-nutrients-to-view-effectively/>



Documentation

- Document how you arrived at your nutritional information
- Attach document files to your recipes and ingredients in Genesis R&D
- Documentation examples:
 - Ingredient spec sheets
 - Recipes or formulations
 - Batch records
 - Lab analyses
 - Analyses from nutrient databases
 - Adjustments and calculations
 - FDA Guidance references or communication
 - Any other records that provide supporting information



Checklist for Transition to 2016 Label



- Did formulas or ingredients change?
- Did the RACC change?
- Does your package require a dual column based on 200% - 300% RACC?
- Are your nutrient content claims supported by your 2016 labels?
- Use Spreadsheet report – find and populate missing nutrient values
- Contact suppliers for updated information that supports 2016 labels
- Review Dietary Fiber information and document sources
- Calculate and document Added Sugars value in ingredients and/or finished products

ESHA Database



ESHA continues to update the foods and ingredients included in Genesis R&D – this is an on-going process



Use the Spreadsheet for all Recipes to review completeness of data



Extra attention may be
needed *especially* for:

Dietary Fiber
Added Sugars

Vitamin D
Potassium





Genesis R&D Training

Genesis R&D Training | August 20-22, 2019 | Oak Brook, IL

Professional *and/or* Advanced training session. The first two days cover the fundamentals of the Genesis R&D Food program: creating ingredients, building recipes/formulas, nutrition analysis and reporting, labeling, and best practices. In addition, you can attend a third day of Advanced instruction, or just attend the Advanced session as a single day. Advanced training presents more complex scenarios and more comprehensive regulatory issues.

Genesis R&D Training | October 8-10, 2019 | Oak Brook, IL

Professional, *and/or* Advanced training session. See description above.

Genesis R&D Training | November 5-7, 2019 | Oak Brook, IL

Professional, *and/or* Advanced training session. See description above.

Genesis R&D Training: Professional + Menu Label | December 4-5, 2019 | MicroTek, Miami, FL

Instruction covers the fundamentals of the Genesis R&D Food program: creating ingredients, building recipes/formulas, nutrition analysis and reporting, labeling, and best practices. In addition, the class includes direction and discussion on the 2018 Menu Labeling requirements and Menu Label features in Genesis R&D.

See the Full Schedule: <https://www.esha.com/news-events/training-schedule/>

QUESTIONS?



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