Owl Software
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PRODUCT EXAMPLE PROCESSED CHEESE

TechWizard™

Elaine works for a cheese manufacturer. She needs to do the following:

- Optimize a processed cheese formula to meet a variety of compositional requirements while minimizing costs.
- Create a nutrition facts panel.
- Create an ingredient statement.
- Create a "milk based" ingredient statement

Create Recipe

Elaine starts by entering in TechWizard™ the composition she requires her processed cheese to possess, for example, setting how much fat, emulsifier, etc. Here we see a portion of the TechWizard™ screen after Elaine inputs her desired properties shown on the left portion of the screen (**A**) and enters ranges for these properties and ratio properties (**B**).

Ratio Properties

Edit | Help

Formulate	Property	Composition	Units	Diag.	Min	Max
Yes	FDM		%		42.500	43.000
Yes	Lactose/Water		%		10.000	15.000
Yes	Ortho/Water		%		4.000	4.000

A

Remove All | Delete | Reset | Set to Min

Property #: 12	Composition	Units to Use	Diag	Min	Max
Sorbic Acid	0.000	%		0.200	0.200
Cheese (as is)	0.000	%		0.000	100.000
Cheese Solids	0.000	%		36.000	36.500
Emulsifier	0.000	g/100g		2.400	2.410
Lactose	0.000	%		0.000	100.000
Added Fat	0.000	%		4.500	6.000
Total Fat	0.000	g/100g		0.000	100.000
Total Solids	0.000	%		0.000	100.000
Water	0.000	%		0.000	100.000
Orthophosphate Solids	0.000	%		0.000	100.000
Intact Casein	0.000	%		0.000	100.000

B

This illustrates the TechWizard™ screen after Elaine has selected the ingredients she intends to use. The ingredient description (**C**) is shown on the left portion of the screen. The price (**D**) is displayed on the right. Elaine needs to set usage levels for some of her ingredients. She does so by entering the values she requires (**E**).

Sort | Remove All | Delete | Clear | Reset

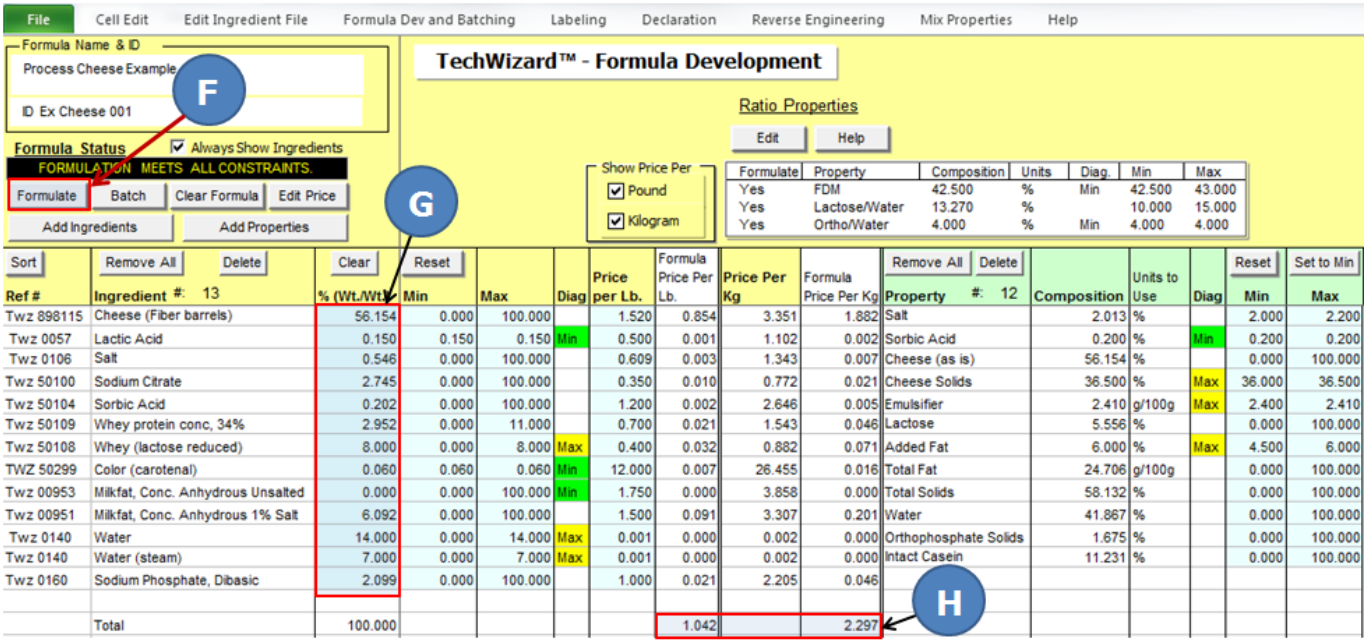
Ref #	Ingredient #: 13	% (Wt./Wt.)	Min	Max	Diag	Price per Lb.
Twz 898115	Cheese (Fiber barrels)		0.000	100.000		1.520
Twz 0057	Lactic Acid		0.150	0.150		0.500
Twz 0106	Salt		0.000	100.000		0.609
Twz 50100	Sodium Citrate		0.000	100.000		0.350
Twz 50104	Sorbic Acid		0.000	100.000		1.200
Twz 50109	Whey protein conc, 34%		0.000	11.000		0.700
Twz 50108	Whey (lactose reduced)		0.000	8.000		0.400
TWZ 50299	Color (carotenal)		0.060	0.060		12.000
Twz 00953	Milkfat, Conc. Anhydrous Unsalted		0.000	100.000		1.750
Twz 00951	Milkfat, Conc. Anhydrous 1% Salt		0.000	100.000		1.500
Twz 0140	Water		0.000	14.000		0.001
Twz 0140	Water (steam)		0.000	7.000		0.001
Twz 0160	Sodium Phosphate, Dibasic		0.000	100.000		1.000

C

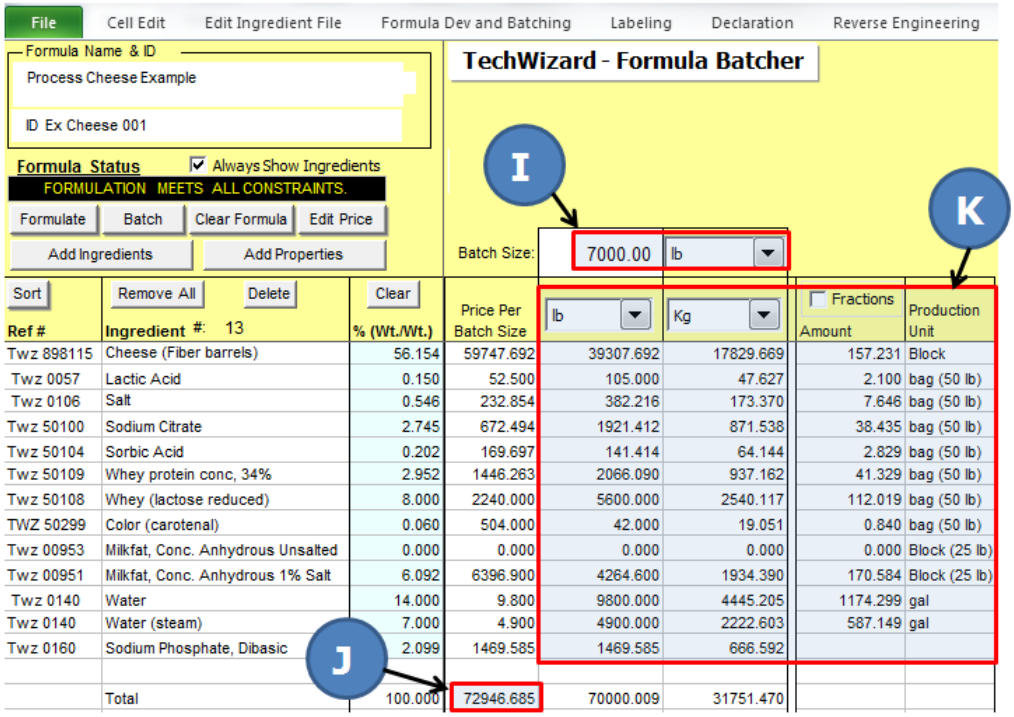
D

E

Elaine presses the **Formulate** button (**F**). This instructs TechWizard™ to find the best combination of ingredients to meet all her composition requirements while minimizing cost. The percent of each ingredient to use (**G**) is calculated and the formula cost per pound and per kilogram are reported (**H**).

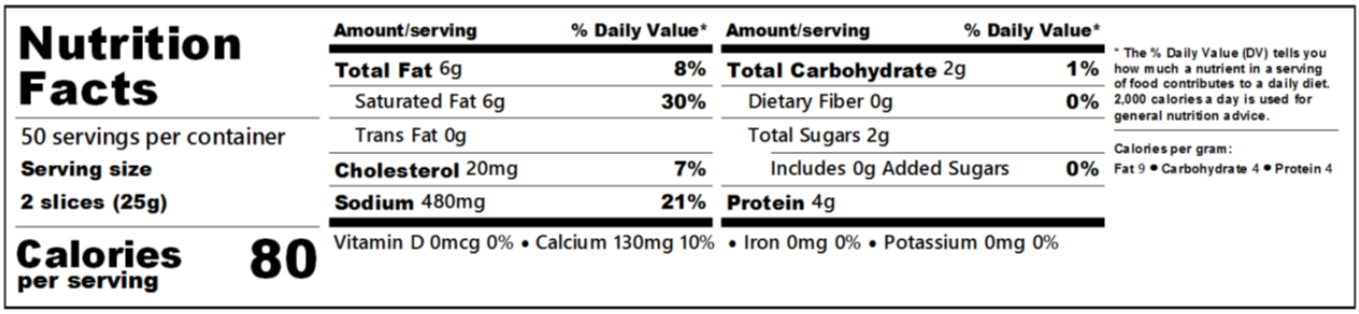


Elaine prepares a 7000 pound batch (**I**) and determines the raw ingredient cost (**J**) for that amount. Notice that she is reporting the ingredient amounts in a variety of units of measure (**K**). At this point she can prepare a batch sheet report if she wishes. Elaine saves this version of her formula for use later by clicking **Save Formula** in the **File** menu (not shown).



Create Nutrition Facts Panel and Ingredient Statement

Elaine is satisfied with her formula. She uses TechWizard™ labeling features to create a tabular nutrition facts panel, a regular ingredient statement, and a “milk based” ingredient statement.



Nutrition Facts

50 servings per container
Serving size
2 slices (25g)

Calories per serving **80**

Amount/serving	% Daily Value*	Amount/serving	% Daily Value*
Total Fat 6g	**8%**	**Total Carbohydrate** 2g	**1%**
Saturated Fat 6g	**30%**	Dietary Fiber 0g	**0%**
Trans Fat 0g		Total Sugars 2g	
Cholesterol 20mg	**7%**	Includes 0g Added Sugars	**0%**
Sodium 480mg	**21%**	**Protein** 4g	

Vitamin D 0mcg 0% • Calcium 130mg 10% • Iron 0mg 0% • Potassium 0mg 0%

* 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.

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

REGULAR INGREDIENT STATEMENT:
INGREDIENTS: CHEDDAR CHEESE, WATER, DELACTOSED WHEY, ANHYDROUS MILK FAT, WHEY PROTEIN, SODIUM CITRATE, SODIUM PHOSPHATE, SALT, SORBIC ACID, LACTIC ACID, ARTIFICIAL COLOR.

“MILK BASED” INGREDIENT STATEMENT:
INGREDIENTS: CULTURED MILK, CREAM, DELACTOSED WHEY, SALT, SODIUM CITRATE, SODIUM PHOSPHATE, SORBIC ACID, LACTIC ACID, ENZYMES, ARTIFICIAL COLOR.

Versatility

TechWizard™ can do even more than what was described here. Please feel free to contact us to learn more.