

Agile Product Lifecycle Management for Process

Design Workbench User Guide

Release 5.2

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February 2008

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February 15, 2008

DOCUMENT CONTROL

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ABOUT THIS MANUAL

Agile Product Lifecycle Management for Process Documentation

The Agile Product Lifecycle Management (PLM) for Process documentation set includes user guides, an administrator's guide, and release notes, all in Adobe® Acrobat™ PDF format. The Oracle Documentation Web site contains the latest versions of the Agile PLM for Process PDF files. You can view or download these manuals from the Web site, or you can ask your administrator if there is an Agile PLM for Process Documentation folder available on your network from which you can access the documentation (PDF) files. Visit the Oracle documentation Web site at:

<http://www.oracle.com/technology/documentation/index.html>

Note The minimum software requirement for reading the PDF files is Adobe Reader™ version 6.0. You can download this free program from www.adobe.com.

If you need additional assistance or information, please contact support@agile.com or phone (408) 284-3900 for assistance.

Before calling Agile Support about a problem with an Agile PLM manual, please have ready the full part number, which is located on the cover.

Audience

This guide is intended for end users who are responsible for creating and managing information in Design Workbench. Information about administering the system resides in the *Agile Product Lifecycle Management for Process Administrator User Guide*.

Variability of Installations

Descriptions and illustrations of the Agile PLM for Process user interface included in this manual may not match your installation. The user interface of Agile PLM for Process applications and the features included can vary greatly depending on such variables as:

- ❑ Which applications your organization has purchased and installed
- ❑ Configuration settings that may turn features off or on
- ❑ Customization specific to your organization
- ❑ Security settings as they apply to the system and your user account

Where to Find Information

Consult the table below to find specific information from the relevant Agile PLM for Process information source.

Table 1: Agile PLM for Process documentation topics, by source

Information type	DWB User Guide	Admin. User Guide	Readme file	Agile training	Agile Help Desk	Agile sales rep
Administering Agile PLM for Process		●		●		
Cache management		●				
Copying a specification	●					
Core data management	●	●				
Creating a basis	●					
Creating a profile	●					
Creating specifications				●		
Custom data management	●	●				
Custom sections	●	●		●		
Exporting DWB data	●					
Extended attributes	●	●		●		
Feature requests					●	●
Food Item Catalog	●					
Formulas	●					
Group management		●				
Installing Agile PLM for Process				●		●
Known issues			●			
Label statements	●					
Last-minute changes			●			
Managing specifications				●		
New in this release			●	●		●
Printing				●		
Resolved issues			●			
Snapshots	●					

Table 1: Agile PLM for Process documentation topics, by source (continued)

Information type	DWB User Guide	Admin. User Guide	Readme file	Agile training	Agile Help Desk	Agile sales rep
System-based roles		●				
Technical support					●	
User management		●				
Using the GSM application				●		
Workflow management		●				

Readme

Any last-minute information about Agile PLM for Process can be found in the Readme file on the Oracle documentation Web site (<http://www.oracle.com/technology/documentation/index.html>).

Agile Training

Agile offers end user, administrator, developer, and implementation training courses. For more information, contact your Agile project manager or your Agile sales representative.

Document Conventions

The following formatting elements appear in Agile PLM for Process documentation.

Element	Meaning
Helvetica Condensed, 9 pt. bold type	A user interface (UI) element that a procedure is instructing you to click, select, or type into. For example, buttons or text entry fields.
9 pt. monospace font	Code samples
10 pt. monospace font	File names or directory names
<i>Blue italic font</i>	The linked portion of a cross-reference. Click it to go to the referenced heading, table, or figure.
Minion Typeface, Title Case	A named UI element that a procedure is describing but not instructing you to click, select, or type into.
<hr/> Note Minion 11.5 pt, with faint blue bar over & under <hr/>	Alerts you to supplemental information.
<hr/> Caution! Minion 11.5 pt, with faint red bar over & under <hr/>	Alerts you to possible data loss, breaches of security, or other more serious problems.
<hr/> Important Minion 11.5 pt, with thick red bar over & under <hr/>	Alerts you to supplementary information that is essential to the completion of a task.

Introducing Design Workbench

This chapter presents an overview of the Design Workbench application.

Topics in this chapter include:

- *Major Features*
 - *Getting Started with Design Workbench*
 - *Action Items*
-

Overview

The Design Workbench application (DWB) is a collaborative design tool that enables the virtual prototyping, evaluation, and optimization of formulations. With it you can measure the real-time impact of process and bill of material changes on a number of user-defined attributes, such as product cost, compliance, nutrition, and ingredient labeling. With DWB you can design and optimize new formulations to meet user-defined design criteria such as reduction in costs or nutrient value optimization.

With real-time feedback, optimization algorithms, and online collaboration, you can develop new formulations in shorter development cycles while meeting targeted design criteria.

Major Features

Formula Optimization

Design Workbench includes a linear optimization algorithm, which enables you to optimize formulations based on a number of constraints tied to extended attributes, cost, nutrition, and formulation composition. By using the formula optimization feature, you can quickly iterate through optimization scenarios to determine which experiments warrant further investigation.

This optimization can help you to iterate formulation changes very quickly and to understand the impact on all product properties.

Snapshots

In Design Workbench you can save a read-only copy of the current DWB specification at any time as a separate “snapshot.” These snapshots capture the entire data set related to the experiment at that point in time. You can thereby preserve your experimental iterations. You can also test certain assumptions and go back to previous iterations if these assumptions are not leading you down the desired path.

Ingredient Statements

Defining the ingredient statement for a product has traditionally been a manual, resource-intensive activity. With DWB you can develop the desired ingredient statement based on a flexible set of options and rules such as renaming, grouping, aliasing, and reconstituting. You can also restrict the construction of ingredient statements to rules that you define. DWB captures substantial changes in an audit trail for justification. You can have DWB express the resulting ingredient statement as a combined or a multipart statement.

Design Workbench Profiles

Running experiments may require creating what-if scenarios related to ingredients, intermediates, and product formulations. These scenarios may require that you alter or enrich the specification data for the purpose of experimenting. Design Workbench, when integrated with Global Specification Management, enables you to store a profile, or classified collection of attributes, with the specification data to be leveraged within DWB. You can then experiment with specifications without altering the original specification data.

Batch Tuning

In Design Workbench you can tune batch sizes on the basis of a number of criteria (for example, yield, ingredient quantity, batch quantity, and so on). DWB also provides rounding rules to streamline how it represents the ingredient quantities in the target batch.

Analyzing Formulations

In Design Workbench you can analyze the results of your experimental formulations and export those results to Microsoft Excel™ for further analysis.

Screening Formulations

R&D technologists must be able to screen experimental formulations for compliance at any time through the design and development process. When DWB is implemented with the Computer Aided Compliance Screening application, you can interrogate your formulations against the relevant compliance screens to help you understand whether these formulations are compliant. You can also determine which label claims apply to your experimental formulations, based on the associated nutrient data and customer-configured claim rules.

Exporting from Design Workbench

Design Workbench functions as an authoring tool for experimental formulations. When DWB is implemented with the Global Specification Management (GSM) application, you can export previously authored experimental formulations to GSM as specifications for review and approval.

Touch Points with Other Applications

Design Workbench (DWB) is integrated with a number of other applications within the Agile Product Lifecycle Management for Process suite and the reasons for integration vary greatly among applications.

Global Specification Management

DWB is tightly integrated with Global Specification Management (GSM) to enable you to quickly build DWB specifications using ingredient and process specifications. Additionally, DWB and GSM are designed to enable publishing of specification data to GSM once the design specification has been completed in DWB. DWB keeps track of the lineage of specifications as they move back and forth between these two applications.

New Product Development

You can link DWB specifications to New Product Development (NPD) projects, and you can see NPD activities in DWB specifications.

Nutrition Surveillance Management

You can add nutritional information to DWB profiles and bases from Nutrition Surveillance Management (NSM) analyses or composites.

Computer Aided Compliance Screening

DWB leverages Computer Aided Compliance Screening (CACS) to enable you to check compliance at any time during the design process.

Getting Started with Design Workbench

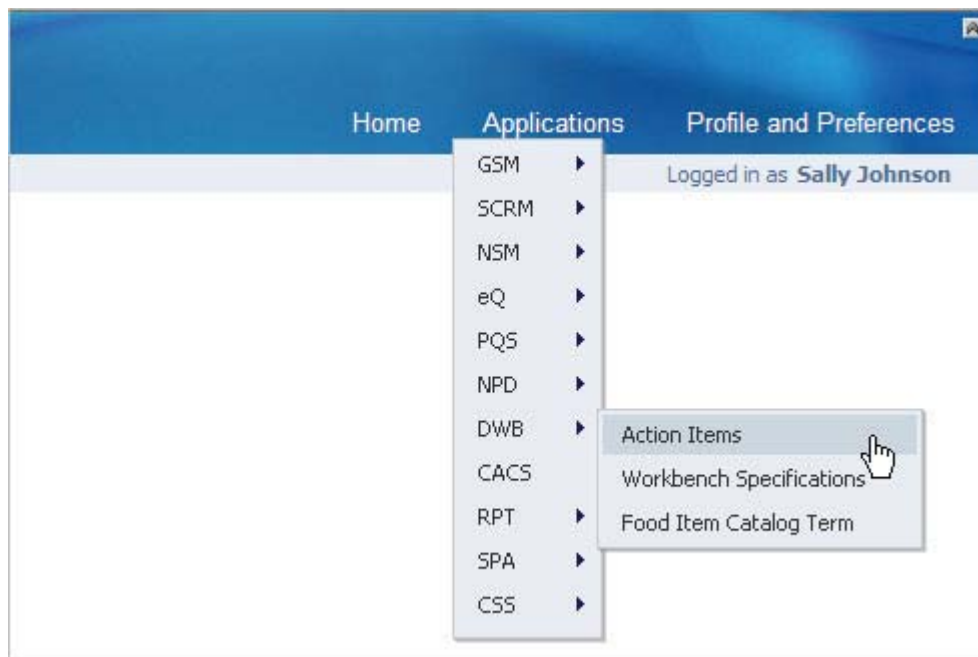
Accessing Design Workbench

To access the Design Workbench application, select **DWB** from either the left navigation panel (figure 1-2) or from the Applications menu of the top menu bar, as shown in figure 1-2 below.

Figure 1-1: DWB left navigation panel



Figure 1-2: DWB men from top menu bar



For general information on using Agile Product Lifecycle Management for Process software, see the *Agile Product Lifecycle Management for Process Getting Started Guide*.

Action Items

The default page in Design Workbench (DWB) is the Action Items page, consisting of a system-generated to-do list, or “action items.” When a specification for which you are the owner moves to a status requiring your action, DWB adds an entry to the Action Items list for the current owner of that object.

Access the DWB Action Items list by clicking DWB in the left navigation panel or by clicking **Applications > DWB > Action Items** on the top menu bar. The Action Items list displays as shown in figure 1-3 below:

Figure 1-3: Design Workbench Action Items page

Action Items

<u>Spec #</u>	<u>Spec Name</u>	<u>Design Taxonomy</u>	<u>Date Created</u>	<u>Last Modified</u>	<u>Status</u>
<u>5001511-001</u>	Sweet Water, 2%	Acme North America	Oct 12, 2007	Dec 07, 2007	Draft
<u>5001545-001</u>	Iced Tea - Good Brand	Acme North America	July 3, 2007	Dec 8, 2007	Draft
<u>5001621-001</u>	Seasoned Beef w/BBQ Sauce	Acme North America	Oct 12, 2007	Nov 11, 2007	Draft
<u>5001711-001</u>	Beef w/BBQ Sauce	Acme North America	July 3, 2007	Dec 8, 2007	Draft
<u>5001890-001</u>	CACS Lemonade	Acme North America	Oct 12, 2007	Dec 8, 2007	Draft
<u>5001891-001</u>	CACS Lemonade	Acme North America	Oct 12, 2007	Nov 11, 2007	Draft
<u>5001892-001</u>	CACS Lemonade	Acme North America	Oct 12, 2007	Nov 11, 2007	Draft
<u>5002048-001</u>	Sauce, BBQ	Acme North America	July 3, 2007	Nov 11, 2007	Draft
<u>5002049-001</u>	Beef w/BBQ Sauce	Acme North America	Oct 12, 2007	Dec 8, 2007	Draft

Key fields include:

Spec #—The system-generated identification number for the DWB specification

Spec Name—The name of the DWB specification

Design Taxonomy—The node of the design taxonomy selected for this specification. This is used to match DWB profiles.

Profiles and Bases

This chapter describes the capabilities and applied uses of the Design Workbench profiles and bases functions.

Topics in this chapter include:

- Profiles
 - Bases
-

Profiles

In Design Workbench (DWB), a profile is a data override that you can use to customize a specification for specific needs, for example, for regional requirements. Although a profile is an override, it does not change the core specification data.

By using a DWB profile, you can add or override specification data based on design taxonomy. You can configure the design taxonomy to fit your individual business needs. DWB makes use of data that you have provided in a profile anytime you create a DWB specification and assign it to the same design taxonomy as the DWB profile.

You can provide custom data based on the design taxonomy or information on the DWB profile that is “additive” to the specification—that is to say, that can expand on the data that is present in the specification without actually changing the core specification data.

For example, you create a DWB profile on an ingredient specification. You assign the profile to the “North America” node in the design taxonomy. When you create a DWB specification with the ingredient specification in the formulation and select a design taxonomy of “North America,” DWB uses the information that you added to the DWB profile.

If the design taxonomy is not “North America,” the system searches up the taxonomy tree for an appropriate profile. If the system cannot find a profile (or if you did not select a design taxonomy), then DWB pulls the data directly from the ingredient specification.

Note DWB pulls from the specification any data that a profile does not provide.

Creating a Design Workbench Profile

You create and store DWB profiles on the References tab of ingredient and process specifications in GSM, as figure 2-1 shows below.

Note The system uses DWB profiles on process specifications only if the process specification is used as an intermediate

Figure 2-1: References tab

(ing) 5077413-001 - Vinegar - Distilled - White - 100 Grain (Approved)

Summary Formulation Compliance Related Specs CSS Supporting Documents **References**

Suppliers

	Company	Facility	Sourcing Type	Receiving Facilities	Sourcing Approval Status	Protocol ID
+	ABC Foods	ABC - Dallas	Producer	ABC - Dallas	Approved	A
+	Grocery Products Co	A Facility	Producer	Brassford Facility Bellingham	Approved	
+	A Food Manufacturing Co	A Food Manufacturing Co			Review	
+	A Food Manufacturing Co	A Food Manufacturing Co			Review	

Add New Import

DWB Profiles

Taxonomy	Originator
North America	Joe Foodman

Add New

To create a new DWB profile, open the ingredient or process specification for which you would like to provide custom values and click the **References** tab.

Click **Add New** under the DWB Profiles section. A dialog box opens displaying the DWB profile information. A DWB profile comprises the following sections:

- ☐ Specification Attributes
- ☐ Compliance
- ☐ Optimization Attributes
- ☐ Nutrients & Properties
- ☐ % Breakdown

Most information on a DWB profile will be broken down into two pieces: information from the specification and custom values. The data in the From Spec column is pulled directly from the specification from which you created the DWB profile. To copy the value in the From Spec column to the Custom Value column, click the carry over data icon (→). DWB copies the value into the Custom Value column. Figure 2-2 shows the DWB Profile page.

Figure 2-2: Specification Attributes tab

Specification Attributes	Compliance	Optimization Attributes	Nutrients & Properties	% Breakdown												
Summary Information Specification: BBQ Sauce Dry Mix (5077419-003) Taxonomy: <input type="text"/> Originator: <input type="text" value="Johnson, Sally"/> Special Notes: <div style="border: 1px solid #ccc; height: 40px; width: 100%;"></div>																
Identity <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">From Spec</th> <th style="text-align: center;">→</th> <th style="text-align: left;">Custom Value</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Dehydrated Onion and Garlic, Paprika, Mustard Flour, Spices, Natural Hickory Smoke Flavor, and not more than 2% Silicon Dioxide added to prevent caking.</td> <td style="text-align: center; vertical-align: middle;">→</td> <td style="padding: 5px;">Dehydrated Onion and Garlic, Paprika, Mustard Flour, Spices, Natural Hickory Smoke Flavor, and</td> </tr> </tbody> </table>					From Spec	→	Custom Value	Dehydrated Onion and Garlic, Paprika, Mustard Flour, Spices, Natural Hickory Smoke Flavor, and not more than 2% Silicon Dioxide added to prevent caking.	→	Dehydrated Onion and Garlic, Paprika, Mustard Flour, Spices, Natural Hickory Smoke Flavor, and						
From Spec	→	Custom Value														
Dehydrated Onion and Garlic, Paprika, Mustard Flour, Spices, Natural Hickory Smoke Flavor, and not more than 2% Silicon Dioxide added to prevent caking.	→	Dehydrated Onion and Garlic, Paprika, Mustard Flour, Spices, Natural Hickory Smoke Flavor, and														
Moisture & Density <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Attribute</th> <th style="text-align: left;">From Spec</th> <th style="text-align: center;">→</th> <th style="text-align: left;">Custom Value</th> </tr> </thead> <tbody> <tr> <td>Total Solids:</td> <td>100%</td> <td style="text-align: center;">→</td> <td><input type="text"/> %</td> </tr> <tr> <td>Relative Density:</td> <td></td> <td></td> <td> <input type="text"/> g v = <input type="text"/> mL v </td> </tr> </tbody> </table>					Attribute	From Spec	→	Custom Value	Total Solids:	100%	→	<input type="text"/> %	Relative Density:			<input type="text"/> g v = <input type="text"/> mL v
Attribute	From Spec	→	Custom Value													
Total Solids:	100%	→	<input type="text"/> %													
Relative Density:			<input type="text"/> g v = <input type="text"/> mL v													
Reconstitution/Equivalency <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Declare As</th> <th style="text-align: left;">Target %/Factor</th> <th style="text-align: left;">Comments</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="padding-top: 5px;"> <input type="button" value="Add New"/> </td> </tr> </tbody> </table>					Declare As	Target %/Factor	Comments	<input type="button" value="Add New"/>								
Declare As	Target %/Factor	Comments														
<input type="button" value="Add New"/>																

Specification Attributes Tab

The Specification Attributes tab of a DWB profile consists of four sections, in which you specify the following information:

Summary Information Section

Taxonomy—The design taxonomy that the custom data should be associated with. The taxonomy is important because it provides the DWB specification with a map to the adjusted data.

Originator—The user who created the DWB profile.

Special Notes—Any special notes that the originator would like to associate with this DWB profile.

Identity Section

Identity—The combined ingredient statement

Moisture & Density Section

Total Solids—The percentage of the specification that is not water.

Relative Density—The conversion factor applied when converting the specification from mass to volume.

Reconstitution/Equivalency Section

You can set up reconstitution/equivalency rules to assist in the management of the reconstitution process in the listed ingredient order (LIO) feature. These rules define how the water percentage of a given ingredient affects the label naming of a product. For example, you could set up a rule by which, if the percentage of water in an ingredient called “reconstituted orange juice” meets or exceeds a preset level, the name of that ingredient changes to “orange juice.”

Figure 2-3: Reconstitution/Equivalency section

Reconstitution/Equivalency		
Declare As	Target %/Factor	Comments
<div> ✓ ↶ <input type="text" value="stock"/> </div>	<div> <input type="text" value="0.00432"/> <div> <div>% Water</div> <div>% Water</div> <div>Factor (of item)</div> <div>% Yield (of item)</div> </div> </div>	<div> <input type="text"/> ✗ </div>

Add New

To add a new reconstitution/equivalency rule, click **Add New** under the Reconstitution/Equivalency section (shown in figure 2-3, above). DWB adds to the table a new row for you to fill out.

Key fields include:

Declare As—The name that DWB will assign to the product after you have performed the defined reconstitution.

Target % / Factor—The adjustment amount required to perform the reconstitution

Target % / Factor UOM—The method for calculating the reconstitution.

After you have completed the rule, click the apply changes icon () to add it.

Compliance Tab

In the Compliance tab of a DWB profile you can enhance or modify specification information related to compliance. You can add or modify the following compliance items:

- ☐ Complies With
- ☐ Allergens - Present
- ☐ Allergens - May Contain
- ☐ Allergens - Does Not Contain
- ☐ Intolerances (Sensitivities) - Present
- ☐ Intolerances (Sensitivities) - May Contain
- ☐ Intolerances (Sensitivities) - Does Not Contain
- ☐ Additives - Present
- ☐ Additives - May Contain
- ☐ Additives - Does Not Contain

Adding “Complies With” Information


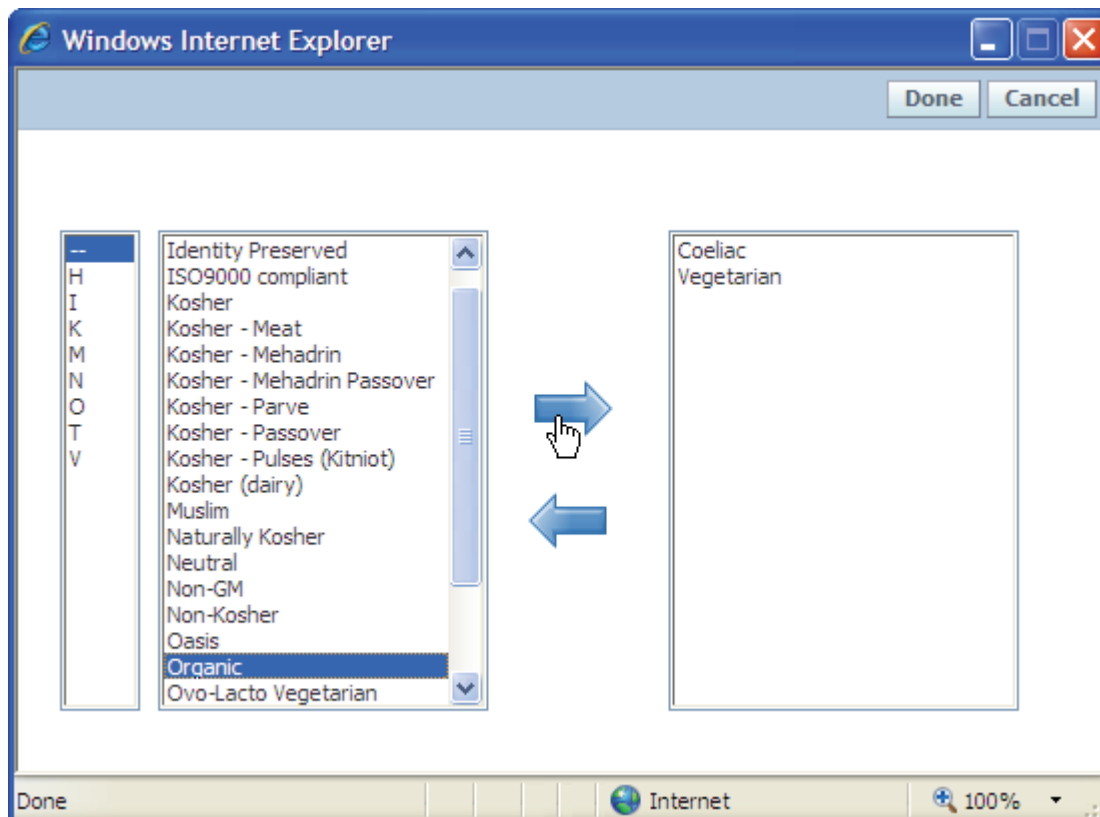
You can add new “complies with” items by clicking the add data icon (). A multiselect dialog box opens with available “complies with” items listed on the left side. If compliance items are currently in the specification, the dialog box lists them in the box on the side, as shown in figure 2-4, below

Figure 2-4: Complies With dialog box



Note “Complies With” items are positive by default and can only be made negative via script. For the DWB specification to be marked as “compliant” based on the rollup, compliance items marked as “negative” in Data Admin only have to be declared on one item; those not marked as negative must be declared on all formula items.

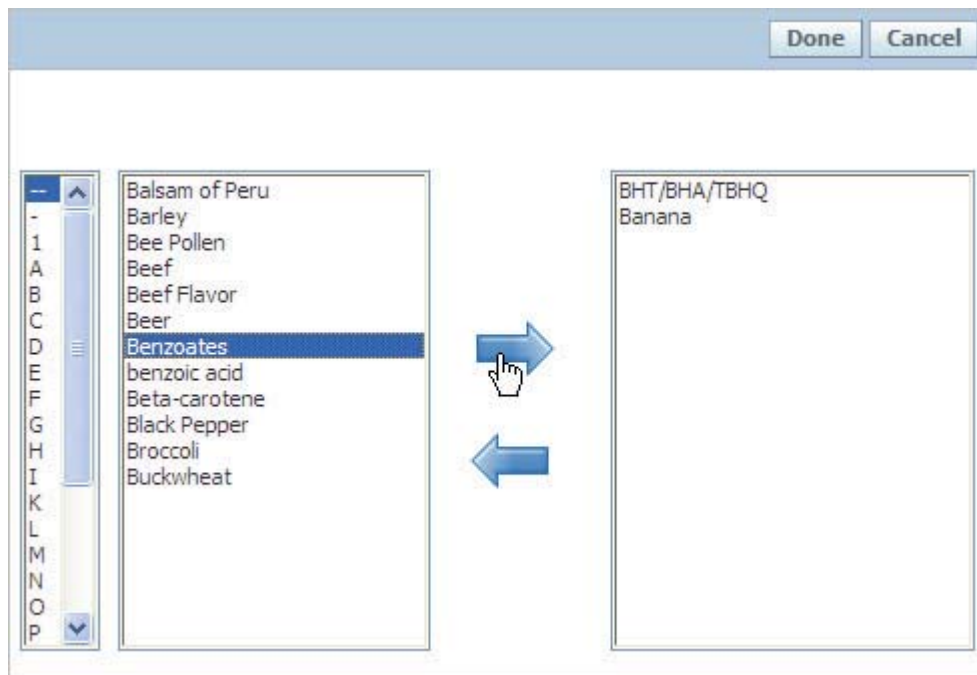
To add new items, select them and then click the add selected data icon (➡). The dialog box moves the selected items to the box on the right. To remove items, select them and click the remove selected data icon (⬅). Once you have completed your list of “complies with” items, click **Done**. The dialog box closes, leaving you on the compliance items page of the DWB profile.

Editing or Adding “Allergens, Sensitivities and Additives - Present & May Contain”

You can modify compliance items that are listed on the specification by clicking the edit icon (✎), making adjustments, and then clicking the apply changes icon (✔).

You can add new compliance items that either are present or may be present by clicking **Add New** in the designated part of the section. A multiselect dialog box, as shown in figure 2-5 below, opens with the allergens, sensitivities, or additives listed on the left side.

Figure 2-5: Allergens, Sensitivities, and Additives dialog box



To add new items, select them and then click the add selected data icon (➡). To remove items, select them and then click the remove selected data icon (⬅). Once you have completed your list, click **Done**. The dialog box closes, leaving you on the compliance items page of the DWB profile, as shown in figure 2-6 below. You must now add the Max/100g quantities to the selected compliance items.

Figure 2-6: Allergens section

Allergens

Allergens
(known to contain):

			Max / 100g	Source / Comments
	Abalone	<=		
	Acacia gum	<=		
	Albumen	<=		
	Allergen Free	<=		
	Allspice	<=		
	Amaranth	<=		
	Amaranth dye	<=		
	Anise	<=		

Allergens
(does not contain):

Mace, Mace Powder, Mackerel, Maize invert sugar, isomerized dextrose

Allergens
(may contain):

			Max / 100g	Source / Comments
	Isolate Soy Protein	<=		

To add a Max/100g value, click the edit icon () in the row of the item to modify, enter the value in the **Max/100g** column, select the unit of measure, and, if necessary, enter a source. Click the apply changes icon () to submit your changes.

Adding “Allergens, Sensitivities and Additives - Does Not Contain”

You can modify compliance items listed on the specification by clicking the edit icon () in the relevant row, making the necessary adjustments, and then clicking the apply changes icon ().

You can add new compliance items that the product does not contain by clicking the add data icon (). A multiselect dialog box opens with the allergens, sensitivities, or additives on the left side, as shown in figure 2-5 on page 2-7, below.

To add new items, select them and then click the add selected data icon (). To remove items, select them and then click the remove selected data icon (). Once you have completed your list, click **Done**. The dialog box closes, leaving you on the Compliance tab of the DWB profile.

Note The compliance items that you added to the DWB profile appear in the Custom Value section of the profile.

Optimization Attributes Tab

You can tailor optimization attributes for each DWB profile. You can set substitute materials and the ratio of these materials to the original material to use. You can also set scalability factors for optimization and customized costing information. Figure 2-7 shows the Optimization Attributes tab.

Figure 2-7: Optimization Attributes tab

Specification Attributes	Compliance	Optimization Attributes	Nutrients & Properties
Summary Information			
Specification: BBQ Sauce Dry Mix (5077419-003) Taxonomy: Acme Northern Europe Originator: Bohr, Niels Special Notes:			
Scalability Factors			
Scalability Factors	From Spec	Custom Value	
Upper Limit:		<input type="text" value="30.00000"/> %	
Lower Limit:		<input type="text" value="30.00000"/> %	
Upper Control:		<input type="text" value="15.00000"/> %	
Lower Control:		<input type="text" value="15.00000"/> %	
Substitute Material(s)			
	Substitute Material(s)	Factor	
✓ ↺ +	Chili Powder	<input type="text" value="1.00000"/>	✗
ADJ/Custom Cost Value			
From Spec	Custom Value		
	<input type="text"/>	AED ▼ /	<input type="text"/> ppm ▼

Nutrients & Properties Tab

In the Nutrients & Properties tab of the DWB profile you can modify the nutritional information that is stored on the specification as well as extended attribute data.

You can edit the existing nutritional information by providing a custom value or you can add new nutrients. You can add nutrients from the standard nutrient list, NSM, or from the data that is stored in the Food Composition Library.

Note The Food Composition Library will need to be configured as a part of your implementation.

Similarly, you can edit the existing extended attribute information by providing a custom value or you can add new extended attributes. The tab is shown in figure 2-8 below:

Figure 2-8: Nutrients & Properties tab

Specification Attributes	Compliance	Optimization Attributes	Nutrients & Properties		
Summary Information					
Specification: BBQ Sauce Dry Mix (5077419-003) Taxonomy: Originator: Doyle, Arthur Conan Special Notes:					
Standard Nutrients & Properties / 100 grams					
	Nutrient/Property	From Spec		Custom Value	Gain/Loss Factor
	Calories	161.29030 kcal	→		
	Energy kJ	1616.87400 kJ	→		
	Protein	3.22200 g	→		
	Carbohydrates	2.00000 g	→		
	Sodium	19380.00000 mg	→		
Add New		Add From FCL		NSM	
Custom Nutrients & Properties / 100 grams					
	Nutrient/Property	From Spec		Custom Value	Gain/Loss Factor
	Iron			20.00000 mg	
Add New					
Extended Attributes					
From Spec		Custom Value			
	Extended Attribute	Custom Value			
	Adhesives	Gum			
	Adhesives - not distinct		<input type="text"/>		
Add New					

% Breakdown Tab


The % Breakdown tab defines the contents of an ingredient specification. Percent breakdowns are composed of breakdown components and their composition of the total ingredient. In the Component % Breakdown(s) section, shown in figure 2-9 below, you can modify breakdowns that exist on the specification or add new breakdowns for use in listed ingredient order (LIO).

Figure 2-9: % Breakdown tab

Summary Information

Specification: BBQ Sauce Dry Mix (5077419-003)
Taxonomy: Asia
Originator: Jangles, Bo
Special Notes:

Component % Breakdown (s)

	Description	Restrictions
	Liquid Smoke Formulation	USA

Breakdowns that have been added to the specification will be shown when the profile is created. If you add new breakdowns to the specification after creating the profile, click **Refresh** to pull the new breakdowns into the DWB profile.

Note Clicking **Refresh** brings all breakdowns over from the specification. This process overwrites any breakdowns that you have added that are specific to this profile or any existing breakdowns that you have modified.

Adding % Breakdowns

You can add new percent breakdowns by clicking **Add New**. Doing so adds a new entry in the Component % Breakdown(s) section, as shown in figure 2-10 below.

Figure 2-10: Component % Breakdowns section

Component % Breakdown (s)

	Description	Restrictions	
	Liquid Smoke Formulation	USA	
	Honey	Canada - Adult	

Add New **Refresh**

Description

Description:

Restrictions:

Breakdown Components

	Component Description	From Spec	% Composition	Total Solids	
	Granulated Sugar (Sucrose)		12%	100%	
	Vinegar - Distilled - White		<input type="text" value="4"/> %	<input type="text" value="100"/> %	

Add New

Enter a description and set any restrictions that might apply. Click **Add New** to add breakdown items, as shown in figure 2-10. DWB adds a row to the Breakdown Components table.

You can type the name of the component into the Component Description field or you can perform a lookup by selecting the add data icon (+). That icon opens a search page, as shown in figure 2-11 below.

Figure 2-11: Search page

Food Item Catalog ▼

Search Criteria

Term or Alias ▼ Contains ▼ whe [more criteria...](#)

Search Reset Save Search Load Search

Search Results

Results Per Page 10 ▼

Term #	Term or Alias	Created By
1000081	Wheat	Law, Jude
1000081	Wheat Oats	Cooper, Andersen

1

You can search all ingredient specifications for your component or you can select it from the Food Item Catalog. Once you select the source, enter the search criteria and click **Search**. Select your breakdown component from the search results. Once you have selected your component, the dialog box closes, leaving you on the Breakdown Components section, as shown in figure 2-12 below.

Figure 2-12: Breakdown Components section

Breakdown Components

	Component Description	From Spec	% Composition	Total Solids	
✓ ↩ +	Sodium Tripolyphosphate		0 %	100 %	✗

Add New

Enter the percent composition for this item and the total solids percentage.

Repeat these steps until you have entered all breakdown components.

Note The Total Solids field is required if you intend to perform reconstitution in LIO.

Bases

A Design Workbench (DWB) basis is similar to a DWB profile, except that DWB uses the data of a basis only on the specification on which you defined the basis. You create a basis in DWB on an instance of a DWB specification. You can provide information on the basis that supplements the specification and DWB profile, or you can provide custom data on the basis for the current DWB specification. In the profile example above, you could further modify the data on the specification and profile by using the basis.

Note If the same specification appears in the formula more than once, DWB keeps the bases of the specification instances in synch. DWB is not designed to allow unique bases for the same specification in a DWB formulation.

Creating a Design Workbench Basis

The system creates a DWB basis automatically when you add items to the bill of materials or the Consumer/Customer Preparation section of a DWB specification. You can access a basis from either the Formulation or Trade Item tab of a DWB specification. To open a basis, click the blue hyperlinked specification title in the Ingredient/Process Spec column of the Bill of Materials table.

DWB populates the basis in one of two ways:

- 1 If the item being added to the DWB specification's Bill of Materials/ Consumer/Customer Preparation section already exists somewhere on the specification, DWB pulls the basis data from the basis values of the existing material.
- 2 If the material does not exist on the specification, DWB pulls the basis data from the profile based on the profile-matching rules. (For more information, see [Profile Matching](#) on page 2-16).

Note Click the red hyperlinked specification number to open the GSM specification in a dialog box. If the linked specification is a DWB specification, it opens in DWB.

Figure 2-13: Bill of Materials section, specification title

Bill of Materials								
Ingredient/Process Specification Equivalent (Type Prodika #)	Quantity	Gain/Loss Factor	Yield	%Step	% Batch	-- USD/100g	ADJ Cost USD/100g	EXT Cos USD
Water - Carbonated (ing 5077462-001)	1.000000			333%	33.33333%			0.0000
Green Grapes (ing 5080271-001)	1.000000 kg			333%	33.33333%			0.0000
Red Grapes (ing 5080263-001)	1.000000 kg	1.000000	1.000000 kg	33.33333%	33.33333%			0.0000
Total	3.000000 kg		3.000000 kg					

The dialog box displays the basis, as figure 2-14 shows.

Figure 2-14: Basis dialog box

Specification Attributes
Compliance
Optimization Attributes
Nutrients & Proper

Summary Information

Specification: Blended Vegetables, Corn/Carrot/Pea(5077457-001)

Taxonomy: North America

Identity


From Spec (8/23/2006)	Custom Value
Corn, Carrots, Peas	Corn, Carrots, Peas (from process spec)

Moisture & Density

Attribute	From Spec (8/23/2006)	Custom Value
Total Solids:		45.00000%
Relative Density:		<input type="text"/> g <input type="text"/> = <input type="text"/> mL

Reconstitution/Equivalency

Declare As	Target %/Factor	Comments
<input type="button" value="Add New"/>		

The basis comprises the same information as the DWB profile does. The basis information is also broken down into two pieces: information from the specification and custom values. The data in the From Spec column is pulled directly from the specification. Data could be present in the Custom Value column if a DWB profile is being used and a custom value was provided. You can add or modify any of the data present on the basis. To copy the value in the From Spec column to the Custom Value column, click the carry over data icon () . DWB copies the value into the Custom Value column. When you have made all of the desired changes, click **Done** to return to the DWB specification.

Note Immediately after you have applied any custom values in the basis, DWB takes them into account and includes them in the rollup.


Profile Matching


When Design Workbench is searching for DWB profiles that match the formula items in the bill of materials, it starts at the lowest level of the design taxonomy and works its way up the taxonomy chain. If it finds a suitable profile, it pulls the data into the specification.

Refreshing Specification Data

At certain times during the design process, it may be necessary to adjust raw materials used in the formulation. DWB does not immediately update the affected materials when you make such adjustments. You will need to pull the new data into your DWB specification when the raw materials are ready. You can refresh a single section of a specification, an entire formula item, or all formula items on the DWB specification.

Refreshing a Section of a Formula Item

Using the refresh icon () , you can update certain sections of the information about the formula items on your DWB specification. To update a section, click the blue hyperlinked specification title in DWB on the Formulation or Trade Item tab. The basis opens in a dialog box, as shown in figure 2-14 on page 2-15.

Once you decide which section of data needs to be updated from the specification, click the refresh icon () on that section. The system pulls the requested information from the specification and displays it in the From Spec section.

Refreshing a Formula Item

Using the global refresh feature, you can update all of the information about a specific formula item on your DWB specification. To update an entire formula item, click the blue hyperlinked specification title in DWB on the Formulation or Trade Item tab. The basis opens in a dialog window, as shown in figure 2-14 on page 2-15.

Click **Refresh** in the upper right corner of the page. The system prompts you to confirm the refresh action. When you select **OK**, the system pulls the information from the specification and displays it in the From Spec section.

Refreshing All Formula Items

Using the global refresh feature, you can update all of the information about all of the formula items on your DWB specification. To update all formula items on your DWB specification, click **Edit** to put the specification in edit mode, as shown in figure 2-15 below.

Figure 2-15: Specification in edit mode

Workbench Specification

Summary **Formulation** Trade Item Optimization Nutrients/Properties Compliance LIO

Cross Reference: USSAP Currency: USD Cost Type: Std Cost Cost Set: Marshall

DWB Process Steps

Step Name	Quantity	Yield	% of Yield	% as Filled
1. Weigh 1 pound of surgar	100.00000 kg	100.00000 kg	100.00000%	100.00000%
Total	220.46226 lb	220.46226 lb	100.00000%	100.00000%

Add New Step

Click **Refresh** in the upper right corner of the screen. The system prompts you to confirm the global update. When you select **OK**, the system pulls the information from the specifications for all formula items in your DWB specification.

CHAPTER 3

Costing

This chapter describes the capabilities and applied uses of the Design Workbench costing function. Topics in this chapter include:

- ❑ *Overview*
 - ❑ *Using Cost Information*
-

Overview

Design Workbench (DWB) shows you cost information that has been loaded for specifications added to the bill of materials. With this information you can view the impact of the formulation from a cost basis. This information is either pulled from the cost library or from the cost override setting that you specified at the formula item level.

Note When you apply a cost to a formula item, DWB uses it for all instances of that formula item on the DWB specification.

Data entered into the cost library must have the following information:

ERP/Cross Reference System—The code associated with the system that sources the cost data.

Equivalent—The equivalent number for the specification that the cost is being applied to.

Cost Type—A classification assigned to the cost.

Cost Set (Facility)—The facility that the cost is tied to. The same material can have different costs across facilities.

Effective Date—The date that the cost information becomes effective in the library.

UOM—The unit of measure that the cost is singularly specified for.

Cost—The cost value in the currency specified.

Currency—The currency of the entered cost.

Using Cost Information

To see the costs associated with a formulation, open your specification in edit mode and click the **Formulation** tab to show the processing steps associated with your formulation, as shown in figure 3-1, below.

Figure 3-1: Formulation tab

Workbench Specification

Summary **Formulation** Trade Item Optimization Nutrients/Properties Compliance LIO Support

Cross Reference: USSAP Currency: USD Cost Type: Cost Set:

DWB Process Steps

Step Name	Quantity	Yield	% of Yield	% as Filled
1. Load Meat Mix to Formax	998.70000 lb	998.70000 lb	99.87000%	99.87000%
2. Apply Caramel Color as Grill Marks	1.30000 lb	1.30000 lb	0.13000%	0.13000%
3. Cook in MPO Oven	--	--	0.00000%	0.00000%
4. Freeze to Plant HACCP Requirements	--	--	0.00000%	0.00000%
5. Bulk Pack for Storage and Shipment	--	--	0.00000%	0.00000%
Total	453.59237 kg	453.59237 kg	100.00000%	100.00000%

Add New Step

To select a specific cost set, select the following information:

- Cross Reference System
- Currency
- Cost Type
- Cost Set (Facility)

Based on the selected information, the system goes through each step and formula item and picks the first equivalent that it finds for the cross-reference system selected.

The system then sets the standard cost for each formula item, using:

- The equivalent number of the GSM specification that is associated with the formula item
- The other selected information on the DWB specification.

Figure 3-2: Cost set

Workbench Specification

Summary
Formulation
Trade Item
Optimization
Nutrients/Properties
Compliance
LIO
Supporting Document

Cross Reference: USSAP
 Currency: USD
 Cost Type: Std Cost
 Cost Set: Angus Facility

DWB Process Steps

Step Name	Quantity	Yield	% of Yield	% as Filled		
✓ 1. Load Meat Mix to Formax	998.70000 lb	998.70000 lb	99.87000%	99.87000%	↓	✗
✎ 2. Apply Color as Grill Marks	1.30000 lb	1.30000 lb	0.13000%	0.13000%		
✎ 3. Cook in MPO Oven	--	--	0.00000%	0.00000%		
✎ 4. Freeze to Plant Requirements	--	--	0.00000%	0.00000%		
✎ 5. Bulk Pack for Storage	--	--	0.00000%	0.00000%		
✎ 6. Step 6	--	--	0.00000%	0.00000%		
✎ 7. Step 7	--	--	0.00000%	0.00000%		
Total	453.59237 kg	453.59237 kg	100.00000%	100.00000%		

Step Details

Step Name: Load Meat Mix to Formax

Instructions:

Bill of Materials

Ingredient/Process Specification <small>Equivalent (Type Prodika #)</small>	Quantity	Gain/Loss Factor	Yield	% Step	% Batch	Std Cost <small>USD/100g</small>	ADJ Cost <small>USD/100g</small>	EXT Cost <small>USD</small>	Sub?
✎ <u>Meat Mix, Salisbury Steak</u> <small>(dwb 5001394-001)</small>	998.70000 lb	1.00000	98.700 lb	100.000%	99.870%			0.00000	0
✎ <u>Alpha Dex</u> <small>(ing 5077464-001)</small>	0.00000 lb	1.00000	0.000 lb	0.000%	0.000%			0.00000	0
Total	998.70000 lb		98.700 lb						23

Packaging Materials

Pkg Type	Packaging Material Specs <small>Equivalent (Type Prodika #)</small>	Units	Scrap Factor	Cost <small>USD</small>	ADJ Cost <small>USD</small>	EXT Cost <small>USD</small>
<input type="button" value="Add New"/>						

To enter cost information while building the formulation or override cost set information being pulled from the library, enter cost information in the ADJ Cost column, shown in figure 3-2, above. The EXT Cost column shows the total cost for the formulation item. The EXT Cost column uses the ADJ Cost if it is supplied; otherwise, it uses the value in the Std Cost column.

CHAPTER 4

Creating and Copying a Design Workbench Specification

This chapter describes how to create and copy specifications within Design Workbench.

Topics in this chapter include:

- ❑ *Importing from Global Specification Management*
- ❑ *Creating a Specification from Within Design Workbench*
- ❑ *Creating a Copy of a Design Workbench Specification*

Overview

There are two ways to create Design Workbench (DWB) specifications:

- ❑ *Importing from Global Specification Management* on page 4-3
- ❑ *Creating a Specification from Within Design Workbench* on page 4-6

To begin creating a new specification, click **Create New Workbench Spec** in the top right corner of the application, as shown in figure 4-1 below.

Figure 4-1: Create New Workbench Spec button

The screenshot displays the 'Workbench Specifications' interface. In the top right corner, there is a button labeled 'Create New Workbench Spec'. Below this, the interface is divided into sections: 'Search Criteria' with two dropdown menus (one showing '--'), a text input field, and a 'more criteria...' link; 'Search' and 'Reset' buttons; 'Save Search' and 'Load Search' buttons; and 'Search Results' with a 'Results Per Page' dropdown set to '10'.

A blank specification opens in DWB, as shown in figure 4-2 below.

Figure 4-2: Blank specification page

Workbench Specification

Summary
Formulation
Trade Item
Optimization
Nutrients/Properties
Compliance
LIO
Supporting Docum

Summary Information

DWB Spec Name:

Design Taxonomy:

Project Name:

Status: Draft - This Specification is currently being edited

Category:

DWB Spec #: 5002520

Subcategory:

DWB Issue #: 001

Group:

Status: Draft

Originator:

Description:

↑

↓

Approved for Use In

	Business Unit(s)		Countries

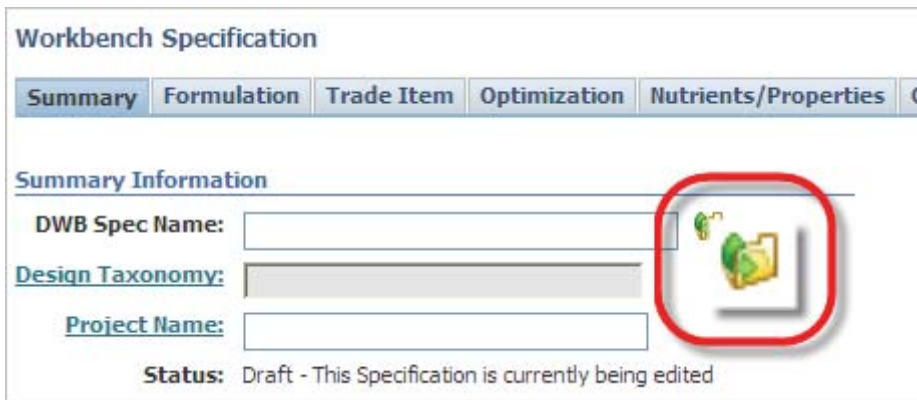
Importing from Global Specification Management

You can import a Global Specification Management (GSM) process specification into DWB to create a DWB workbench specification.

To import a process specification into DWB from GSM:

- 1 Click the import data icon (), as figure 4-3 shows below.

Figure 4-3: Importing from GSM



Workbench Specification

Summary Formulation Trade Item Optimization Nutrients/Properties C

Summary Information

DWB Spec Name:

Design Taxonomy:

Project Name:

Status: Draft - This Specification is currently being edited

DWB prompts you to confirm that you want to import a specification from GSM into DWB.

- 2 Click **OK** to continue with the import from GSM. The process specification search page displays.
- 3 Enter the criteria to find the process specification to import and click **Search**. A list of specifications that match your search criteria appears in the Search Results section, as shown in figure 4-4, below.

Figure 4-4: Search page showing search results

Workbench Specifications

Search Criteria

DWB Spec Name Starts With Be [more criteria...](#)

Search Results







Results Per Page

DWB Spec #	DWB Spec Name	Originator	Status
5001423-001	Beef w/BBQ Sauce Build 1	Jones, Jo	Draft
5001429-001	Beef w/BBQ Sauce Build 2	Jones, Jo	Draft
5001436-001	Beef w/BBQ Sauce Build 3	Jones, Jo	Draft
5001638-001	Beef w/BBQ Sauce	Twain, Mark	Draft
5001711-001	Beef w/BBQ Sauce	Twain, Mark	Draft
5001725-001	Beef w/BBQ Sauce	Jones, Jo	Draft
5001969-001	Beef w/BBQ Sauce	Twain, Mark	Draft
5002000-001	Beef w/BBQ Sauce	Smith, Cal	Draft
5002042-001	Beef w/BBQ Sauce	Twain, Mark	Draft

1 2

- Click the hyperlinked name of the specification to import. DWB imports the selected specification and populates fields with the data from the process specification into the DWB specification, as shown in figure 4-5 below.

Figure 4-5: Imported specification

Summary Information			
DWB Spec Name:	Beef with BBQ Sauce, build 2		
Design Taxonomy:	Asia		
Project Name:	5001886 - Beef Re-mix Patties		
Status:	Draft 		
Category:	Meat, Poultry and Game	DWB Spec #:	5001520
Subcategory:	Meat, Poultry and Game - Prepared and	DWB Issue #:	001
Group:	Meat, Poultry and Game - Prepared and	Date Created:	Not Available
Originator:	Johnson, Sally	Last Modified:	Dec 12, 2007
Primary Owner:	Johnson, Sally		
Spec Admins:	All UGM Approvers, SAC Reviewers, Retail, Global 		
Private?:	<input checked="" type="checkbox"/>		
Reader(s):	Arnie Acorn, Betty Botany, Charlie Carrot 		
Description:	This version is the best so far. Savory beef, tangy sauce, high protein and lower fat. 		
Approved for Use In			
	Business Unit(s)	Countries	
	Australasia		
Add New			

Creating a Specification from Within Design Workbench

To create a DWB specification without basing it on another, begin filling in the data on the specification.

The DWB specification comprises the following tabs:

- ❑ *Summary Tab* on page 4-6
- ❑ *Formulation Tab* on page 4-8
- ❑ *Trade Item Tab* on page 4-18
- ❑ *Optimization Tab* on page 4-24
- ❑ *Nutrients/Properties Tab* on page 4-26
- ❑ *Compliance Tab* on page 4-29
- ❑ *LIO Tab* on page 4-33
- ❑ *Supporting Documents Tab* on page 4-33
- ❑ Approval/Audit Trail—The Approval/Audit Trail tab of the DWB specification is not used at this time.

Summary Tab

The Summary tab of a DWB specification contains two sections, Summary Information and Approved for Use In as described below.

Summary Information Section

The Summary Information contains basic identifying information about the specification.

Key fields include:

DWB Spec Name—The name of the specification (required)

Design Taxonomy—The node of the design taxonomy selected for this specification. This is used to match DWB profiles.

Project Name—The name of the NPD project associated with this specification.

Category—Hyperlink opens dialog box with category taxonomy.

DWB Spec #—The system assigned number for this specification.

DWB Issue #—The issue number assigned to this specification.

Originator—The creator of the specification.

Primary Owner—By default, the same person as in the Originator field. This person can manage the fields below. Click the hyperlinked field name to choose from a multiple-select dialog box.

Spec Admins—Specify users (or user groups) who can read and edit this DWB specification. Click the hyperlinked field label to display a dialog box from which to choose from a prepopulated list.

Private—Check this box to display the Readers field

Readers—List users (or user groups) who can read the specification but not edit it. Click the hyperlinked field name to choose from a multiple-select dialog box of users/groups to give read-only access to for this DWB specification. The originator, owners, and specification administrators can add readers here.

Access to a DWB specification is controlled by its “originator,” the “primary owner,” and one or more users who are assigned as additional administrators. Depending on how your application is configured, these users can have either read access or read/write access.

Note The Spec Admins, Private, and Readers fields will only display if your installation has been configured to enable this type of security. Agile PLM for Process has this security enabled by default.

Approved for Use In

The Approved for Use In section contains the following fields:

- Business Unit(s) (required)
- Countries

Once you have completed the information in the Summary and Approved for Use In sections, click the **Formulation** tab to continue entering data.

Note If you do not select the Design Taxonomy field, DWB does not use data entered on DWB profiles. For more on DWB profiles, see Chapter 2, *Profiles and Bases*.

Formulation Tab

The Formulation tab of a DWB specification, shown in figure 4-6 below, is where you provide the formula items and information about their part of the whole formula.

Figure 4-6: Formulation tab

Workbench Specification

Summary **Formulation** Trade Item Optimization Nutrients/Properties Compliance LIO Support

Cross Reference: USSAP Currency: USD Cost Type: Std Cost Cost Set: Brookfield Plant

DWB Process Steps

Step Name	Quantity	Yield	% of Yield	% as Filled
1. Assembly Instructions	11,48000 oz	11.00000 oz	100.00000%	100.00000%
Total	11,48000 oz	11.00000 oz	100.00000%	100.00000%

Add New Step

The formulation tab shows the steps required to manufacture the material and inside of each step, the raw materials that will be used.

Note The UOM drop-down list for quantity defaults to the value that is set on the user Profile and Preferences page. If that value is not set, the field defaults to the value configured in the system. For more information on Profiles and Preferences, please refer to the *Agile Product Lifecycle Management for Process Getting Started Guide*.

Before you can begin adding formula items, you must add a step to the specification.

To add a new step:

- 1 At the bottom of the DWB Process Steps section, click **Add New Step**. DWB adds a new row to the DWB Process Steps table. (The default UOM for this step will be the same as that for the specification.)
- 2 To define each step, click the edit icon () on the new step row in the table, as shown in figure 4-7, on page 4-9. Steps consist of Step Details, Bill of Materials, and Packaging Materials.

Figure 4-7: Defining steps

Summary Formulation Trade Item Optimization Nutrients/Properties Compliance LIO Support

Cross Reference: USJDE Currency: USD Cost Type: Cost Set:

DWB Process Steps

Step Name	Quantity	Yield	% of Yield	% as Filled		
✓ 1. Add Beef to Tray	13.48000 oz	13.00000 oz	100.00000%	100.00000%		✗
Total	13.48000 oz	13.00000 oz	100.00000%	100.00000%		

Add New Step

Step Details

Step Name: Add Beef to Tray

Instructions:

Step Details

The Step Details section contains the following fields:

- Step Name
- Instructions

Once you define the step name and any special instructions on the step, you can begin to enter formula items in the Bill of Materials and/or Packaging Materials section.

Bill of Materials

To add a formula item to the bill of materials, click **Add New** under the Bill of Materials section. A dialog box appears in which you can select the specification(s) to add to the bill of materials, as shown in figure 4-8, below.

Figure 4-8: Select bill of materials

Cancel

Ingredient Specifications ▼

Search Criteria

Effective ▼ Greater Than ▼ + 4/4/2007 [more criteria...](#)

Search Reset Save Search Load Search

Search Results

Results Per Page 10 ▼

Spec #	Spec Name	Supercedes
5084450-001	Beef Asparagus Au Jus 2345000	
5084531-001	Pineapple Right-Side Up Cake	5084339-001
5084338-001	Ribs, standing, barbecued	
5084442-001	Bread pudding 11	
5084564-001	Southern Corn Soup	5084450-001
5084294-001	Smoke Inq TMC 20070604	5082989-002
5084291-001	Cashew Chicken	
5084323-001	Apple Streudel	
5084339-001	Candy Cane 71	
5084363-001	Chicken Applesauce	

... [21](#) [22](#) [23](#) [24](#) [25](#) [26](#) [27](#) [28](#) [29](#) [30](#) ...

Selected Items

Remove Clear Done

Specifications that you can add to the bill of materials include:

- ☐ Ingredient specifications
- ☐ Process specifications
- ☐ Other Design Workbench specifications

Once you select the type of specification to add to the bill of materials, enter the search criteria for the specification. You can perform multiple searches from this search page and add the entire lot of selected specifications to the bill of materials simultaneously.

For example, you can search for ingredient specifications that have “spice” in their specification name and then select a specification from the search results list. You can then change the search criteria to search for specifications that have “oil” in their specification name and select a returned specification without clearing your search results list.

If you select a specification that you do not want to add to the bill of materials, highlight it and click **Remove**. If you would like to remove all selected specifications from the selected items section, click **Clear** and DWB removes the selected entries.

Once you have selected all the specifications to add to the bill of materials, click **Done**. DWB pulls the specifications into the bill of materials for the step that you are editing. Refer to figure 4-9 for more information.

Figure 4-9: Selecting specifications

Workbench Specification

Summary Formulation Trade Item Optimization Nutrients/Properties Compliance LIO Supporting Document

Cross Reference: USSAP Currency: USD Cost Type: Cost Set:

DWB Process Steps

	Step Name	Quantity	Yield	% of Yield	% as Filled		
✓	1. Load Meat Mix to Formax	998.70000 lb	998.70000 lb	99.87000%	99.87000%	↓	✗
✎	2. Apply Caramel Color as Grill Marks on Both Sides	1.30000 lb	1.30000 lb	0.13000%	0.13000%		
✎	3. Cook in MPO Oven	--	--	0.00000%	0.00000%		
✎	4. Freeze to Plant HACCP Requirements	--	--	0.00000%	0.00000%		
✎	5. Bulk Pack for Storage and Shipment	--	--	0.00000%	0.00000%		
	Total	453.59237 kg	453.59237 kg	100.00000%	100.00000%		

Add New Step

Step Details

Step Name: Load Meat Mix to Formax

Instructions:

Add annotation here if you like

Bill of Materials

Ingredient/Process Specification Equivalent (Type Prodika #)	Quantity	Gain/Loss Factor	Yield	%Step	% Batch	-- USD/100g	ADJ Cost USD/100g	EXT Cost USD	Sub?	
Meat Mix, Salisbury Steak, 15% Pork (dwb 5001394-001)	8.7000 lb	1.00000	8.70000 lb	100.00%	99.870%			0.00000	0	✗
Total	8.7000 lb		8.51111 lb							

Add New Pull From Step Order Bill of Material Items

Packaging Materials

Pkg Type	Packaging Material Specs Equivalent (Type Prodika #)	Units	Scrap Factor	Cost USD	ADJ Cost USD	EXT Cost USD
Add New						

Key information in the Bill of Materials table includes the following:

Specification—Hyperlinked process specification name (blue) and hyperlinked ingredient specification equivalent (red). Add an annotation in the text box provided if you like.

Quantity—The total amount of the material to be used in the step prior to any gain/loss being applied.

Gain/Loss Factor— A multiple representing the adjustment of the starting quantity. So if 10% of the material is lost, enter **0.9**. If 10% of the material is gained, enter **1.1**.

Yield—The amount of the material after the loss is applied.

% Step—The % of the step this material makes up.

% Batch—The % of the entire batch this material makes up.

STD Cost—The standard cost associated with this material.

ADJ Cost—The adjusted cost associated with this material.

EXT Cost—The total cost for the formulation item.

Sub?—Substitute materials associated with this material. The red link shows substitute materials defined on the profile. The blue link shows similar specs based on Cat/SubCat/Group.








There are a number of ways to enter the specifics of each formula item. You can edit each row independently by clicking the edit icon () to the left of the hyperlinked specification title. By using this method, you can enter the gain/loss factor, yield, and any adjusted cost information. You can also annotate the formula in a text box in the Ingredients/Process Specification column.

Figure 4-10: Editing each row

Bill of Materials											
Ingredient/Process Specification Equivalent (Type Prodika #)	Quantity	Gain/Loss Factor	Yield	%Step	% Batch	-- USD/100g	ADJ Cost USD/100g	EXT Cost USD	Sub?		
 Salt - Granular - Not Iodized 34131 (ing 5077441-001)	10.40000 lb	1.00000	1.40000 lb	15.11150%	1.04000%			0.00000	0	3	
 Sodium Tripolyphosphate 34641 (ing 5077445-001) <div>Less hazardous than most chemicals in 3 ranking systems.</div>	2.50000 lb	1.00000	2.50000 lb	1.55110%	0.25000%			0.00000	0	2	
 Soluble Celery on Dextrose 34034 (ing 5077452-001)	2.20000 lb	1.00000	2.11000 lb	1.15000%	0.22000%			0.00000	0	1	
Total	16.00000 lb		1.00000 lb								
<div> <div>Add New</div> <div>Pull From Step</div> <div>Order Bill of Material Items</div> </div>											


You can edit the quantities for the entire bill of material by clicking the edit icon () next to the Quantity column heading. By using this method, you can enter the quantity and unit of measure for each item, as figure 4-11, below, shows.

Figure 4-11: Editing quantities

Bill of Materials				
Ingredient/Process Specification Equivalent (Type Prodika #)	Quantity	Gain/Loss Factor	Yield	%Step
Color Solution - BQT (dwb 5001395-001)	1.30000 lb	1.00000	1.30000 lb	100.0
Total	1.30000 lb		1.30000 lb	

You can edit the yield information for the entire bill of materials by clicking the edit icon () next to the Yield column heading. Through this method you can enter the yield and unit of measure for each item, as figure 4-12 shows below.

Figure 4-12: Editing yield

Bill of Materials				
Ingredient/Process Specification Equivalent (Type Prodika #)	Quantity	Gain/Loss Factor	Yield	%Step
Color Solution - BQT (dwb 5001395-001)	1.30000 lb	1.00000	1.30000 lb	100.0
Total	1.30000 lb		1.30000 lb	

You can edit the % **Step** values for the entire bill of materials by clicking the edit icon () next to the % **Step** column heading. Through this method you can perform ratio-based formulation and can enter the composition of each item based on its percentage of the entire step and the unit of measure, as figure 4-13 shows below.

Figure 4-13: Editing % Step

Bill of Materials					
Ingredient/Process Specification Equivalent (Type Prodika #)	Quantity	Gain/Loss Factor	Yield	%Step	% Batch
Color Solution - BQT (dwb 5001395-001)	1.30000 lb	1.00000	1.30000 lb	100.00000 %	0.13000 %
Total	1.30000 lb		1.30000 lb		

Once you define the bill of materials for this particular step, you need to enter any packaging materials that will be used during this step of the manufacturing process.

Pull From Step

If your DWB specification has multiple steps, you can take advantage of the “pull from step” functionality to move formula items from one step to another. To move a specification from one step to another, go into the step where you want to add the item and click **Pull from Step**. A dialog box showing the available specifications in other steps displays, as shown in figure 4-14 below.

Figure 4-14: Moving a step

Select each material to be moved into the current step

Procurement

	Name	Yield	Yield	Percent
<input checked="" type="checkbox"/>	Alpha Dex (ing 5077464-001)	90.00000 kg	<input type="text"/> kg	<input type="text"/> 100 %
<input checked="" type="checkbox"/>	(pro) 5082435-001;01-29-20071140; (pro 5082435-001)	0.00000 kg	<input type="text"/> kg	<input type="text"/> 100 %

Mixing

	Name	Yield	Yield	Percent
<input type="checkbox"/>	Xanthan Gum 34976 (ing 5077428-001)	50.00 kg	<input type="text"/> kg	<input type="text"/> %

Slicing

	Name	Yield	Yield	Percent
--	------	-------	-------	---------

To move all of an item, check the box next to the item to move. To move a portion of the item, do not check the box but rather specify a yield amount (quantity) or a percentage of the product to move.

Once you have defined the items to move, click **Done**. The system moves the defined amount of the selected products from their original step to the step that you requested.

Packaging Materials

To add packaging specifications to the Packaging Materials section, click **Add New** under the Packaging Materials section. A dialog box opens in which you can select the specification(s) to add to the packaging materials, as shown in figure 4-15 below.

Figure 4-15: Search for specification

Search Criteria

Spec Name Contains er [more criteria...](#)

Search Results

Results Per Page

Spec #	Spec Name	Status	Supersedes
5077465-001	Label - Paper - 300 x 406	Draft	
5077540-001	Carton - Paper Board - Frozen Meal - 7 x	Draft (Review)	
5080089-001	PET Bottle - Monolayer - 300 mL - Clear	Draft (Review)	
5080132-001	PET Bottle - Monolayer - 300 mL - Green	Draft	
5080134-001	PET Bottle - Monolayer - 333 mL - Clear	Draft	
5080359-001	Packing Material TMC 20060510	Draft	
5080528-001	v470 Packaging Material Spec TM	Draft	

1 2 3 4 5 6

Selected Items

PET Bottle - Monolayer - 300 mL - Clear
 PET Bottle - Monolayer - 333 mL - Clear
 Carton - Paper Board - Frozen Meal - 7 x 1.25 x 9
 Label - Paper - 300 x 406

The only specifications that you can add to the Packaging Materials section on DWB specifications are packaging material specifications. Enter the search criteria for the specification to add. You can perform multiple searches from this window and can add the entire lot of selected specifications to the Packaging Materials section at one time.

For example, you can search for packaging specifications that have “paper” in their specification name and select a specification from the search results list. You can then change the search criteria to search for specifications that have “corrugated” in their name and select a returned specification without clearing your search results. If you select a specification that you do not want to add to the Packaging Materials section, highlight it and click **Remove**.

To remove all selected specifications from the selected items section, click **Clear** and DWB will remove the selected entries. Once you have selected all of the specifications to add, click **Done**. DWB pulls the selected specifications into the step, as figure 4-16 shows below.

Figure 4-16: Specification pulled into a step

DWB Process Steps							
Step Name	Quantity	Yield	% of Yield	% as Filled			
✓ 1. Step 1	10.000 kg	10.00000 kg	100.00000%	100.00000%			✗
Total	10.000 kg	10.00000 kg	100.00000%	100.00000%			

Add New Step

Step Details

Step Name:

Instructions:

Bill of Materials

Ingredient/Process Specification Equivalent (Type Prodika #)	Quantity	Gain/Loss Factor	Yield	%Step	% Batch	USD/ 100g	ADJ Cost USD/100g	EXT Cost USD	Sub?		
✓ Chili Powder (Ing 5077438-001)	10.00000 kg	1.00000	10.0 kg	100.0%	100.00%			0.00000	0 3	✓	✗
Total	10.00000 kg		10.000 kg								

Add New **Pull From Step**

Packaging Materials

Pkg Type	Packaging Material Specs Equivalent (Type Prodika #)	Units	Scrap Factor	Cost USD	ADJ Cost USD	EXT Cost USD
	Label - Paper - 300 x 406 (5077465-001)	0.000	1.00000			0.00000
	PET Bottle - Monolayer - 300 mL - Green (5080132-001)	0.000	1.00000			0.00000
	Carton - Paper Board - Frozen Meal - 7 x 1.25 x 9 (5077540-001)	0.000	1.00000			0.00000

Add New

The Packaging Materials section consists of the following information:

Pkg Type—Inner, Outer, Intermediate

Packaging Material Specs—A link to the packaging material specification being added to the packaging bill of materials.

Units—The number of units of the given packaging material.

Scrap Factor—The factor to be applied if a portion of the packaging material will not be accounted for in the process.

Cost USD—The cost for the material as it was loaded in the Cost Book.

ADJ Cost USD—The adjusted cost associated with this material.

EXT Cost USD—The total cost for the formulation item.






To enter the specifics of each packaging item, click the edit icon () next to the hyperlinked specification title. By using this method, you can define the type of packaging, the quantity (with unit of measure), the scrap factor, and the adjusted cost information, as shown in figure 4-17 below.

Figure 4-17: Packaging Materials section

Packaging Materials							
	Pkg Type	Packaging Material Specs Equivalent (Type Prodika #)	Units	Scrap Factor	Cost USD	ADJ Cost USD	EXT Cost USD
		PET Bottle - Monolayer - 333 mL - Clear 2 (5080134-001)	0.00000	1.00000			0.00000
	Inner 	Carton - Paper Board - Frozen Meal - 7 x 1.25 x 9 (5077540-001)	0.00000  per Consumer Unit 	1.00000			0.00000 
		Label - Paper - 300 x 406 (5077465-001)	0.00000	1.00000			0.00000
							

Once you have added packaging for this step, you can either repeat the process and add more steps or continue to the Trade Item tab.

Trade Item Tab

The Trade Item tab of the DWB specification shows you top-level 100% formulation information. It also gives you the ability to define the packaging configuration, get approximate yield information, and define consumer/customer preparation items. Figure 4-18 shows the Trade Item tab.

Figure 4-18: Trade Item tab

Workbench Specification

Summary | Formulation | Trade Item | Optimization | Nutrients/Properties | Compliance | LIO | Supporting Documents

DWB Formulation

Ingredient/Process Specification <small>Equivalent (Type Prodika #)</small>	Quantity	% as Filled	Yield	% Batch	Cost / 100g	EXT Cost
Meat Mix, Salisbury Steak, 15% Pork <small>(dwb 5001394-001)</small>	998.70000 lb	99.87000 %	998.70000 lb	99.87000 %	0.00000 USD	0.00000 USD
Color Solution - BQT <small>(dwb 5001395-001)</small>	1.30000 lb	0.13000 %	1.30000 lb	0.13000 %	0.00000 USD	0.00000 USD
Total	453.59237 kg	100 %	453.59237 kg	100 %	0.00000 USD	0.00000 USD

Packaging Configuration

Classification:

Container Net Contents:

Quantity/Traded Unit:

Reference Amount:

Serving Size:

Servings:

Approximate Yield

Beginning Batch Size: 453.59237 kg

Processing Loss Factor:

Approximate Yield: kg

Final % Total Solids:

Final Density: g = mL

Beginning % Total Solids: 99.95667 %

Water Gain/Loss Factor:

Labeled Units/Batch:

Traded Units/Batch:

Override

%

g = mL

Consumer / Customer Preparation

DWB Formulation Section

The DWB Formulation section, shown in figure 4-19, shows a list of all the bill of material items rolled up across all steps in your DWB specification. If you have the same item in two different steps, it will only show once in this section but will show the total quantity for that item across all steps. It is possible to add bill of material items from this table. DWB adds these items to the first step of the manufacturing process. To add a formula item to the bill of materials, click **Add New** under the DWB Formulation section. See *Bill of Materials* on page 4-10 for details about adding bill of material items.

Figure 4-19: DWB Formulation section

DWB Formulation						
Ingredient/Process Specification Equivalent (Type Prodika #)	Quantity	% as Filled 	Yield	% Batch 	Cost / 100g	EXT Cost
Meat Mix, Salisbury Steak, 15% Pork (dwb 5001394-001)	998.70000 lb	99.87000 %	998.70000 lb	99.87000 %	0.00000 USD	0.00000 USD
Color Solution - BQT (dwb 5001395-001)	1.30000 lb	0.13000 %	1.30000 lb	0.13000 %	0.00000 USD	0.00000 USD
Total	453.59237 kg	100 %	453.59237 kg	100 %	0.00000 USD	0.00000 USD
Add New						

Key columns in the DWB Formulation table include:

Quantity—The amount of product required at the start of the process


% as Filled—The percent of the formula based on the initial input quantity. This percentage does not take into account any product that may be lost as a result of processing.

Yield—The amount of product after associated loss has been taken into account.

% Batch—The percent of the batch that is based on the yield. This value shows the percent after any loss has been applied.

Cost / 100g—The cost associated with each 100g of the defined material as it was entered in the Cost Book.

EXT Cost—The total cost for the formulation item

You can make top-level formulation changes by using the edit icon () next to the **% as Filled** or **% Batch** columns. Adjusting these columns does not increase or decrease the total batch size of the specification; it only moves the total quantity based on your defined percentages.

Note Clicking the blue hyperlinked specification title takes you to the basis. (See Chapter 2, *Profiles and Bases*, for more on bases.)

Clicking the red hyperlinked specification number opens the GSM specification in a dialog box.

If the hyperlinked specification is a DWB specification, it opens in DWB.

Packaging Configuration Section

In the Packaging Configuration section you can enter high-level packaging information about this formulation. With this section, shown in figure 4-20 below, you can tie your formulation to the Label Claims Determination rules and the RACC library.

Figure 4-20: Packaging Configuration section

Packaging Configuration	
Classification:	<input type="text"/> [v]
Reference Amount:	<input type="text"/> g [v]
Container Net Contents:	2.50000 oz [v]
Serving Size:	2.50000 oz [v]
Quantity/Traded Unit:	1
Servings:	1.00000

Key fields in the Packaging Configuration section include:

Classification—Type of food product. The system uses this information when you run Label Claims Determination against the specification.

Container Net Contents—The weight, volume, or share of total of the contents, excluding the container.

Quantity/Traded Unit—The number of consumer units in each traded unit.

Reference Amount—The amount customarily consumed for this type of product.

Approximate Yield Section

In the Approximate Yield section, shown in figure 4-21 below, you can enter process-level loss and water gain loss information and calculate the approximate yield for the formulation. This section also shows you the calculated **% Total Solids** and **Density** values and gives you the ability to manually override them.

Note If the relative density of any one of the formula items in the current formulation is undefined, the system cannot calculate the final density value.

If the total solids value of any one of the formula items in the current formulation is undefined, the system cannot calculate the final and beginning percent total solids values.

Figure 4-21: Approximate Yield section

Approximate Yield	
Beginning Batch Size:	453.59237 kg
Beginning % Total Solids:	99.95667 %
Processing Loss Factor:	<input type="text" value="1.00000"/>
Water Gain/Loss Factor:	<input type="text" value="1.00000"/>
Approximate Yield:	<input type="text" value="453.59237"/> kg
Labeled Units/Batch:	<input type="text" value="6400.00001"/>
Traded Units/Batch:	<input type="text" value="6400.00001"/>
Final % Total Solids:	<input type="text" value="99.95667"/>
Final Density:	<input type="text"/> g = <input type="text"/> mL
<div>Override</div> <div><input type="text"/> %</div> <div><input type="text"/> g <input type="button" value="v"/> = <input type="text"/> mL <input type="button" value="v"/></div>	
<input type="button" value="Calculate Approximate Yield"/> <input type="button" value="Batch Tuning"/>	

The Approximate Yield section contains the following information:

- Beginning Batch Size
- Processing Loss Factor
- Approximate Yield
- Final % Total Solids
- Final Density
- Beginning % Total Solids
- Water Gain/Loss Factor
- Labeled Units/Batch
- Traded Units/Batch
- Final % Total Solids Override
- Final Density Override

Calculate Approximate Yield

Once you have adjusted the processing loss factor and the water gain/loss factor, click **Calculate Approximate Yield** to have the system calculate the new yield information.

Batch Tuning

Once you have defined the bill of material items and have entered the processing and water loss factors, you can fine-tune the formulation using batch tuning. With batch tuning you can modify the formulation using four different options:

- Target Batch Size Based on Approximate Yield
- Target Batch Size with % Total Solids
- Target Spec Quantity
- Proportional Batch Size Using Formulation Item Quantity

Target Batch Size Based on Approximate Yield

Use this option to tune the batch size based on batch yield (expressed as a quantity in any available UOM). You can also use rounding rules in order to scale formulation components differently based on their contribution to the overall formulation.

Target Batch Size with % Total Solids

You can use this option to tune the batch size based on Batch Yield (expressed as a quantity in any available UOM) and %Total Solids (expressed in %). You can also use rounding rules in order to scale formulation components differently based on their contribution to the overall formulation.

Target Spec Quantity

Use this option to tune the batch size based on Target Spec Quantity field (expressed as a quantity in any available UOM). The Target Spec Quantity field represents the total quantity of inputs into the formulation, as opposed to the Batch Yield field, which represents the total quantity of outputs from the formulation (using Quantity multiplied by the gain/loss factor for each formulation item). You can also use rounding rules in order to scale formulation components differently based on their contribution to the overall formulation.

Proportional Batch Size Using Formulation Item Quantity

Use this option to tune the batch size based on a Formulation Item Quantity field (expressed as a quantity in any available UOM). You can select both one of the formulation items and its target quantity to calculate the batch size. You can also use rounding rules in order to scale formulation components differently based on their contribution to the overall formulation.

Consumer / Customer Preparation Section

To add a formula item to the Consumer/Customer Preparation section, click **Add New** under the Consumer/Customer Preparation section. A dialog box opens. You can select the specification from that dialog box. Refer to figure 4-22 for an illustration of this section.

Figure 4-22: Selected spec

Consumer / Customer Preparation					
	Ingredient Specifications Equivalent (Type Prodika #)	Quantity	Gain/Loss Factor	Yield	% as Filled
	<u>Beans - White Pea (Navy) - Dry</u> IB175 (ing 5077490-001)	0.00000 lb	1.00000	0.00000 lb	0.00000
	<u>Beans - Peas - White (Navy) - Dry</u> (ing 5082449-001)	0.00000 lb	1.00000	0.00000 lb	0.00000
	<u>Beans - Peas - White (Navy) - Dry</u> 018204 (ing 5077418-001)	0.00000 lb	1.00000	0.00000 lb	0.00000
	<u>Beef - Lean - Finely Textured</u> 31378 (ing 5077450-001)	0.00000 lb	1.00000	0.00000 lb	0.00000
	<u>Breading - NW #B34216</u> 30757 (ing 5077448-001)	0.00000 lb	1.00000	0.00000 lb	0.00000
	<u>CACS Lemon Flavor</u> (ing 5081465-001)	0.00000 lb	1.00000	0.00000 lb	0.00000
					

The Consumer/Customer Preparation table includes columns for the following information:

- Specification name and equivalent number (if any)
- Quantity
- Gain/Loss Factor
- Yield
- % as Filled

Optimization Tab

In the Optimization tab of the DWB specification, you can optimize a formulation based on a number of constraints related to ingredient costs, nutrients, extended attributes, specification-to-specification ratios, specification-to-formulation ratios, and total solids. DWB uses a linear optimization algorithm to generate the most optimal formulation as it can determine based on the constraints, guidelines, and optimization method.

Constraints Section

In the Constraints section, shown in figure 4-23, on page 4-24, you can define the objective and constraints for the linear optimization algorithm to use. You can build a constraint to express the objective as minimizing or maximizing an ingredient cost, nutrient content, or extended attribute value. You can express the constraints as less than, greater than, or equal to a value and UOM related to a typical size (for example, per 100g, per serving, per consumer unit, or per trade unit).

The design conformance column indicates:

- The current value related to both objective and constraints
- Whether or not the constraints are currently met (with a green/red flag)

For more information on optimization, see [Optimizing Your Formulation](#) on page 8-5.

Figure 4-23: Constraints section

Constraints			
	Type	Condition	Design Conformance
1	Objective	Minimize Cost - Display per 100g (sold)	0.00000 USD per 100g (sold)



The Constraints section includes the following columns:

- Type
- Condition
- Design Conformance

Guidelines Section

In the Guidelines section you can give the optimization engine additional information about how far it can go with certain items to reach a solution. You can set these guidelines by using scalability factors (in the Scalability (up) Limit, Scalability (up) Control, Scalability (down) Control, Scalability (down) Limit columns) and the Adjust column. For more information on optimizing, see [Optimizing Your Formulation](#) on page 8-5.

Figure 4-24: Guidelines section

Guidelines							
Ingredient/Process Specification Equivalent (Type Prodika #)	Yield	Scalability ▲▲ Limit	Scalability ▲ Control	Scalability ▼ Control	Scalability ▼▼ Limit	Adjust	Last Optimization
1 Meat Mix, Salisbury Steak, 15% Pork (dwb 5001394-001)	998.70000 lb	30.0000%	15.0000%	15.0000%	30.0000%		 0.00000%
2 Color Solution - BQT (dwb 5001395-001)	1.30000 lb	30.0000%	15.0000%	15.0000%	30.0000%		 0.00000%

The Guidelines table, shown in figure 4-24 above, includes the following columns:

- Ingredient/Process Specification (and Equivalent)
- Yield
- Scalability Limit (up)
- Scalability Control (up)
- Scalability Control (down)
- Scalability Limit (down)
- Adjust
- Last Optimization

Optimization Method Section

In the Optimization Method section, as shown in figure 4-25 below, you can further tailor the optimization scenario to meet your goals. Here you can control the method that is used from a formulation standpoint as well as from a constraint standpoint.

Figure 4-25: Optimization Method section

Optimization Method	
Formulation	Constraints
<input checked="" type="radio"/> Minimize Change	<input checked="" type="radio"/> All Constraints Required
<input type="radio"/> Emphasize Objective	<input type="radio"/> Incremental Constraints

For more information on optimization, see [Optimizing Your Formulation](#) on page 8-5.

Nutrients/Properties Tab

In the Nutrients/Properties tab of the DWB specification you can calculate the values of all relevant nutrients and extended attributes for the formulation.

Standard Nutrient/Property Analysis (Rounded Numbers) Section















In the Standard Nutrient/Property Analysis section you can select a number of nutrients for the formulation. The nutrients available for selection are the same list of values as that used within Global Specification Management. Once you have selected the nutrient values, DWB automatically rolls them up from the BOM and Consumer/Customer Preparation items to the formulation level, taking into account the following:

- Formulation composition
- Gain/loss factor for each BOM item within each step
- Processing gain/loss factor at the batch level
- Water gain/loss factor at the batch level
- Nutrient information from Consumer/Customer Preparation formula items
- Any nutrient degradation stipulated within the basis of each formula item

If DWB cannot roll up specific values because of missing data at the formula item level, DWB displays a validation message telling you which data you need to add. That data is presented on a per 100 grams, per serving, and per 100 kcal basis.

Note DWB displays values for selected nutrient items even if these values do not exist on all formula items.

Figure 4-26: Standard Nutrient/Property Analysis (rounded numbers) section

Standard Nutrient/Property Analysis (rounded numbers)			
Nutrient/Property	per 100 grams	per Serving	Per 100 kcal
 Calories	164.81144 kcal	116.80815 kcal	100.00000 kcal
 Protein	18.36928 g	13.01901 g	11.14563 g
 Carbohydrates	7.03418 g	4.98539 g	4.26802 g
 Dietary Fiber	1.23127 g	0.87264 g	0.74708 g
 Total Sugar	1.72741 g	1.22428 g	1.04811 g
 Total Fat	6.93583 g	4.91568 g	4.20834 g
 Saturated Fat	2.64403 g	1.87392 g	1.60427 g
 Cholesterol	38.41267 mg	27.22452 mg	23.30704 mg
 Vitamin A - Total	4.20330 IU	2.97904 IU	2.55037 IU
 Vitamin C	0.82649 mg	0.58577 mg	0.50148 mg
 Calcium	40.17908 mg	28.47645 mg	24.37882 mg
 Iron	2.14989 mg	1.52371 mg	1.30445 mg
 Potassium	393.89574 mg	279.16891 mg	238.99781 mg
 Sodium	515.62522 mg	365.44323 mg	312.85766 mg
Add/Change Nutrients/Properties		Nutrient Breakdown	






The Standard Nutrient/Property Analysis table, shown in figure 4-26 above, includes the following columns:

- Nutrient/Property
- Per 100 grams
- Per Serving
- Per 100kcal

Custom Nutrient/Property Analysis (Rounded Numbers) Section

In the Custom Nutrient/Property Analysis section you can add values for custom nutrients or properties that are not included in the Standard Nutrient/Property Analysis section. You can select nutrients and properties from the list of custom nutrients/properties or add them manually. Manually entered items are not rolled up from the formulation, including Consumer/Customer Preparation.

Figure 4-27: Custom Nutrient/Property Analysis section

Custom Nutrient/Property Analysis (rounded numbers)			
	Nutrient/Property	per 100 grams	per Serving
	 Vitamin C	mg 	
	Riboflavin	0.00000 mg	0.00000 mg
Add/Change Nutrients/Properties		Add New	

The Custom Nutrient/Property Analysis table, shown in figure 4-27 above, includes the following columns:

- Nutrient/Property
- Per 100 grams
- Per Serving

Extended Attributes (Theoretical Calculations) Section


In the Extended Attributes (Theoretical Calculations) section, you can select from a list a number of extended attributes related to the formulation. This list is the aggregate of the extended attributes listed at the BOM item level on the basis. Once you have selected the extended attribute values, DWB automatically rolls them up from the BOM items to the formulation level, taking into account the following:

- Formulation composition
- Gain/loss factor for each BOM item within each step
- Processing gain/loss factor at the batch level
- Water gain/loss factor at the batch level

Note The only types of extended attributes that can be rolled up in DWB are numeric and quantitative range.

You can choose a rollup method of “allowing null” to allow DWB to roll up data even though data may be missing at the BOM item level. You can also choose “not allowing null,” in which case DWB will not roll up the data if there is missing data at the BOM item level.

Figure 4-28: Extended Attributes (Theoretical Calculations) section

Extended Attributes (Theoretical Calculations)			
Attribute	Value	Method	
 Weight		allow null	
Add New			

The Extended Attributes (Theoretical Calculations) table, shown in figure 4-28 above, contains the following columns:

Attribute —Hyperlinked to an Extended Attribute Detail dialog box.

Value —The weighted roll up of the defined extended attribute for the formulation.





Method—This value defines how to treat the occurrence of nulls when the system is trying to roll up the extended attribute value. “Allow Null” will provide the user a value even if all specifications in the formula do not have the extended attribute defined. “Do Not Allow Null” will not return a value if any of the formula items do not have the extended attribute defined.

Extended Attributes Section

In the Extended Attributes section you can add values for extended attributes that are not included in the Extended Attributes (Theoretical Calculations) section. You can also add an override value for an extended attribute that is rolled up. You can select extended attributes from the complete list of extended attributes also available in Global Specification Management. The values for these attributes are manually entered at this stage, not rolled up from BOM items. Consumer/ Customer Preparation items are not taken into account for extended attribute rollup.

Note DWB pushes the combination of the theoretical and extended attributes sections into GSM while respecting the extended attribute target that is set on the extended attribute by your data administrator (in the Data Admin application). If an attribute exists in both of the above-mentioned sections, DWB uses the value from the Extended Attributes section as an override of the rolled up value.

Figure 4-29: Extended Attributes section

Extended Attributes			
	Attribute	Value	Comments
	Cholesterol	mg	Try to keep below 80 mg
	Fat Percentage	Can reduce overall percentage	
	Free Text	by trimming	
	Print Process		
	Saturated Fat	g	Try to keep below 10 g
Add New			

The Extended Attributes table, as shown in figure 4-29 above, contains the following columns:

- Attribute
- Value
- Comments

Compliance Tab

In the Compliance tab of the DWB specification you can review the rollup of compliance data for the formulation.

Allergens Section

In the Allergens section you can verify which allergens the formulation contains, may contain, or does not contain, based on the rollup of allergens from the BOM item level.

Figure 4-30: Allergens section

Allergens		
Allergens:	Per 100g	Specification
Abalone	23.96880 g	5001394-001 Meat Mix, Salisbury Steak
Balsam of Peru	0.99870 mg	5001394-001 Meat Mix, Salisbury Steak
Banana		5001394-001 Meat Mix, Salisbury Steak
Allergens(may contain):	Per 100g	Specification
Beef	4.99350 mg	5001394-001 Meat Mix, Salisbury Steak

The Allergens section, as shown in figure 4-30 above, includes the following fields:

- Allergens
- Allergens (may contain)
- Allergens (does NOT contain)

Intolerances Section

Use the Intolerances section to verify which intolerances (also referred to as sensitivities) the formulation contains, may contain, or does not contain, based on the rollup of intolerances from the BOM item level.

Figure 4-31: Intolerances section

Intolerances		
Intolerances:	Per 100g	Specification
Beef Flavor	4.99350 lb	5001394-001 Meat Mix, Salisbury Steak
Intolerances (may contain):	Per 100g	Specification
Benzoates	554833332.77850 g	5001394-001 Meat Mix, Salisbury Steak
Intolerances (does NOT contain):		

The Intolerances section, shown in figure 4-31 above, includes the following fields:

- Intolerances
- Intolerances (may contain)
- Intolerances (does NOT contain)

Additives Section

Use the Additives section to verify which additives the formulation contains, may contain, or does not contain, based on the rollup of additives from the BOM item level.

Figure 4-32: Additives section

Additives		
Additives:		
	Benzoic Acid	5001394-001 Meat Mix, Salisbury Steak
	Sodium Ferrocyanide	5001394-001 Meat Mix, Salisbury Steak
Additives(may contain):		
	Beta-apo-8' -carotenal	5001394-001 Meat Mix, Salisbury Steak
	Yellow #5	5001394-001 Meat Mix, Salisbury Steak
Additives (does NOT contain):		

The Additives section, as shown in figure 4-32 above, includes the following fields:

- Additives
- Additives (may contain)
- Additives (does NOT contain)

Compliance Information Section

In the Compliance Information section you can verify which compliance standards the formulation is compliant with, based on the rollup of compliance standards from the BOM item level.

Note “Complies With” items are positive by default and can only be made negative via script. For the DWB specification to be marked as “compliant” based on the rollup, compliance items marked as “negative” in Data Admin only have to be declared on one item; those not marked as negative must be declared on all formula items.

Figure 4-33: Compliance section

Compliance Information		
Complies With:	Compliance	Status
	Coeliac	Not Compliant: 5001394-001 Meat Mix, Salisbury Steak, 15% Pork 5001395-001 Color Solution - BQT
	ISO9000 compliant	Not Compliant: 5001394-001 Meat Mix, Salisbury Steak, 15% Pork 5001395-001 Color Solution - BQT
	Non-GM	Not Compliant: 5001394-001 Meat Mix, Salisbury Steak, 15% Pork 5001395-001 Color Solution - BQT
	Organic	Not Compliant: 5001394-001 Meat Mix, Salisbury Steak, 15% Pork 5001395-001 Color Solution - BQT
	Ovo-Lacto Vegetarian	Not Compliant: 5001394-001 Meat Mix, Salisbury Steak, 15% Pork 5001395-001 Color Solution - BQT
	Vegan	Not Compliant: 5001394-001 Meat Mix, Salisbury Steak, 15% Pork 5001395-001 Color Solution - BQT
	Vegetarian	Not Compliant: 5001394-001 Meat Mix, Salisbury Steak, 15% Pork 5001395-001 Color Solution - BQT

The Complies With table, shown above in figure 4-33, includes the following columns:

- Compliance
- Status

LIO Tab

In the LIO (listed ingredient order) tab of the DWB specification you can develop the desired ingredient statement based on a flexible set of options and rules, such as renaming, grouping, aliasing, and reconstituting. You can also restrict the construction of ingredient statements to the rules that you define. DWB captures substantial changes in an audit trail for justification. The resulting ingredient statement can be expressed as a combined or multi-part statement. The LIO tab is shown in figure 4-34 below.

Figure 4-34: LIO tab

The LIO tab consists of two subtabs:

- LIO Construction—Build the ingredient statement here.
- Final Statement—Review the ingredient statement and perform final editing here.

Refer to Chapter 7, *Creating Ingredient Statements*, for more information about LIO.

Supporting Documents Tab

The Supporting Documents tab contains the list of all supporting documents associated with the current DWB specification, including attachments and other DWB specifications that are dependent on the current specification.

Other Workbench Specs Which Rely on This Specification Section

The **Other Workbench Specs which rely on this Specification** section contains the list of all parent DWB specifications that may contain this specific DWB specification as an intermediate, as shown in figure 4-35 below.

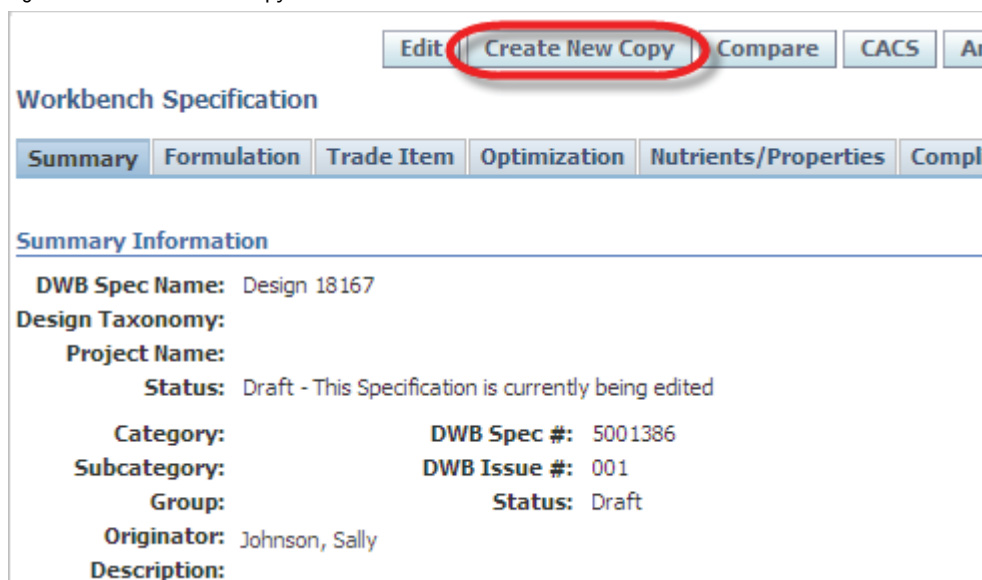
Figure 4-35: Other Workbench Specs which rely on this Specification section

Other Workbench Specs which rely on this Specification	
Spec #	Spec Name
5001412-001	Spicy Jerky

Creating a Copy of a Design Workbench Specification

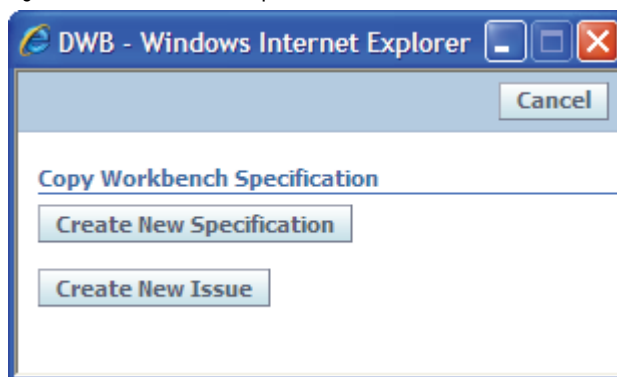
You can create a new copy of your specification in DWB. To create a new copy, click **Create New Copy** in the right corner of the application, as shown in figure 4-36 below.

Figure 4-36: Create New Copy function



A dialog box opens in which you can choose to create a new specification or create a new issue of a specification, as shown in figure 4-37 below.

Figure 4-37: Select a new specification



To create a new specification based on the one that you are on, click **Create New Specification**. DWB takes the relative contents of your specification, adds them to a new DWB specification, and assigns it a new specification number.

To create a new issue of your specification, click **Create New Issue**. DWB takes the relative contents of your specification and adds them to a new specification with the same specification number as your specification but with an updated issue number.

CHAPTER 5

Snapshots

This chapter describes the capabilities and applied uses of the Design Workbench snapshot function. Topics in this chapter include:

- ❑ *Creating a Snapshot*
- ❑ *Reverting to a Snapshot*

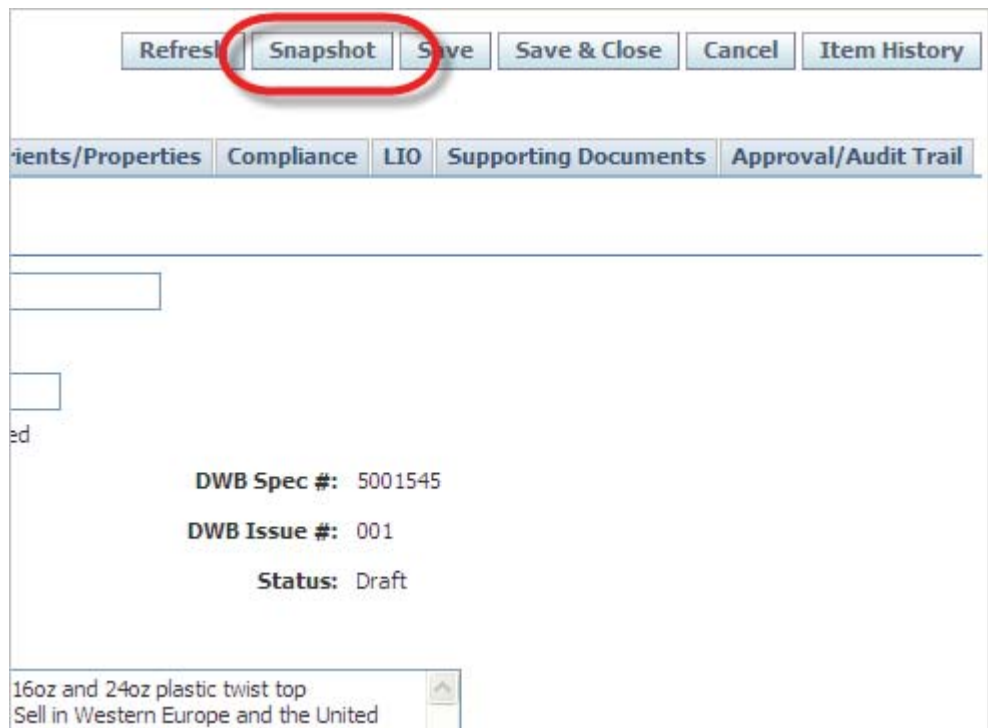
Overview

By using the Design Workbench (DWB) snapshot feature, you can take and store a picture of your DWB specification at any time during the development process. Using snapshots, you can capture incremental changes that are made during the formulation process and then revert to them later.

Creating a Snapshot

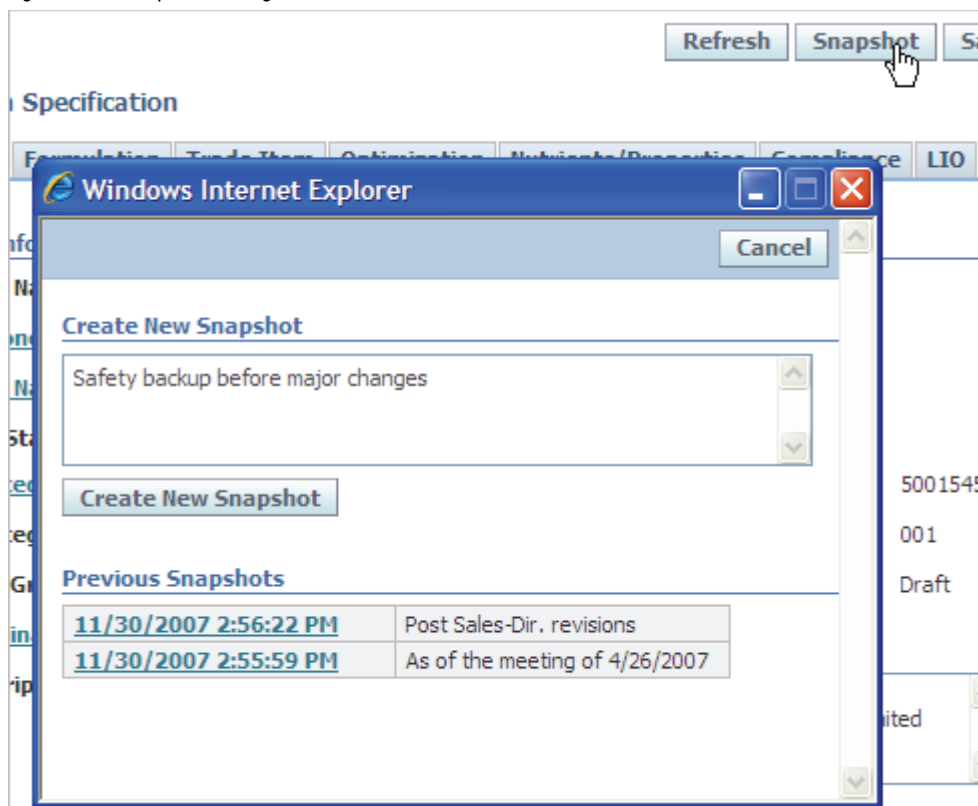
Once you have an instance of a specification that you want to snapshot, click **Snapshot** in the upper right corner of the application, as figure 5-1 shows below.

Figure 5-1: Snapshot button



The Snapshot dialog box opens, as shown in figure 5-2 below.

Figure 5-2: Snapshot dialog



Type a new snapshot name in the Create New Snapshot field and click **Create New Snapshot**. DWB creates your snapshot, stores it in the system, and lists your snapshot in the Previous Snapshots section.

Reverting to a Snapshot

To revert to a previous snapshot of your specification:

- 1 Click **Snapshot** in the right corner of the application. The Snapshot dialog box opens.
- 2 Click the hyperlinked time/date stamp of the snapshot to revert to. The system pulls the information from your snapshot and presents it to you as the specification that you are viewing in DWB.

Caution! If you revert to a snapshot without taking a snapshot of the current instance of the specification, your changes will be lost.

Food Item Catalog

This chapter describes the capabilities and applied uses of the Food Item Catalog function.

Topics in this chapter include:

- ❑ *Food Item Catalog*
 - ❑ *Using Food Item Catalog Terms*
-

Food Item Catalog

If you have the necessary administrative privileges, in Food Item Catalog (FIC) you can add terms to the database and manage certain properties about the terms. Once these terms have been created, you can use the library of predefined terms when creating percent breakdowns in Global Specification Management (GSM) or when working on ingredient statements in LIO in Design Workbench (DWB).

Integration with Other Applications

FIC is integrated with both GSM and DWB.

- ❑ GSM—Use Food Item Catalog terms when building percent breakdowns on ingredient specifications.
- ❑ DWB—Use Food Item Catalog terms when building ingredient statements in LIO.

Creating a New Food Item Catalog Term

Create and manage food item catalog (FIC) terms inside the food item catalog. The FIC is available as a submenu of DWB and GSM on the left navigation panel. You can create a new FIC term by clicking **Create New** in the upper right corner of the search page, as shown in figure 6-1 below.

Figure 6-1: Create New button



The screenshot shows the 'Food Item Catalog Term' search interface. At the top right, a 'Create New' button is highlighted with a red circle and an arrow pointing to it from the text 'Click here to create a new term'. Below the title, there is a 'Search Criteria' section with a dropdown for 'Term or Alias', a 'Contains' dropdown, a text input field, and a 'more criteria...' link. Below this are 'Search', 'Reset', 'Save Search', and 'Load Search' buttons. The 'Search Results' section at the bottom shows 'Results Per Page' set to 10.

As shown in figure 6-2 below, FIC Terms contain six sections of data:



- Catalog Term
- Alias
- LIO Disclosures
- LIO Groupings
- Reconstitution/Equivalency Rules
- Approved Usages

Figure 6-2: FIC Term sections


Catalog Term

Food Item Catalog Term: Modified Food Starch 
Term #: 1000001
Special Notes: 
Created By: Johnson, Sally


Alias(es)

Alias
 Modified Corn Starch
 Starch


LIO Disclosure(s)

Disclosure	Restrictions	Priority	Constraints
 Modified Food Starch Special Notes...	USDA	Req	> 0.00000 % Composition

LIO Grouping(s)

Grouping	Method	Restrictions	Priority	Constraints
 Starches	List ... i(x, y)	USDA	Req	> 0.00000 % Composition

Reconstitution/Equivalency

Declare As	Target %/Factor	Comments
 Liquid Starch	75 % Water	

Approved Usages

Business Unit(s)	Countries

Catalog Term Section

The Catalog Term section, shown in figure 6-3 below, defines the primary name of the term that you are defining.

Figure 6-3: Catalog Term section

The screenshot shows a form titled "Catalog Term". It contains the following fields:

- Food Item Catalog Term:** Modified Food Starch (with a globe icon)
- Term #:** 1000001
- Special Notes:** (with a globe icon)
- Created By:** Foodscientist, Joe

The Catalog Term section contains the following fields:

- FIC Term—The name of the term being defined (required)
- Term #—A system defined number associated to this term
- Special Notes—User defined notes for the term
- Created By—The user who created the term

Once you have completed the term name, continue to the Alias section.

Alias Section

The Alias section defines the secondary name or names for the term that you are defining.

Figure 6-4: Alias section

The screenshot shows a form titled "Alias(es)". It contains a table with the following data:

Alias
Modified Corn Starch
Starch (with a globe icon)

Below the table are two buttons: "Add New" and "Change Order".

The Alias section contains the following field:

- Alias—Other names that you want to be treated similarly from a labeling perspective.

Once you have entered all of the aliases for a given term, continue to the LIO Disclosure section.

LIO Disclosure Section

The LIO Disclosure section defines the terms that may be used (contextually) to describe the food item catalog term that is being created during the LIO process. To add a new disclosure, click **Add New** under the Disclosures section. A dialog box opens for you to enter the details of the disclosure, as shown in figure 6-5 below.

Figure 6-5: LIO Disclosure dialog box

The screenshot shows a web browser window titled "Windows Internet Explorer" displaying a form titled "LIO Disclosure". The form includes the following elements:

- Disclosure:** A single-line text input field.
- Special Notes:** A multi-line text area with up and down arrow buttons on the right.
- Restrictions:** A horizontal list box, currently empty.
- Priority:** A dropdown menu showing "?".
- Constraints:**
 - A checkbox labeled "Has % Total Solids Constraints".
 - A dropdown menu showing ">" followed by a text box containing "0.00000" and the label "% Composition".

Buttons for "Done" and "Cancel" are located at the top right of the dialog area.

The LIO Disclosure section contains the following fields:

Disclosure—The name of this item as it might appear on the ingredient statement if the restrictions and constraints are met.

Special Notes—Your notes.


Restrictions—A list of configurable tags that you can assign to the disclosure to prevent use in the LIO process. LIO will only use disclosures with the same restriction(s) or no restrictions applied.

Note Specifying no restrictions means that the disclosure will be available for all ingredient statements in LIO.

Priority—The order in which DWB presents the disclosures to you during the LIO process. If you select a priority of "Req," that disclosure will be the only one that you see.

Constraints—Additional criteria to limit when a particular disclosure can be used.

Figure 6-6: LIO Disclosures section

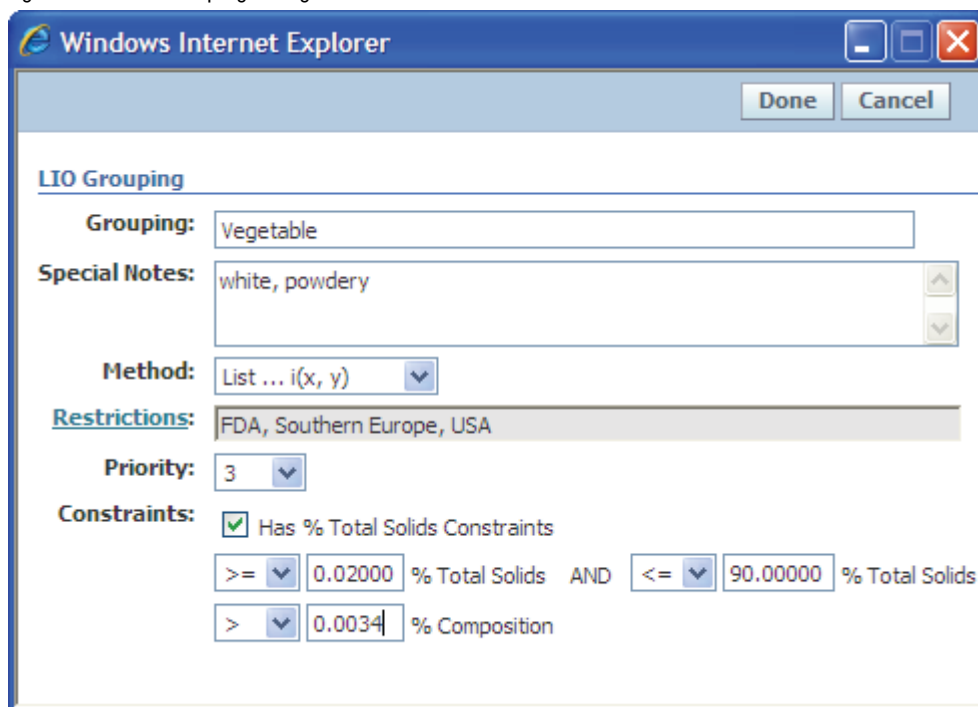
LIO Disclosure(s)				
	Disclosure	Restrictions	Priority	Constraints
	Modified Food Starch Special Notes...	USDA	Req	> 0.00000 % Composition
<div> <div>Add New</div> <div>Change Order</div> </div>				

You can enter as many LIO disclosures as needed. Once you have entered all of the disclosure information for a given term, continue to the LIO Grouping section.

LIO Groupings

The LIO Groupings section defines the groups to which the food item catalog term can be added during the LIO process. To add a new grouping, click **Add New** under the LIO Groupings section. A dialog box displays for you to enter details, as figure 6-7 shows.

Figure 6-7: LIO Grouping dialog box



LIO Grouping

Grouping: Vegetable

Special Notes: white, powdery

Method: List ... i(x, y)

Restrictions: FDA, Southern Europe, USA

Priority: 3

Constraints: ☒ Has % Total Solids Constraints

% Total Solids AND % Total Solids

% Composition

The LIO Groupings table includes the following columns:

Grouping—The name of the group that the term can be added to during the LIO process.

Special Notes—Your notes.

Method—The default declaration method for the group that is being added.

Restrictions—A list of configurable tags that you can assign to the group to prevent use in the LIO process. LIO will only use groupings with the same restriction(s) or no restrictions applied.

Note Specifying no restrictions means that the group will be available for all ingredient statements in LIO.

Priority—The order in which DWB presents the groupings to you during the LIO process. If a you select a priority of “Req,” that group will be the only one that you see.

Constraints—Additional criteria to limit when a particular grouping can be used.

Figure 6-8: LIO Groupings section

LIO Grouping(s)						
	Grouping	Method	Restrictions	Priority	Constraints	
✓	Starches	List ... i(x, y)	USDA	Req	> 0.00000 % Composition	✗
	Vegetable white, powdery	List ... i(x, y)	FDA, Southern Europe, USA	3	>= 0.02000 % Total Solids <= 90.00000 % Total Solids > 0.00340 % Composition	
<div>Add New Change Order</div>						

You can enter as many LIO Groupings as needed. Once you have entered all of the group information for a given term, continue to the Reconstitution/Equivalency section.

Reconstitution/Equivalency Section

The Reconstitution/Equivalency section defines the reconstitution or equivalency rules that you can use during the LIO process. To add a new reconstitution/equivalency rule, click **Add New** under the Reconstitution/Equivalency section. A dialog box displays for you to enter details of the rule, shown in figure 6-9 below.

Figure 6-9: Reconstitution/Equivalency section

Reconstitution/Equivalency				
	Declare As	Target %/Factor	Comments	
	Liquid Starch	75 % Water		
✓ ↺	Emulsifier	0.00324 % Water	(from 9928374-4890k)	✗
<div>Add New</div>				

The Reconstitution/Equivalency table includes the following columns:

Declare As—The name to use for the term after the reconstitution has been performed

Target %/Factor—Factor or percent change to apply during the reconstitution process

Approved Usages Section

The Approved Usages section is for future use.

Using Food Item Catalog Terms

You can use FIC terms in GSM when you are creating a percent breakdown on an ingredient specification or in DWB when you are performing LIO.

For more information on using LIO to create your ingredient statement, see Chapter 7, *Creating Ingredient Statements*.

For more information on using Food Item Catalog Terms, please refer to the *Agile Product Lifecycle Management for Process Global Specifications Management User Guide* for information on creating percent breakdowns.

Creating Ingredient Statements

This chapter describes the capabilities and applied uses of the Design Workbench ingredient statement function.

Topics in this chapter include:

- *LIO Construction Tab*
 - *Final Statement Tab*
-

Overview

In Design Workbench you can create complex ingredient statements for your formula using the LIO (listed ingredient order) function. The LIO section is a tree that you use to generate your ingredient statement. The LIO has right-click-enabled menu options that you can use to manipulate your formulation into the required ingredient statement. When you click **Generate LIO Tree**, the system creates the LIO tree from the formulation of your DWB specification. When you use the LIO tree in conjunction with percent breakdowns and the food item catalog, you can generate multiple ingredient statements from the same formulation. This feature can be useful when labeling a product for different parts of the world.

The LIO process in DWB is divided into two discrete activities, which are performed on two tabs with LIO:

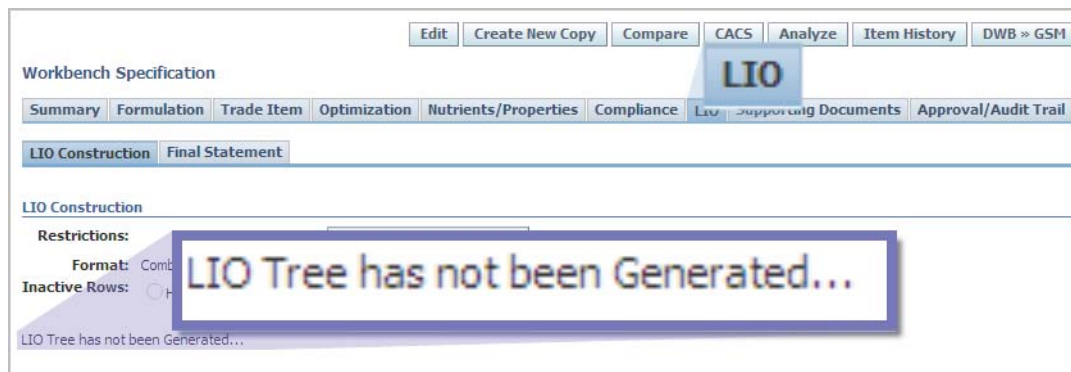
- LIO Construction
- Final Statement

LIO Construction Tab

In the LIO Construction tab you can manipulate formula items based on certain constraints imposed by each item's underlying specification, DWB profile, and currently selected labeling restriction.

The first time you open the LIO tab of a DWB specification, the LIO tree does not appear, because the system will not have generated it yet, as shown in figure 7-1, below.

Figure 7-1: LIO Construction tab



To prepare to generate the LIO tree:

- 1 At the upper right corner of the page, click **Edit**. DWB reloads the page in editable mode, as shown in figure 7-2 below.

Figure 7-2: LIO Construction tab in edit mode



- 2 Define the following summary-level information:
 - Restrictions
 - Format
 - Inactive Rows

Restrictions

Restrictions are a configurable list that you can use to differentiate disclosures and groupings in the Food Item Catalog. For example, in Canada you might be able to rename “salty beef” to “beef,” but in the United States, because of tighter regulations around sodium, you could not. By setting the restrictions on the LIO tree to Canada, you could see disclosures and groupings set up in Food Item Catalog with a restriction of Canada. LIO would be able to leverage this information to modify the ingredient statement in Canada to refer to “salty beef” as “beef.” If you were creating an ingredient statement for the United States, the “salty beef” would have to be labeled as such. For more information on restrictions, disclosures and groupings, see [Food Item Catalog](#) on page 6-1.

Format

From the Format drop-down list you can choose the level of detail to which the LIO tree will be created. After you change one of these options, DWB immediately reformats the Generate LIO and Final Statement fields. There are two options:

- Combined Statement (Level 2)
- Multipart Statement (Level 1).

Combined Statement (Level 2)—Omit top-level items in the LIO tree. For example, if you have seasoning that has a percent breakdown of “salt,” “pepper,” and “cinnamon” and you select this format, the resulting tree will contain salt, pepper, and cinnamon.

Multi-part Statement (Level 1)—Shows you all the levels in the LIO tree, as shown in figure 7-3, on page 7-4. In the example above, if you selected the “Multi-part Statement (Level 1)” format, you would see “seasoning” with “salt,” “pepper,” and “cinnamon” as child items.

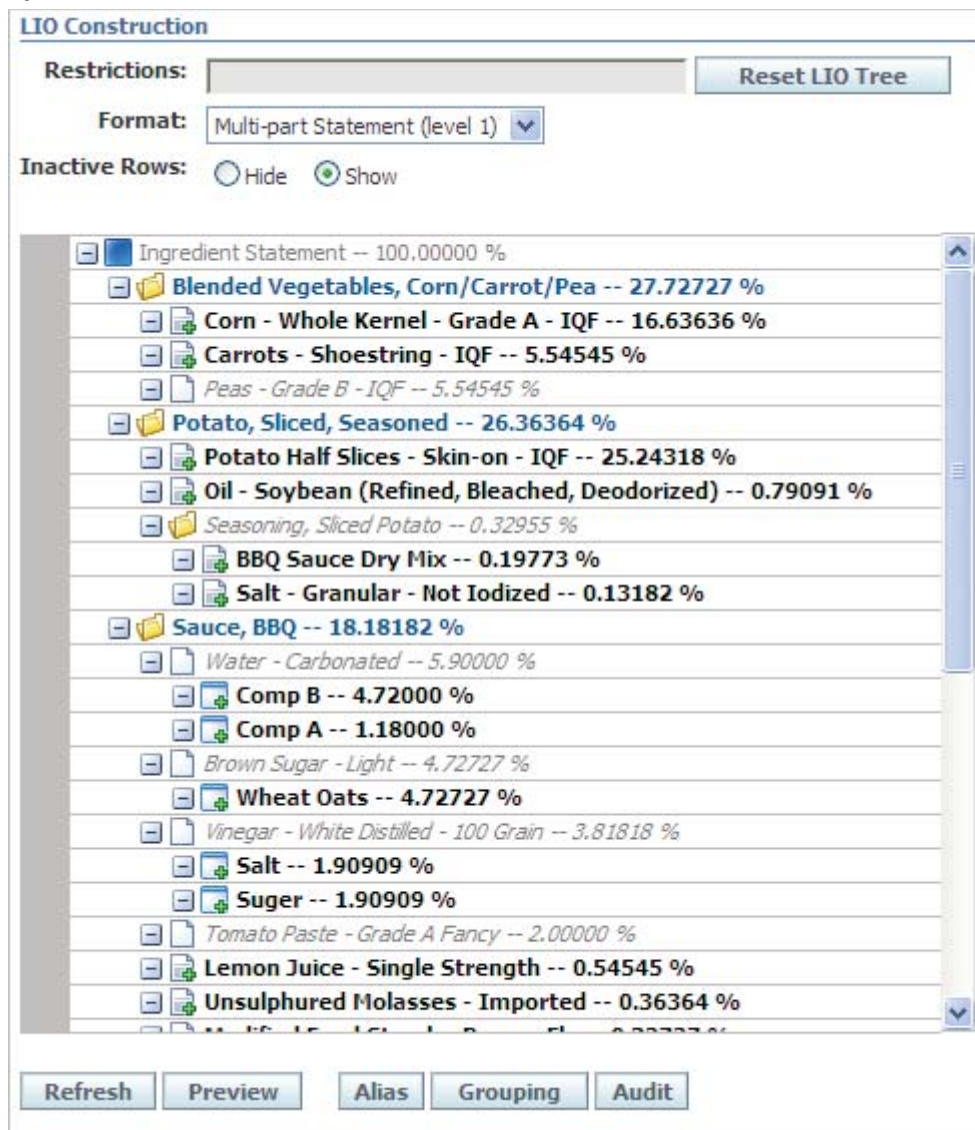
Inactive Rows

Use the Inactive Rows field to choose whether the tree will display or hide rows that are inactive. Hiding inactive rows is especially helpful if you are trying to pinpoint exactly what data will be shown in the ingredient statement.

Using the LIO Tree

Once you have defined the restrictions, format, and inactive row handling, click **Generate LIO Tree** to have the system create the requested tree, as shown in figure 7-3 below.

Figure 7-3: LIO tree

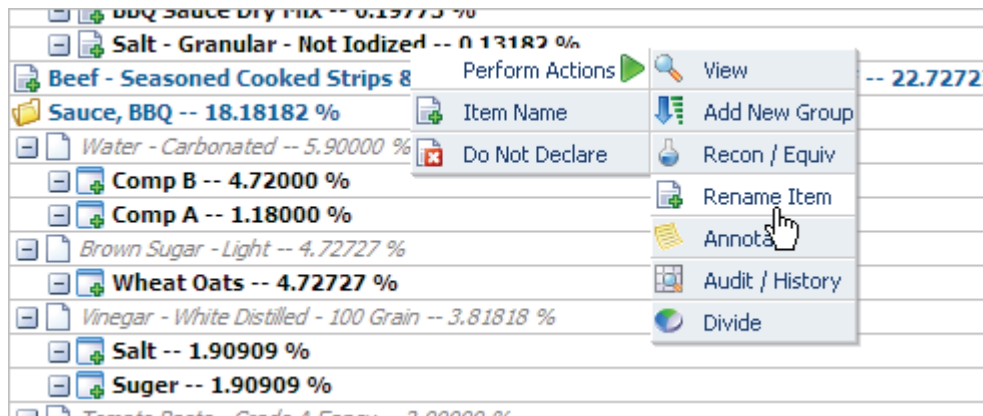


DWB displays the tree directly under the inactive row handling information and will display the entire formula tree.

Each item within the tree represents a material that may be considered for inclusion in the final ingredient statement. Each LIO item is represented by an icon indicating its type and current method of disclosure and includes its relative percent composition (yield based) within the final formula.

In the LIO tree, you can right-click an individual LIO item to reveal a number of declaration options/actions that you can use during LIO construction, as shown in figure 7-4 below.

Figure 7-4: LIO right-mouse menu



These options are contextual based on the type of item selected and the data inherited from its underlying specification, DWB profile, and the currently selected labeling restrictions. Using the described options/actions, you can build your ingredient statement.

Declaration Options and Actions

The table below describes the various presentations/methods for disclosing each LIO item and the corresponding declaration options and actions available:

Table 7-1: Declaration options/actions





Icon	Current Method for Disclosure	Declaration Options/Actions
	Base level for LIO authoring (does not appear in LIO)	Perform Action > Add new Group
	Mfg Process/Recipe that is listed as a single item in the LIO	Perform Action > View Perform Action > Add new Group Perform Action > Recon/Equiv Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name List ... x, y List ... i (x, y) List ... i (x%, y%) Do NOT Declare
	Mfg Process/Recipe that is broken out into separate subitems in the LIO	Perform Action > View Perform Action > Add new Group Perform Action > Recon/Equiv Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name List ... x, y List ... i (x, y) List ... i (x%, y%) Do NOT Declare
	Mfg Process/Recipe that is flagged as “Do NOT Declare” and will not appear in the LIO	Perform Action > View Perform Action > Add new Group Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Item Name List ... x, y List ... i (x, y) List ... i (x%, y%) Do NOT Declare

Table 7-1: Declaration options/actions (continued)








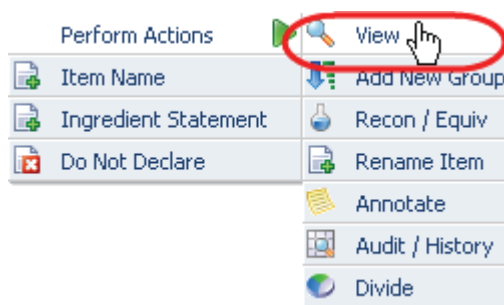
Icon	Current Method for Disclosure	Declaration Options/Actions
	Ingredient that is listed as a single item in the LIO	Perform Action > View Perform Action > Add new Group Perform Action > Recon/Equiv Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name Ingredient Statement Do NOT Declare
	Ingredient that is broken out into separate subitems in the LIO	Perform Action > View Perform Action > Add new Group Perform Action > Recon/Equiv Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name Ingredient Statement List ... x, y List ... i (x, y) List ... i (x%, y%) Do NOT Declare
	Ingredient that is flagged as “Do NOT Declare” and will not appear in the LIO	Perform Action > View Perform Action > Add new Group Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name Ingredient Statement Do NOT Declare
	Component that is listed as a single item in the LIO	Perform Action > View Perform Action > Refer to FIC Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name Do NOT Declare

Table 7-1: Declaration options/actions (continued)

Icon	Current Method for Disclosure	Declaration Options/Actions
	Component that is listed as a single item in the LIO and whose title has been manually edited	Perform Action > View Perform Action > Refer to FIC Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name Do NOT Declare
	Component that is flagged as “Do NOT Declare” and will not appear in the LIO	Perform Action > View Perform Action > Refer to FIC Perform Action > Rename Item Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name Do NOT Declare
	Group that has been added during the LIO process	Perform Action > Add new Group Perform Action > Rename Item Perform Action > Delete Group Perform Action > Annotate Perform Action > Audit/History Perform Action > Divide Item Name List ... x, y List ... i (x, y) List ... i (x%, y%) Do NOT Declare

Right Menu Actions

View



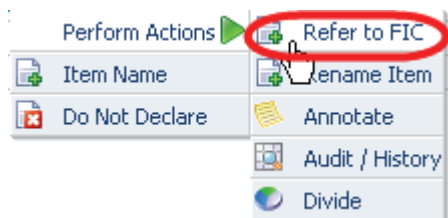
In the case of ingredients and Mfg Processes, click **View** to refer to the corresponding specification in GSM. In the case of Food Item Catalog components, click **View** to refer to the corresponding FIC Profile of the item.

Add New Group



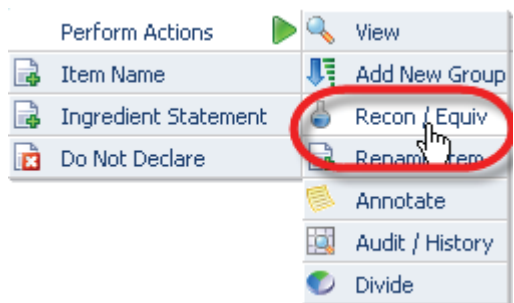
Click this menu option to create a new group directly under the current item. Once the group is created, you can delete it (if empty) or relocate it via drag-and-drop.

Refer to FIC



Click this menu option to consider other options for disclosure based on the Food Item Catalog profile of the current item. See Chapter 6, *Creating Ingredient Statements*, for more information.

Recon/Equiv



Click this menu option to work with reconstitution and equivalency factors that will adjust the moisture content of the current item. Initially, DWB will display the dialog box shown in figure 7-5 below:

Figure 7-5: Reconstitute Items, moisture

Reconstitute Item	Target % Water	% Yield	% Total Solids	Water	% Water
Salt - Granular	0.00000	0.182 %	100.00000 %	0.00000 g	0.00000 %
	% Water				

Source Item	Using % From Yield	Total Solids	Water	% Water
X887		5.54545 %	98.00000 %	0.34586 g
				2.00000 %


From this dialog box you can manually adjust the moisture content for the selected item. To do so, first define a target “%Water” or “Factor,” and then declare one or more items from which to source the moisture. If one or more conversion factors have been previously defined for the current item, you can access/select a predefined factor by clicking the import data icon (), which DWB will display to the right of the field in the Reconstitute Item column. Click the icon to open the dialog box shown in figure 7-6 below.

Figure 7-6: Reconstitution/Equivalency

Item Name	Target %/Factor	Comments
Lycopene slurry	80.00000 % Water	

The Reconstitution/Equivalency Options for a given item are managed within the item’s corresponding DWB profile. (See [Profiles](#) on page 2-1 for more information.) DWB will use the selected factor/target % to populate the matrix as shown in figure 7-7 below.

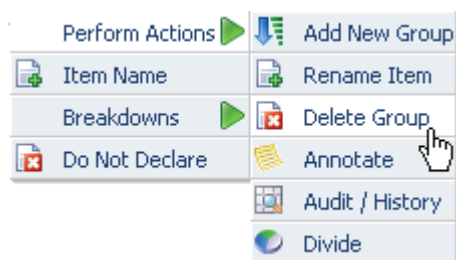
Figure 7-7: Reconstitute Items with Source Item table

Reconstitute Item	Target % Water	% Yield	% Total Solids	Water	% Water
tomato paste	0.00000	9.11111%	100.00000 %	0.1101 g	0.00000 %
	% Water				

Source Item	Using % From	Yield	Total Solids	Water	% Water
copy of CACS Water		0.51151 %	0.00000 %	3.21818 g	100.00000 %
Water - Carbonated		1.51155 %	0.00000 %	9.48834 g	100.00000 %

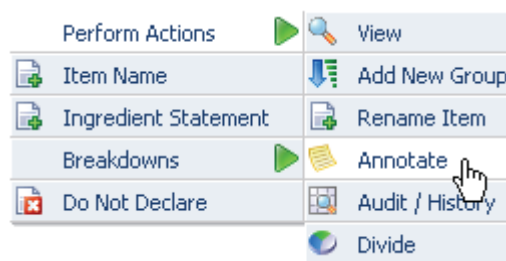
Enter the source from which to get the water necessary for performing the reconstitution and click **Done**. The results of your reconstitution appear in the LIO tree.

Delete Group



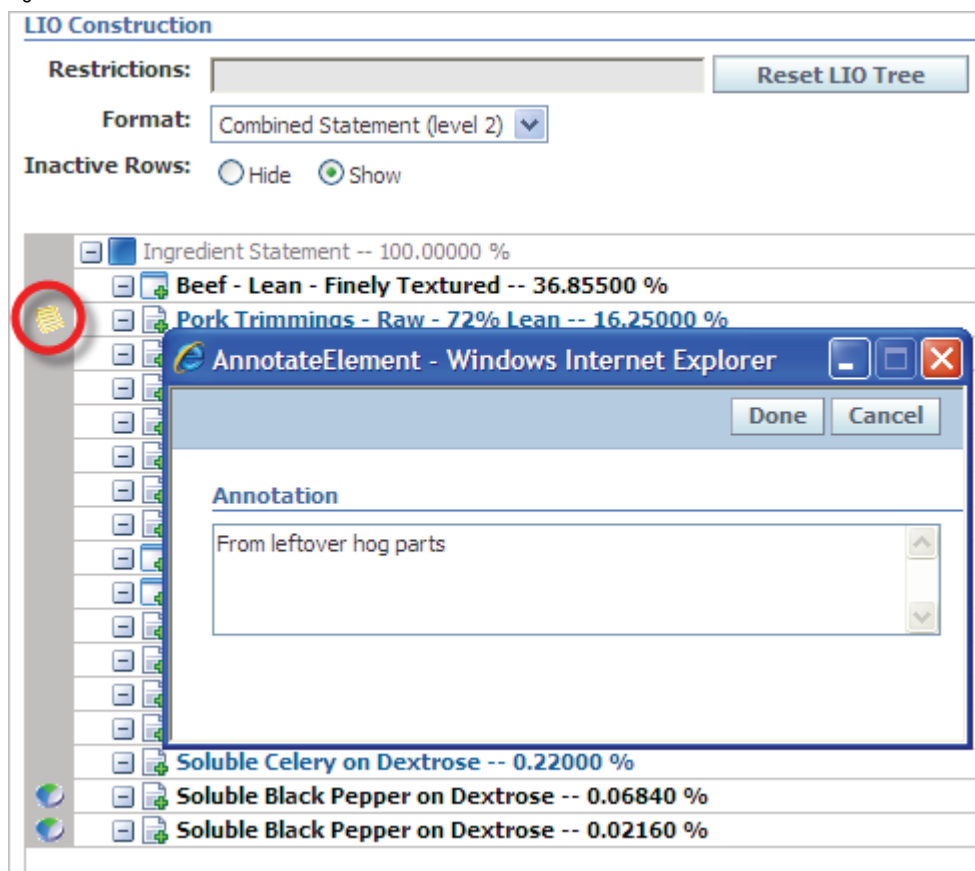
Click this menu option to delete the selected group. You can delete a group only if it has no subitems.

Annotate

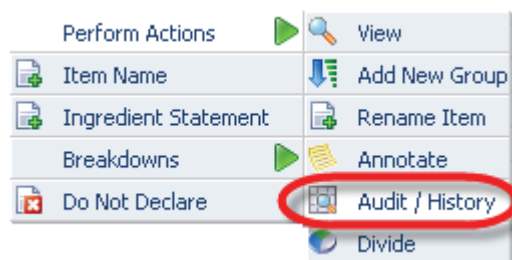


Click this menu option to add a narrative comment to the item. Annotations are typically used to provide additional explanation/rationale to help others understand the decisions made during the LIO process. Any item containing an annotation will be denoted with a special icon in the left margin of the LIO tree, as shown in figure 7-8 below.

Figure 7-8: Annotation



Audit/History



Click this menu option to get an accounting of the current disclosure method and any relevant actions that have been performed against the selected item.

DWB displays a dialog box as shown in figure 7-9 below.

Figure 7-9: Audit/History dialog box

Close

Current Item

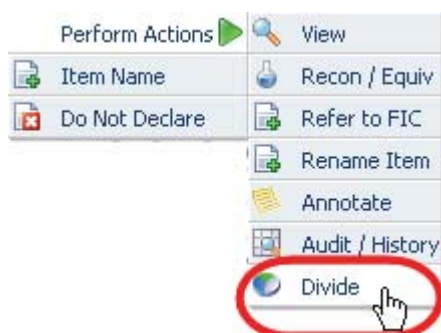
Original Item: Water - Carbonated
Reference: ing (5077462-001)
Disclose As: Water
Method: Ingredient Statement
Annotation:


Audit History

Date	Item Name	Element Reference	% of Yield	Declaration	High Level Action	Source	Destination	Message
12/4/2007 4:10 PM	Water - Carbonated	ing (5077462-001)	0.03907 %	Ingredient Statement	Declaration			Changed Declaration Method from 'List ... x, y' to 'Ingredient Statement'
12/4/2007 4:11 PM	Water - Carbonated	ing (5077462-001)	3.86791 %	Ingredient Statement	Divide	Water - Carbonated ing (5077462 001)		Item Divided into [Water - Carbonated] - 99.00000 % and [Water - Carbonated] - 1.00000 %
12/4/2007 4:11 PM	Water		4.26796 %	Item Name	Divide	Water - Carbonated ing (5077462 001)		Item Divided into [Water] - 99.00000 % and [Water] - 1.00000 %
12/4/2007 4:11 PM	Water		0.13200 %	Item Name	Divide	Water - Carbonated ing (5077462 001)		Item Divided into [Water] - 99.00000 % and [Water] - 1.00000 %
12/4/2007 4:11 PM	Carbonation		0.04444 %	Item Name	Divide	Water - Carbonated ing (5077462 001)		Item Divided into [Carbonation] - 99.00000 % and [Carbonation] - 1.00000 %

Note The Action Performed column of the Audit/History dialog box will be recorded in the user's currently selected language and will not be language aware.

Divide



Click this menu option to create a new instance of the current item based on a percent or quantity of the original item (that is, to split an item into two separate instances). DWB prompts you to indicate a percentage or a quantity. Once you have created the new item, it will appear at the same level as the original item in the LIO hierarchy and you can move it via drag-and-drop to another area. Any item affected by a “divide” action will be flagged with a special divide icon () in the LIO tree view margin.

Declaration Descriptions

Item Name

Click this option to list the item as a single entry in the LIO using the default name of the current item.

Ingredient Statement

Click this option to list the item as a single entry in the LIO using the ingredient statement of the current item (if available).

List... x, y

Click this option to suppress the current item in the LIO disclosure and create individual entries for each lower level item, that is, “item one, item two, item three.” For ingredients with multiple %Breakdown values, there may be multiple options (the term “List” is replaced with the first 25 characters of each corresponding %Breakdown value, for example, “From Supplier... x, y,” “Canada Only ... x, y,” and so on).

List... i (x, y)

Click this option to disclose as a combined statement using the current item and its lower-level items, that is, “Item Name (item one, item two, item three)”. For ingredients with multiple %Breakdown values, there may be multiple options (the term “List” is replaced with the first 25 characters of each corresponding %Breakdown value, for example, “From Supplier... i (x, y),” “Canada Only... i (x y),” and so on).

List... i (x%, y%)

Click this option to disclose as a combined statement with percentage using the current item and its lower-level items, for example, “Item Name (item one 50%, item two 25%, item three 25%).” For ingredients with multiple %Breakdown values, there may be multiple options (the term “List” is replaced with the first 25 characters of each corresponding %Breakdown value, for example, “From Supplier ... i (x%, y%),” “Canada Only ... i (x%, y%),” and so on).

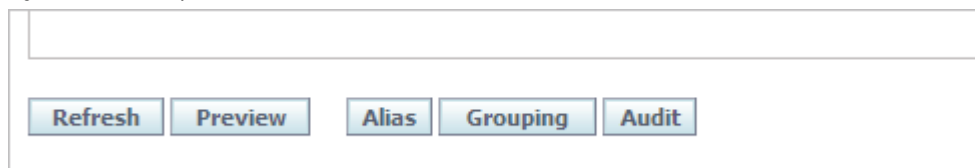
Do NOT Declare

Click this option to not disclose this item in the LIO. Items marked as “Do NOT Declare” will not appear in the final ingredient statement.

LIO Operations

During the LIO process, you can perform a number of operations using the row of buttons beneath the LIO tree view, shown in figure 7-10 below.

Figure 7-10: LIO Operations button



Refresh Operation

For performance reasons, many of the declaration options and actions are not executed immediately within the LIO tree view. Click **Refresh** to perform multiple actions before posting the tree view back to the server for rendering. Once a Declaration Option/Action has been selected, the affected LIO item will be flagged to inform you that a change will occur upon the next refresh.

When you click **Refresh**, DWB posts the tree view back to the server for processing and re-renders it to reflect the desired changes.

Preview Operation

When you click **Preview**, DWB opens a dialog box with a table in it, shown in figure 7-11 below. This table indicates the order in which each LIO item will appear in the final ingredient statement.

Figure 7-11: Preview

Preview			
#	% of Yield	Per Serving	Declared As
1	44.65500 %	0.11164 lb	Beef - Lean - Finely Textured
2	19.96649 %	0.04992 lb	Water - Carbonated
3	16.25000 %	0.04063 lb	Pork Trimmings - Raw - 72% Lean
4	4.97000 %	0.01243 lb	Textured Soy Flour - Caramel Colored
5	4.37000 %	0.01093 lb	Breading - NW #B34216
6	2.50000 %	0.00625 lb	Soy Protein Concentrate - Powdered
7	2.04750 %	0.00512 lb	flavors
8	2.04750 %	0.00512 lb	Onion Salt
9	1.04000 %	0.00260 lb	Salt - Granular - Not Iodized
10	0.87351 %	0.00218 lb	Onion - Chopped - Dehydrated
11	0.72000 %	0.00180 lb	Caramel Color - Acid Proof - Single Strength
12	0.25000 %	0.00063 lb	Sodium Tripolyphosphate
13	0.22000 %	0.00055 lb	Soluble Celery on Dextrose
14	0.09000 %	0.00023 lb	Soluble Black Pepper on Dextrose
	100.00000 %	0.25000 lb	

In addition, the Preview section shows the adjusted percent yield of each item (based on suppressed items) and its relative weight/volume per serving.

Note The preview will automatically combine like items (including group designations) based on LIO item name in the currently selected language.

Alias/FIC Operation

Click **Alias/FIC** to open the aliasing dialog box shown in figure 7-12 below.

Figure 7-12: Aliasing dialog box

Term or Alias		Disclosure	Priority	Constraints
flavors -- 2.04750 %	<input type="checkbox"/>	Flavors		>= 0.00000 % Total Solids <= 100.00000 % Total Solids > 0.00000 % Composition
Onion Salt -- 2.04750 % fic (1000046)	<input type="checkbox"/>	Onions	Req	>= 0.00000 % Total Solids <= 100.00000 % Total Solids > 0.00000 % Composition

The aliasing dialog box provides you with options for aliasing based on the labeling rules of each item derived from its corresponding Food Item Catalog Profile and its disclosures. DWB filters disclosure options based on matching restrictions and displays them in order of priority (also defined within the FIC Profile). See Chapter 7, *Food Item Catalog*, for more information.

Grouping Operation

Click **Grouping** to display the grouping dialog box shown in figure 7-13 below.

Figure 7-13: Grouping dialog box

Target Group		LIO Item	Priority	Constraints
Onion Group (fromFICProfile)	<input type="checkbox"/>	Onion Salt -- 2.04750 % fic (1000046)	Req	>= 0.00000 % Total Solids <= 100.00000 % Total Solids > 0.00000 % Composition
Test Group (fromFICProfile)	<input type="checkbox"/>	flavors -- 2.04750 %	Req	>= 0.00000 % Total Solids <= 100.00000 % Total Solids > 0.00000 % Composition

The grouping dialog box provides you with options for grouping based on each the labeling rules of each item derived from its corresponding FIC Profile and its groupings. DWB filters grouping options based on matching restrictions and displays them in order of priority (also defined within the FIC Profile). See Chapter 7, *Food Item Catalog*, for more information.

Note You can manually group LIO items using the drag-and-drop feature.

Audit Operation

Similarly to the preview operation, the audit operation opens a dialog box with a table that denotes the percent composition of each item with an accounting of the current disclosure method and any relevant actions that have been performed against that item (see figure 7-14 below).

Figure 7-14: Audit Operation

Close								
Audit History								
Date	Item Name	Element Reference	% of Yield	Declaration	High Level Action	Source	Destination	Message
12/1/2006	Soluble Black Pepper on Dextrose	ing (5077447-001)	0.06840 %	Item Name	Move		Beef Trimming Raw - 50% Lean - Domestic ing (5077449-	Moved from [RootLevel Raw - 50% Lean - Domestic] to [Beef Trimmings - Raw 50% Lean - Domestic]
12/1/2006	Soluble Black Pepper on Dextrose	ing (5077447-001)	0.02160 %	Item Name	Divide	Soluble Black Pepper on Dextrose ing (5077447-001)		Item Divided into [Soluble Black Pepper on Dextrose - 24.00000 % and [Soluble Black Pepper on Dextrose] - 76.00000 %]
12/1/2006	Soluble Black Pepper on Dextrose	ing (5077447-001)	0.02160 %	Item Name	Move		Onions, Reconstituted to [Onions, dwb (5001396	Moved from [RootLevel Reconstituted] to [Onions, Reconstituted]
12/1/2006	Soluble Black Pepper on Dextrose		0.02160 %	Item Name	Divide	Soluble Black Pepper on Dextrose ing (5077447-001)		Item Divided into [Soluble Black Pepper on Dextrose - 24.00000 % and [Soluble Black Pepper on Dextrose] - 76.00000 %]

Note The “High Level Action” column of the Audit/History table will be recorded in English and will not be language aware.

Once you have performed all required actions on your tree, click the Final Statement tab to finalize your ingredient statement.

Final Statement Tab

In the Final Statement tab you can further edit the generated statement for final label production. Once you have completed the LIO construction process, you can produce and edit the final ingredient statement using features found within the tab, as shown in figure 7-15 below.

Figure 7-15: Final Statement tab

Summary **Formulation** **Trade Item** **Optimization** **Nutrients/Properties** **Compliance** **LIO** **Supporting Document**

LIO Construction **Final Statement**

Ingredient Statement Options

Format: Combined Statement (level 2) ▼

Style: Linear ▼

Other: Contains less than 3% of the following: ▼

Final Ingredient Statement

Generated LIO: Beef - Lean - Finely Textured, Water - Carbonated, Pork Trimmings - Raw - 72% Lean, Textured Soy Flour Colored, Breeding - NW #B34216, Contains less than 3% of the following: Soy Protein Concentrate - Powder, Onion Salt, Salt - Granular - Not Iodized, Onion - Chopped - Dehydrated, Caramel Color - Acid Proof Strength, Sodium Tripolyphosphate, Soluble Celery on Dextrose, Soluble Black Pepper on Dextrose

Final Statement: Beef - Lean - Finely Textured, Water - Carbonated, Pork Trimmings - Raw - 72% Lean, Textured Soy Flour Colored, Breeding - NW #B34216, Contains less than 3% of the following: Soy Protein Concentrate - Powder, Onion Salt, Salt - Granular - Not Iodized, Onion - Chopped - Dehydrated, Caramel Color - Acid Proof Strength, Sodium Tripolyphosphate, Soluble Celery on Dextrose, Soluble Black Pepper on Dextrose

Copy/Edit

When editing the final statement, you can modify the statement using the Format, Style and Other fields.

Format Field

DWB supports the following formats:

Multi-part Statement (level 1)—Creates a multi-part statement using level one items as primary headers

Combined Statement (level 2)—Creates a single, combined statement using all items beginning at level 2 within the LIO hierarchy

Style Field

DWB supports the following styles:

Columnar—Arranges the final statement in a columnar list, separating each item with a new line

Columnar - Uppercase—Arranges the final statement in a columnar list, separating each item with a new line, and converts all text to upper case

Linear—Arranges the final statement as a linear paragraph

Linear - Uppercase—Arranges the final statement as a linear paragraph and converts all text to upper case

Contains Less than 2% of...—Inserts “Contains Less than 2% of:” at the appropriate point in the statement based on the percent composition of each item

Contains Less than 3% of...—Inserts “Contains Less than 3% of:” at the appropriate point in the statement based on the percent composition of each item

Once you have set the fields in the Ingredient Statement Options section and the generated LIO is displayed, you can click **Copy/Edit** to move the generated statement into the Final Statement page. At that time you can make any manual adjustments that are necessary.

Note The final statement is the one used when pushing data into GSM.

CHAPTER 8

Formulas

This chapter describes the capabilities and applied uses of the Design Workbench formulas function. Topics in this chapter include:

- ❑ *Analyzing Your Formulation*
 - ❑ *Optimizing Your Formulation*
 - ❑ *Comparing Your Formulation*
-

Analyzing Your Formulation

In a Design Workbench (DWB) specification at the top right of the page is a row of buttons. The **Analyze** button resides in this row. With the “analyze” feature you can view the results of your formulation in a variety of formats. This feature also serves as the print function, enabling you to save DWB information in Microsoft Excel™ spreadsheet format.

Click **Analyze** to display a dialog box with four tabs:

- ❑ *Recursive 100% Formulation Tab* on page 8-2
- ❑ *Exploded Formulation Tree Tab* on page 8-2
- ❑ *Flat Formulation Tree Tab* on page 8-3
- ❑ *Export Tab* on page 8-4

Recursive 100% Formulation Tab

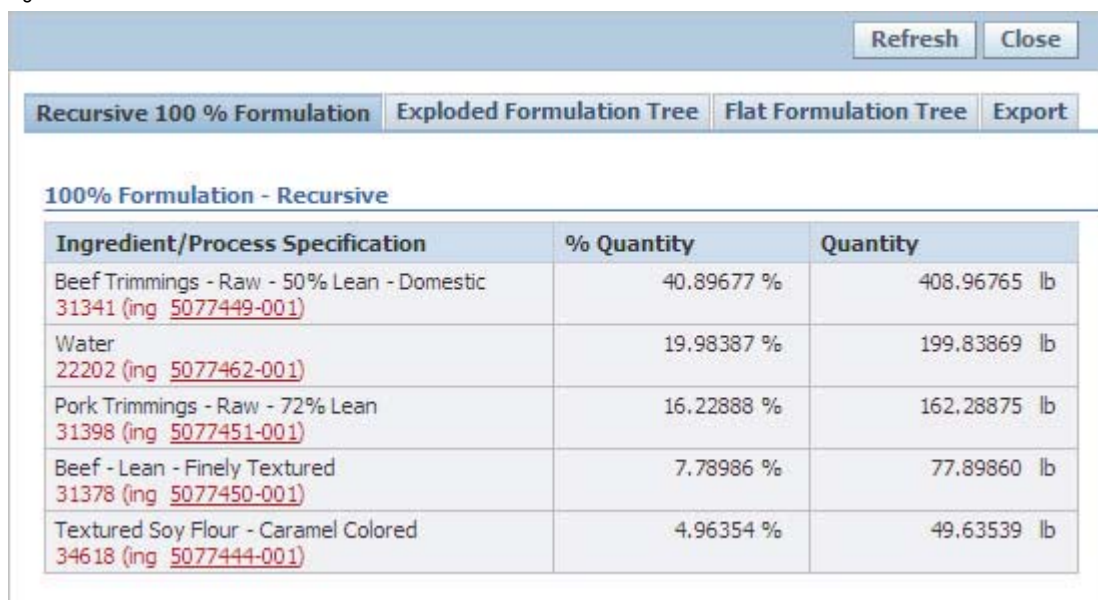
The Recursive 100% Formulation tab displays the 100% formulation of your DWB specification. As shown in figure 8-1 below, this table shows you the rollup of all ingredients in your DWB specification, including those included in intermediate process specifications. This view is composed of specification name, percent quantity, and total batch quantity values, identified by the following columns:

Ingredient/Process Specification—The name, the type, and the specification number for the ingredient specifications in your formula

% Quantity—The percentage of the whole that this ingredient makes up in your formula

Quantity—The value for this formula item in your formula

Figure 8-1: Recursive 100% Formulation tab



Ingredient/Process Specification	% Quantity	Quantity
Beef Trimings - Raw - 50% Lean - Domestic 31341 (ing 5077449-001)	40.89677 %	408.96765 lb
Water 22202 (ing 5077462-001)	19.98387 %	199.83869 lb
Pork Trimings - Raw - 72% Lean 31398 (ing 5077451-001)	16.22888 %	162.28875 lb
Beef - Lean - Finely Textured 31378 (ing 5077450-001)	7.78986 %	77.89860 lb
Textured Soy Flour - Caramel Colored 34618 (ing 5077444-001)	4.96354 %	49.63539 lb

Exploded Formulation Tree Tab

The Exploded Formulation Tree tab displays the hierarchical view of your formulation, as shown in figure 8-2 on page 8-3. This table shows you the entire formulation as it is tied together. This view is useful when the formulation contains intermediates and there is a need to see all various levels at which an item might be introduced. The Aggregate Formulation (Exploded View) table includes the following columns:

Specification—The name, type, and specification number for the ingredient specifications in your formula

Quantity—The value for this formula item in your formula

Running Total—The percent of the whole that this ingredient makes up in your formula

Figure 8-2: Exploded Formulation Tree tab

Recursive 100 % Formulation Exploded Formulation Tree Flat Formulation Tree Export		
Refresh Close		
Aggregate Formulation (Exploded View)		
Ingredient/Process Specification	Quantity	Running Total
Meat Mix, Salisbury Steak, 15% Pork (dwb 5001394-001)	998.70000 lb	99.87000 %
... Beef Trimmings - Raw - 50% Lean - Domestic 31341 (ing 5077449-001)	408.96765 lb	40.89677 %
... Pork Trimmings - Raw - 72% Lean 31398 (ing 5077451-001)	162.28875 lb	16.22888 %
... Water 22202 (ing 5077462-001)	155.79720 lb	15.57972 %
... Beef - Lean - Finely Textured 31378 (ing 5077450-001)	77.89860 lb	7.78986 %
... Onions, Reconstituted (dwb 5001396-001)	52.33188 lb	5.23319 %
... ... Water 22202 (ing 5077462-001)	43.60816 lb	4.36082 %
... ... Onion - Chopped - Dehydrated 34082 (ing 5077484-001)	8.72372 lb	0.87237 %
... Textured Soy Flour - Caramel Colored 34618 (ing 5077444-001)	49.63539 lb	4.96354 %
... Breeding - NW #B34216 30757 (ing 5077448-001)	43.64319 lb	4.36432 %

Flat Formulation Tree Tab

The Flat Formulation Tree tab, shown in figure 8-3, displays the formulation as discreet items. This table shows you the entire formulation exactly as it exists in the formulation. It includes the following columns:

Specification—The name, type, and specification number for the ingredient specifications in your formula

Quantity—The value for this formula item in your formula

Running Total—The percent of the section that the ingredient is included in your formula

Figure 8-3: Flat Formulation Tree option

Refresh Close		
Recursive 100 % Formulation	Exploded Formulation Tree	Flat Formulation Tree Export
Aggregate Formulation (Flat View)		
Salisbury Steak - (dwb 5001393 -001)		
Ingredient/Process Specification	Quantity	Running Total
Meat Mix, Salisbury Steak, 15% Pork (dwb 5001394-001)	998.70000 lb	99.87000 %
Color Solution - BQT (dwb 5001395-001)	1.30000 lb	0.13000 %
Color Solution - BQT - (dwb 5001395 -001)		
Ingredient/Process Specification	Quantity	Running Total
Caramel Color - Acid Proof - Single Strength 34493 (ing 5077424-001)	0.19656 kg	0.04333 %
Water 22202 (ing 5077462-001)	0.19656 kg	0.04333 %
Meat Mix, Salisbury Steak, 15% Pork - (dwb 5001394 -001)		
Ingredient/Process Specification	Quantity	Running Total
Beef Trimmings - Raw - 50% Lean - Domestic 31341 (ing 5077449-001)	408.96765 lb	40.89677 %
Pork Trimmings - Raw - 72% Lean 31398 (ing 5077451-001)	162.28875 lb	16.22888 %

Export Tab

Figure 8-4 shows the Export tab, which acts as the print function for DWB. In this tab you can define which views/types of information to include in the Excel-formatted printout. To export your data to Excel, click the **Export** tab, check the boxes next to the items to include, and then click **Export** at the bottom of the list. DWB exports the selected data into a Microsoft Excel spreadsheet and asks whether to download the file or open it.

Figure 8-4: Export tab

The screenshot shows a software window titled "Export" with a light blue header bar. In the top right corner of the header bar are two buttons: "Refresh" and "Close". Below the header bar is a tabbed interface with four tabs: "Recursive 100 % Formulation", "Exploded Formulation Tree", "Flat Formulation Tree", and "Export". The "Export" tab is currently selected and highlighted. Below the tabs is a section titled "Export To Excel" with a thin blue border. Inside this section is a list of eight items, each preceded by an unchecked checkbox: "Recursive 100 % Formulation", "Exploded Formulation Tree", "Flat Formulation Tree", "Formula Cost", "Packaging Configuration", "Approximate Yield", "Nutrient Analysis", and "Compliance Information". At the bottom left of the "Export To Excel" section is an "Export" button.

When you are finished exporting data to Excel, click **Close** in the top right corner to close the Analyze dialog box and return to the main DWB specification.

Optimizing Your Formulation

You can use the Design Workbench linear optimization algorithm to optimize your formulation. The optimization engine runs against a user-defined objective and other rules that you create called constraints.

You can design these constraints against extended attributes, cost, nutrition, and formulation composition. As shown in figure 8-5, the Optimization tab is composed of three sections:

- ❑ Constraints
- ❑ Guidelines
- ❑ Optimization Method

Figure 8-5: Optimization tab

Edit
Create New Copy
Compare
CACS
Analyze
Item History
DWB » GSM

Workbench Specification

Summary
Formulation
Trade Item
Optimization
Nutrients/Properties
Compliance
LIO
Support

Constraints

Type	Condition	Design Conformance
1 Objective	Minimize Cost - Display per 100g (sold)	0.00000 USD per 100g (sold)

Guidelines

Ingredient/Process Specification Equivalent (Type Prodika #)	Yield	Scalability ▲▲ Limit	Scalability ▲ Control	Scalability ▼ Control	Scalability ▼▼ Limit	Adjust	Last Optimization
1 Meat Mix, Salisbury Steak, 15% Pork (dwb 5001394-001)	1.70 lb	30.0000%	15.0000%	15.0000%	30.0000%		<div style="width: 100%; height: 10px; background-color: green;"></div> 0.00000%
2 Color Solution - BQT (dwb 5001395-001)	1.30 lb	30.0000%	15.0000%	15.0000%	30.0000%		<div style="width: 100%; height: 10px; background-color: green;"></div> 0.00000%

Optimization Method

Formulation	Constraints
<input checked="" type="radio"/> Minimize Change	<input checked="" type="radio"/> All Constraints Required
<input type="radio"/> Emphasize Objective	<input type="radio"/> Incremental Constraints

Objectives and Constraints

In the Constraints section you can build rules for the optimization engine to use when searching for an optimal formulation. The Constraint table includes a Type, Condition, and Design Conformance column. In the Type column you can describe what kind of constraint you are adding and in the Condition column you can describe the details about the constraint. DWB calculates the value in the Design Conformance column based on data that is on the specification and shows what level of conformance your specification is in currently with regard to that constraint.

The first rule that you must define is the objective constraint. The system automatically includes the objective constraint place holder. This objective is the main goal for your optimization scenario. You will need to define the objective. To edit the objective place holder constraint, click **Edit** in the upper right corner of the page to place the specification in edit mode. Figure 8-6 through figure 8-10 illustrate the process of editing the specification.

Figure 8-6: Constraints section

Constraints					
	Type	Condition	Design Conformance		
	1 Objective	Minimize Cost - Display per 100g (sold)	0.00000 USD per 100g (sold)		
	2 Ingredient Cost	<= 0.00000 USD per 100g (sold)			
	3 Extended Attribute	--- <= 0.00000 --- per 100g (prep)			
Add New					

Click the edit icon () on your objective constraint, as shown in figure 8-6.

Figure 8-7: Edit mode

Constraints					
	Type	Condition	Design Conformance		
	1 Objective	Minimize Cost - Display per 100g (sold)			
	2 Ingredient Cost	Minimize Cost	0.00000 USD per 100g (sold)		
	3 Extended Attribute	Minimize Nutrient			
Add New					

Define the objective of your optimization scenario. You can configure the objective constraint to any one of the following, which are further explained below:

- Minimize Cost
- Minimize/Maximize a Nutrient
- Minimize/Maximize an Extended Attribute

Minimize Cost—Optimize based on the cost of your formulation.

DWB can display this information per 100g (prep), per 100g (sold), per Serving (sold), per Consumer Unit (sold) or per Traded Unit.

Figure 8-8: Drop-down selection

Constraints					
	Type	Condition	Design Conformance		
	1 Objective	Minimize Cost - Display per 100g (sold)			
	2 Ingredient Cost	<= 0.00000 USD per 100g (sold)	0.00000 USD per 100g		
	3 Extended Attribute	--- <= 0.00000 --- per 100g (prep)			
Add New					

Minimize/Maximize a Nutrient—Optimize based on minimizing or maximizing a selected nutrient.

DWB pulls the nutrient list from the Nutrients/Properties tab. You can display this information per 100g (prep), per 100g (sold), per Serving (prep), per Serving (sold), per Consumer Unit (prep), per Consumer Unit (sold) or per Traded Unit.

Figure 8-9: Nutrient list

Type	Condition
1 Objective	Maximize Nutrient : --- - Display per 100g (sold)
2 Ingredient Cost	<= 0.00000 USD per 100g (sold)
3 Extended Attribute	<= 0.00000 --- per 100g (prep)

Calcium
Calories
Carbohydrates
Cholesterol
Dietary Fiber
Iron
Potassium
Protein

Add New

Minimize/Maximize an Extended Attribute—Optimize based on minimizing or maximizing a selected extended attribute.

DWB pulls the theoretical extended attribute list from the Nutrients/Properties tab. You can display this information per 100g (prep).

Figure 8-10: Extended attribute list

Type	Condition
1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)
2 Ingredient Cost	<= 0.00000 USD per 100g (sold)
3 Extended Attribute	<= 0.00000 --- per 100g (prep)

Wall Thickness

Add New

Once you have selected your optimization objective, click the apply changes icon (✓) to save your objective. DWB displays the current value for the objective in the Design Conformance column, as shown in figure 8-11 below.

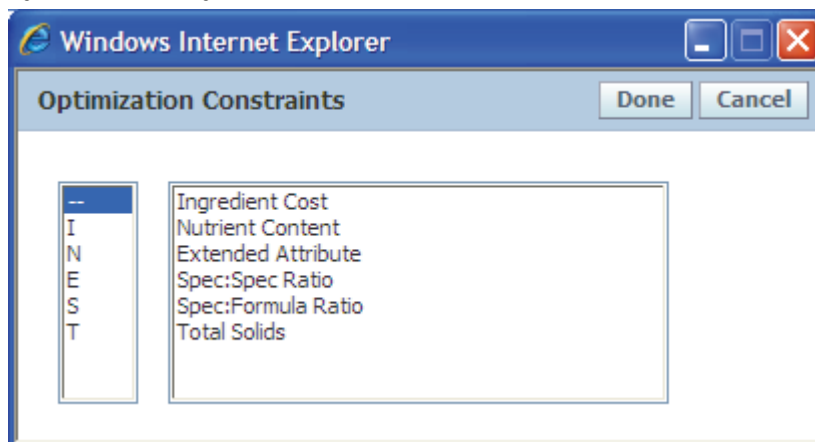
Figure 8-11: Constraints section

Type	Condition	Design Conformance
1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)	0.00000 USD per 100g (sold)
2 Ingredient Cost	<= 0.00000 USD per 100g (sold)	
3 Extended Attribute	<= 0.00000 --- per 100g (prep)	

Add New

After you have defined the objective of your optimization scenario, you can begin to build constraints to help the optimization engine produce a solution that is in line with your requirements. To add a new constraint, click **Add New**. A dialog box opens, as shown in figure 8-12 below, from which you can select the type of constraint you want to add.

Figure 8-12: Selecting a constraint



DWB supports the following constraint types:

- Ingredient Cost
- Nutrient Content
- Extended Attribute
- Spec: Spec Ratio
- Spec: Formula Ratio
- Total Solids

Ingredient Cost

Using the Ingredient Cost constraint type, you can set up a condition to monitor the total ingredient cost associated with your formula, as shown in figure 8-13 below.

Figure 8-13: Ingredient Cost constraint

Constraints					
	Type	Condition			Design Conformance
	1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)			
	2 Ingredient Cost	\leq	0.00000	USD	per 100g (sold)
	3 Extended Attribute	--- \leq 0.00000 --- per 100g (pr			
	4 Ingredient Cost	\leq	0.00000	USD	per 100g (sold)
Add New					

The Ingredient Cost constraint is composed of:

Operator—Logical operator used for comparison purposes. Options are:

- = (equal)
- <= (less than or equal)
- >= (greater than or equal)

Value—The value for cost that you want to optimize to.

UOM—The unit of measure for the cost.

Display as—DWB can display this information per 100g (prep), per 100g (sold), per Serving (sold), Consumer Unit (sold) or per Traded Unit.

Design Conformance—The current value of the constraint and an icon signifying if the constraint is met.

When you have finished creating the Ingredient Cost constraint, click the apply changes icon (✓) to save your row. DWB redisplay the row showing the current value in the Design Conformance column.

Nutrient Content

Using the Nutrient Content constraint type, you can set up a condition to monitor the amount of a selected nutrient associated with your formula, as shown in figure 8-14 below.

Figure 8-14: Nutrient Content

Constraints		
	Type	Condition
	1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)
	2 Nutrient Content	Cholesterol <= 50.00000 mg per Serving (sold)
	3 Extended Attribute	per 100g (prep)
	4 Ingredient Cost	per Serving (prep)
Add New		per Serving (sold) per Consumer Unit (prep) per Consumer Unit (sold) per Traded Unit

The Nutrient Content constraint is composed of:

Nutrient—The nutrient you want to constrain. DWB pulls the list of nutrients from the theoretical nutrients on the Nutrient/Properties tab.

Operator—Logical operator used for comparison purposes. Options are:

- = (equal)
- <= (less than or equal)
- >= (greater than or equal)

Value—The value for nutrient that you want to optimize towards.

UOM—The unit of measure for the nutrient.

Display as—DWB can display this information per 100g (prep), per 100g (sold), per Serving (prep), per Serving (sold), per Consumer Unit (prep), per Consumer Unit (sold) or per Traded Unit.

Design Conformance—The current value of the constraint and an icon signifying if the constraint is met.

When you have finished creating the Nutrient Content constraint, click the apply changes icon (✓) to save your row. DWB redisplayes the row showing the current value in the Design Conformance column.

Extended Attribute

Using the Extended Attribute constraint type, you can set up a condition to monitor the amount of a selected extended attribute associated with your formula, as shown in figure 8-15 below.

Figure 8-15: Extended Attribute constraint

Constraints		
	Type	Condition
	1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)
	2 Nutrient Content	Cholesterol <= 50.00000 mg per Serving (sold)
	3 Extended Attribute	Wall Thickness <= 1.115 mm per 100g (prep)
	4 Ingredient Cost	<= 0.00000 USD per --- (sold)
Add New		

The Extended Attribute constraint is composed of:

Extended Attribute—The extended attribute to constrain. DWB pulls the list of extended attributes from the theoretical extended attributes on the Nutrient/Properties tab.

Operator—Logical operator used for comparison purposes. Options are:

- = (equal)
- <= (less than or equal)
- >= (greater than or equal)

Value—The value for extended attribute that you want to optimize towards.

UOM—The unit of measure for the extended attribute.

Display as—DWB can display this information per 100g (prep).

Design Conformance—The current value of the constraint and an icon signifying if the constraint is met.

When you have finished creating the Extended Attribute constraint, click the apply changes icon (✓) to save your row. DWB redisplayes the row showing the current value in the Design Conformance column.

Spec to Spec Ratio

Using the Spec to Spec Ratio constraint type, you can set up a condition to ensure that proper ratios exist between two formula items, as shown in figure 8-16 below.

Figure 8-16: Spec to Spec Ratio constraint

Constraints		
	Type	Condition
	1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)
	2 Spec:Spec Ratio	<div>5077449-001 Beef Trimmings - Raw - 50% Lean - Domestic [1.00000] :</div> <div>5077451-001 Pork Trimmings - Raw - 72% Lean [0.76000]</div>
	3 Ingredient Cost	5077449-001 Beef Trimmings - Raw - 50% Lean - Domestic
	4 Extended Attribute	5077451-001 Pork Trimmings - Raw - 72% Lean
<div>Add New</div> <div> 5077462-001 Water 5077450-001 Beef - Lean - Finely Textured 5001396-001 Onions, Reconstituted 5077444-001 Textured Soy Flour - Caramel Colored </div>		

The Spec to Spec Ratio constraint is composed of:

Formula Item 1—The first formula item to monitor as part of the ratio. DWB pulls the list of specifications from the 100% rollup show on the Trade Item tab.

Value—The first part of the ratio.

Formula Item 2—The second formula item to monitor as part of the ratio. DWB pulls the list of specifications from the 100% rollup show on the Trade Item tab.

Value—The second part of the ratio.

Design Conformance—The current value of the constraint and an icon signifying if the constraint is met.

When you have finished creating the Spec to Spec Ratio constraint, click the apply changes icon () to save your row. DWB redisplay the row showing the current value in the Design Conformance column.

Spec to Formula Ratio

Using the Spec to Formula Ratio constraint type, you can set up a condition to ensure that proper ratios exist between a formula item and the entire formulation, as shown in figure 8-17 below.

Figure 8-17: Spec to Formula Ratio constraint

Constraints		
	Type	Condition
	1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)
	2 Spec:Formula Ratio	<div>5077449-001 Beef Trimmings - Raw - 50% Lean - Domestic [<=]</div> <div>0.23000 %</div> <div>[<=]</div>
	3 Ingredient Cost	<= 0.00000 USD per 100g (sold)
	4 Extended Attribute	--- <= 0.00000 --- per 100g (prep)
<div>Add New</div>		

The Spec to Formula Ratio constraint is composed of:

Formula Item—The formula item to monitor as part of the ratio to the whole. DWB pulls the list of specifications from the 100% rollout shown on the Trade Item tab.

Operator—Logical operator used for comparison purposes. Options are:

- = (equal)
- <= (less than or equal)
- >= (greater than or equal)

Value—The value for extended attribute to optimize towards.

UOM—The unit of measure for the extended attribute.

Display as—DWB can display this information per 100g (prep).







Design Conformance—The current value of the constraint and an icon signifying if the constraint is met.

When you have finished creating the Spec to Formula Ratio constraint, click the apply changes icon (✓) to save your row. DWB redisplay the row showing the current value in the Design Conformance column.

Total Solids

Using the Total Solids constraint type, shown in figure 8-18 below, you can set up a condition to monitor the total solids associated with your formula.

Figure 8-18: Total Solids constraint

Constraints			
	Type	Condition	Design Conformance
	1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)	
	2 Total Solids	>= 50.00000 %	
	3 Spec:Formula Ratio	5077449-001 Beef Trimmings - Raw - 50% Lean - Domestic >= 0.23000%	 40.95000%
	4 Ingredient Cost	<= 0.00000 USD per 100g (sold)	 0.00000 USD per 100g (so
	5 Extended Attribute	Wall Thickness >= 13.00000 mm per 100g (prep)	 13.51350 mm per 100g (pr
Add New			

The Total Solids constraint is composed of:

Operator—Logical operator used for comparison purposes. Options are:

- = (equal)
- <= (less than or equal)
- >= (greater than or equal)

Value—The value for the Total Solids percentage to optimize against.

Design Conformance—The current value of the constraint and an icon signifying if the constraint is met.

When you have finished creating the Total Solids constraint, click the apply changes icon (✓) to save your row. DWB redisplay the row showing the current value in the Design Conformance column.

Ordering





Once you have created all of the constraints to guide the optimization engine, you can order them using the re-order row icons ( ) at the right side of each constraint row. Click the re-order row upwards icon () to move the constraint toward the top of the list and the re-order row downwards icon () to move it toward the bottom of the list. The order of constraints represents the rank (priority) of the constraints during optimization (see figure 8-19, below).

Figure 8-19: Ordering constraints

Constraints					
	Type	Condition	Design Conformance		
	1 Objective	Maximize Extended Attribute : --- - Display per 100g (prep)			
	2 Total Solids	>= 50.00000 %	 100.00000%		
	3 Ingredient Cost	<= <input type="text" value="0.00000"/> <input type="text" value="USD"/> per 100g (sold)			
	4 Extended Attribute	Wall Thickness >= 13.00000 mm per 100g (prep)	 13.51350 mm per 100g (prep)		
					

Guidelines Section










In the Guidelines section you can give the optimization engine additional information about how far it can go with certain items to reach a solution. You can supply the necessary information using scalability factors and the Adjust column. To edit the Guidelines section (see figure 8-20), you must be in edit mode on the specification. Once you are in edit mode, you can adjust guidelines on a formula item by clicking the edit icon () on each formula item.

Figure 8-20: Guidelines section

Guidelines								
	Ingredient/Process Specification Equivalent (Type Prodika #)	Yield	Scalability ▲▲ Limit	Scalability ▲ Control	Scalability ▼ Control	Scalability ▼▼ Limit	Adjust	Last Optimization
	1 Beef Trimmings - Raw - 50% Lean - Domestic 31341 (Ing 5077449-001)	15.50000 lb	30.0000%	15.0000%	15.0000%	30.0000%		 0.00000%
	2 Pork Trimmings - Raw - 72% Lean 31398 (Ing 5077451-001)	16.50000 lb	<input type="text" value="30.0000"/>	<input type="text" value="15.0000"/>	<input type="text" value="15.0000"/>	<input type="text" value="30.0000"/>	<input type="text" value=""/>	 0.00000%
	3 Water 22202 (Ing 5077462-001)	15.00000 lb	30.0000%	15.0000%	15.0000%	30.0000%	Fix Raise Lower	 0.00000%
	4 Beef - Lean - Finely Textured 31378 (Ing 5077450-001)	8.00000 lb	30.0000%	15.0000%	15.0000%	30.0000%		 0.00000%
	5 Onions, Reconstituted (dwb 5001396-001)	52.40000 lb	30.0000%	15.0000%	15.0000%	30.0000%		 0.00000%
	6 Textured Soy Flour - Caramel Colored 34618 (Ing 5077444-001)	9.70000 lb	30.0000%	15.0000%	15.0000%	30.0000%		 0.00000%

Scalability factors set upper and lower controls and limits on the optimization engine. The Scalability Control columns tell the optimization engine the range of adjustment that you are comfortable with. The Scalability Limit columns tell the optimization engine the biggest adjustment that you will enable it to make. In the Adjust column you can give the optimization engine even more granular information about how to handle each item during the optimization scenario. The available options in the Adjust drop-down list are:

Fix—Do not change this item’s yield.

Raise—Do not change this item’s yield in a negative manner.

Lower—Do not change this item’s yield in a positive manner.

The Last Optimization column shows the percent change due to the last optimization performed.

Optimization Method Section

In the Optimization Method section, shown in figure 8-21, you can further tailor the optimization scenario to meet your goals. You have control over the method that is used from a Formulation standpoint, as well as from a constraint standpoint.

Figure 8-21: Optimization Method section

Optimization Method	
Formulation	Constraints
<input type="radio"/> Minimize Change	<input checked="" type="radio"/> All Constraints Required
<input checked="" type="radio"/> Emphasize Objective	<input type="radio"/> Incremental Constraints

Formulation Column

The Formulation section is where you determine to what degree the optimization engine will use the scalability factors set in the Guidelines section. You can set it to either Minimize Change or Emphasize Objective.

Minimize Change—The optimization engine changes the formula as little as possible and uses the scalability controls as the boundaries.

Emphasize Objective—The optimization engine uses the scalability limits in addition to the scalability controls as the boundaries.

Constraints Column

The Constraints section is where you determine to what degree the optimization engine will use the constraints set in the Optimization Method section. You can set it to either “Incremental Constraints” or “All Constraints Required.”

Incremental Constraints—The optimization engine will meet as many of the constraints as possible. It processes the constraints based on their rank. The optimization scenario stops when a constraint fails to meet the defined criteria.


All Constraints Required—The optimization engine will meet every constraint defined.

Once you have defined all of the constraints, adjusted the necessary guidelines, and defined the optimization method, you can start your optimization scenario by clicking **Optimize** at the bottom of the page.

Figure 8-22: Constraints section with optimization error message




Workbench Specification

Summary Formulation Trade Item Optimization Nutrients/Properties Compliance LIO Supporting Docun

 **Error**






- No feasible solution exists

Constraints

	Type	Condition	Design Conformance
 1	Objective	Maximize Nutrient : --- - Display per 100g (sold)	
 2	Total Solids	= 0.66000 %	 99.95667%

[Add New](#)

Guidelines

	Ingredient/Process Specification Equivalent (Type Prodika #)	Yield	Scalability ▲▲ Limit	Scalability ▲ Control	Scalability ▼ Control	Scalability ▼▼ Limit	Adjust 	Last Optimization
 1	Meat Mix, Salisbury Steak, 15% Pork (dwb 5001394-001)	8.70000 lb	30.0000%	15.0000%	15.0000%	30.0000%		 0.00000%
 2	Color Solution - BQT (dwb 5001395-001)	1.30000 lb	30.0000%	15.0000%	15.0000%	30.0000%		 0.00000%

Optimization Method


Formulation	Constraints
<input checked="" type="radio"/> Minimize Change	<input checked="" type="radio"/> All Constraints Required
<input type="radio"/> Emphasize Objective	<input type="radio"/> Incremental Constraints

[Optimize](#) [Restore Last Optimization Snapshot](#)

The optimization engine will try to provide a solution to the optimization problem with the rules that you have defined. If the constraints are too aggressive, the optimization engine will be unable to find a feasible solution and will return an error message, as shown in figure 8-22.

If the optimization engine cannot find a feasible solution, make your constraints less restrictive and optimize again. When DWB has obtained an optimized solution, the system displays the changes that it has made in order to achieve the optimized solution, as shown in figure 8-23.

Figure 8-23: Optimized solution

Constraints				
		Type	Condition	Design Conformance
	1	Objective	Minimize Cost - Display per 100g (sold)	0.00000 USD per 100g (sold)
	2	Total Solids	≥ 22.72800 %	 29.54545%
Add New				

To return to the formulation prior to the last optimization, click **Restore Last Optimization Snapshot**.

Note The Restore Last Optimization Snapshot feature only returns you to the state immediately prior to the current optimization. If you optimize two times in a row, you cannot return to your original formula by using the Restore Last Optimization Snapshot feature. It is good practice to create a snapshot on your own before optimizing your formulation.

Comparing Your Formulation

Use the compare feature within DWB to compare the bill of materials across one or more of the following:

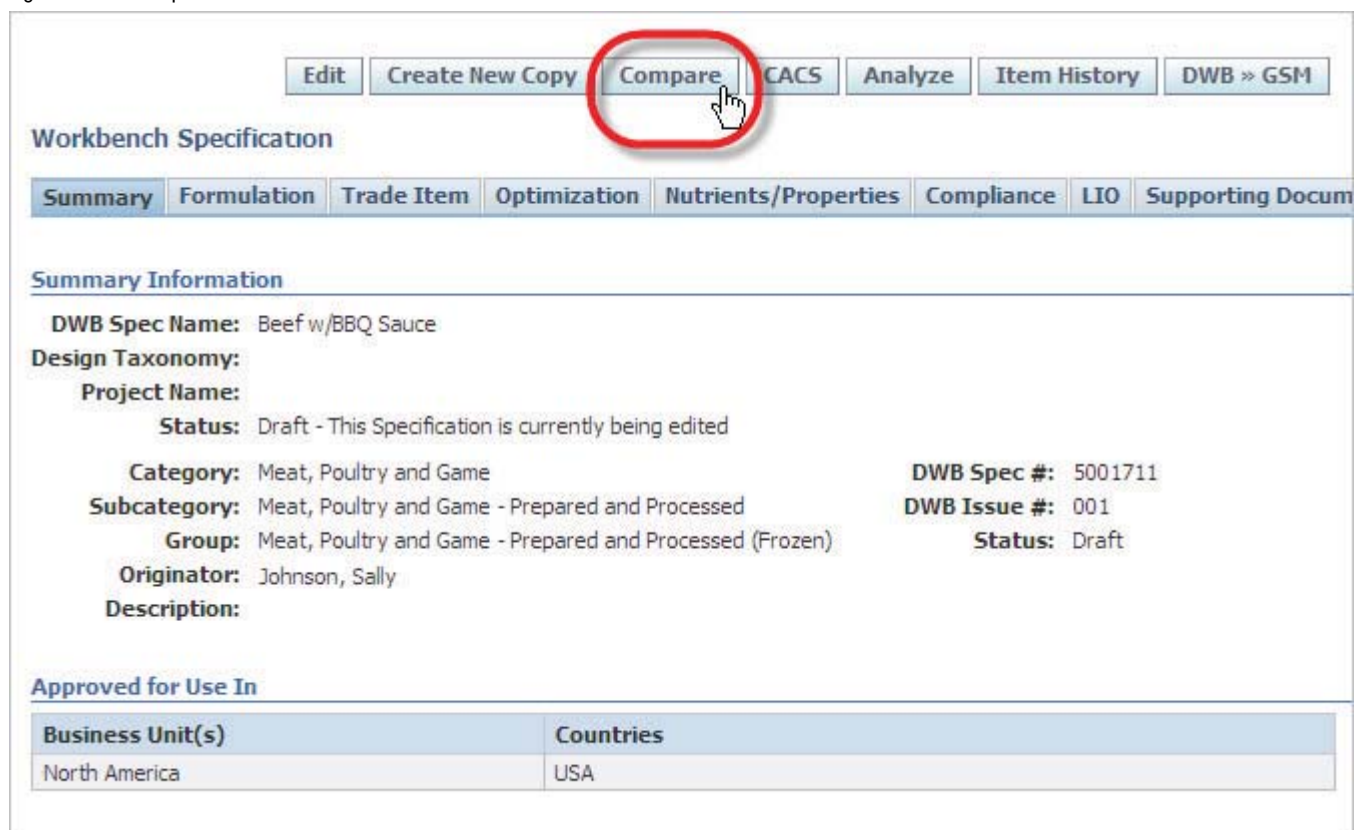
- ❑ GSM process specification
- ❑ DWB specifications
- ❑ DWB specifications (with a snapshot)

Using this feature, you can compare an existing, controlled recipe to an experimental formulation. The comparison shows the union of BOM items used and the percentage change (increase or decrease).

Comparing Formulas

To compare your formula with another one stored in the system, click **Compare** in the top right corner, as shown in figure 8-24 below.

Figure 8-24: Compare



Workbench Specification

Summary Formulation Trade Item Optimization Nutrients/Properties Compliance LIO Supporting Documents

Summary Information

DWB Spec Name: Beef w/BBQ Sauce

Design Taxonomy:

Project Name:

Status: Draft - This Specification is currently being edited

Category: Meat, Poultry and Game

Subcategory: Meat, Poultry and Game - Prepared and Processed

Group: Meat, Poultry and Game - Prepared and Processed (Frozen)

Originator: Johnson, Sally

Description:

DWB Spec #: 5001711

DWB Issue #: 001

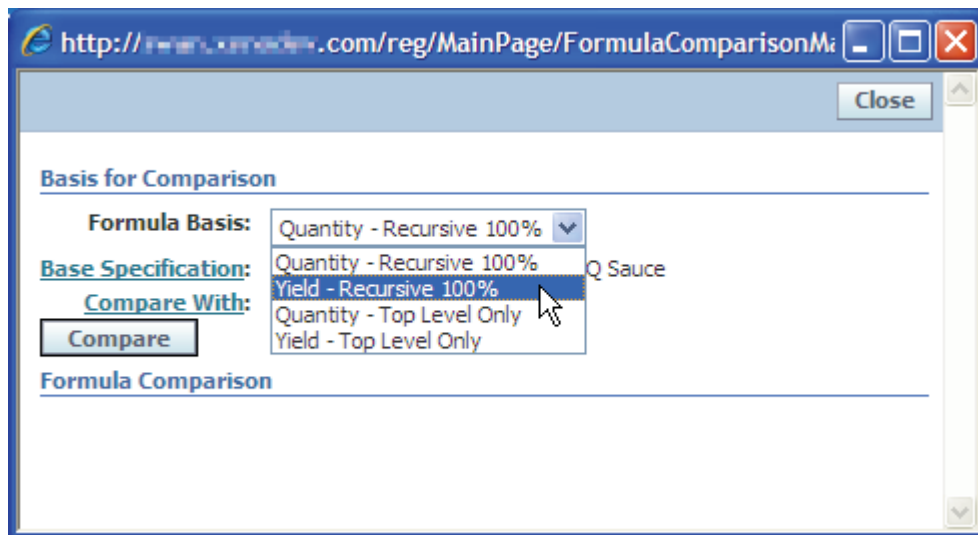
Status: Draft

Approved for Use In

Business Unit(s)	Countries
North America	USA

The Comparison dialog box appears, as shown in figure 8-25 below. Use this dialog box to select the formula basis for comparison, define the specification to used as the base/standard, and select the specification(s) to compare against the base.

Figure 8-25: Comparison dialog box, detail

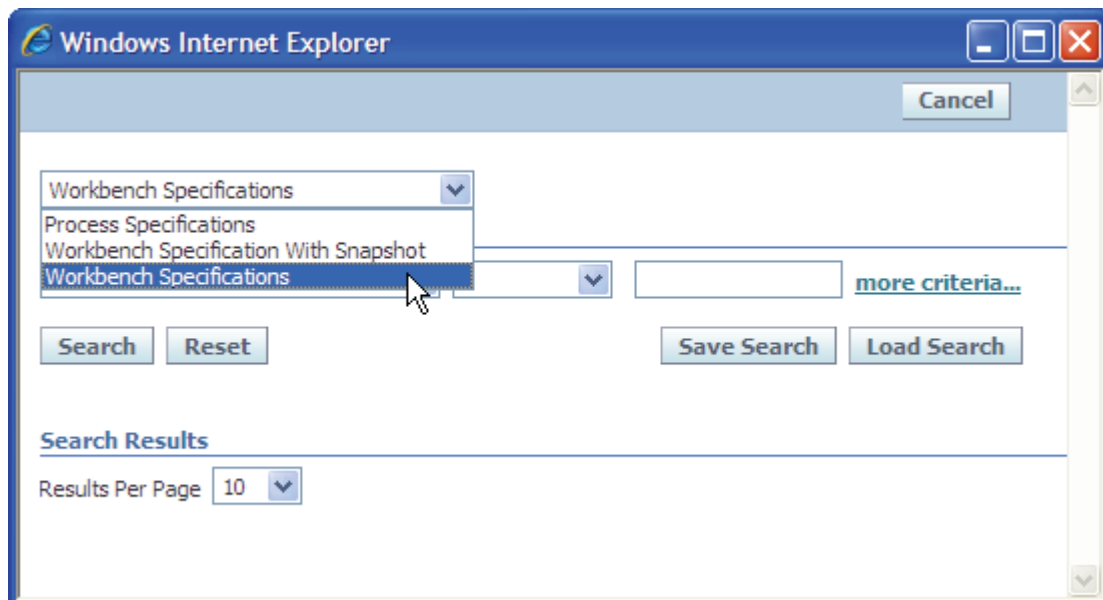


Select the Formula Base from the drop-down list. Options are:

- “Quantity - Recursive 100%”
- “Quantity - Top Level Only”
- “Yield - Recursive 100%”
- “Yield - Top Level Only”

By default the drop-down list displays the current DWB specification. Click the **Base Specification** hyperlink to change it. The link opens the Specification Search page, shown in figure 8-26 below.

Figure 8-26: Specification search page



Once you have selected the base specification, click the **Compare With** link (shown in 8-27 below) and search for the specifications to compare. You can select multiple specifications to compare against your base specification. When you have selected all of the specifications to compare, click **Compare** to view the comparison results. The results show you all the formula items and how they compare with the same formula items in the specifications that you requested to compare.

Note To ensure optimal performance, your Agile administrator will limit the number of specifications that DWB can compare to a preset maximum.

Figure 8-27 shows a sample comparison results page.

Figure 8-27: Basis for Comparison

Close

Basis for Comparison

Formula Basis: Quantity - Recursive 100% ▼

Base Specification: 5001941-001 (dwb) -- Acme Lemonade

Compare With: 1) 5001892-001 (dwb) -- Acme Lemonade rc5
2) 5001906-001 (dwb) -- Acme Sweetwater rc6

Compare

Formula Comparison

	5001941-001 (dwb)	1) 5001892-001 (dwb)	2) 5001906-001 (dwb)
Ingredient/Process Specification	% Quantity	% Quantity	% Diff
Acme Water	82.98067 %	82.98067 %	----
Acme Lemon Flavor	8.72127 %	8.72127 %	----
Acme Sweetstuff	8.29807 %	8.29807 %	----

Design Workbench Export

This chapter describes the capabilities and applied uses of the Design Workbench Exporting function. Topics in this chapter include:

- ❑ Trade Specification Section
- ❑ Process Specification Section

Overview

In Design Workbench (DWB) you can take the data that has been created and managed in your Design Workbench specification and push it into (export it to) Global Specification Management (GSM). Through this process you can create or update relevant specification data in GSM based on your work in DWB. To export your DWB specification to GSM, click **DWB >> GSM** in the upper right corner of the application, as figure 9-1 shows below.

Figure 9-1: DWB >> GSM option



A dialog box opens in which you can determine how to export the data, as shown in figure 9-2. The Export page gives you independent control over three business objects:

- ❑ Trade specifications
- ❑ Process specifications
- ❑ Nutrient profiles

Figure 9-2: Export page

Windows Internet Explorer

Export Cancel

Trade Specification

Desired Action Update Existing

Target Specification FSIS Host Lemonade (5084092-001)

New Name FSIS Host Lemonade

Nutrient Profile Acme Lemonade Create New

☐ Share Nutrient Profile with Process Specification

CACS Lemonade (5001941-001)

Desired Action Update Existing

Target Specification FSIS Host Lemonade (5084091-001)

New Name FSIS Host Lemonade

Nutrient Profile Acme Lemonade Create New

Trade Specification Section

In the Trade Specification section you can control the behavior of the export as it relates to the trade specification.

Figure 9-3: Trade Specification section

Export Cancel

Trade Specification

Desired Action Update Existing

Target Specification FSIS Host Lemonade (5084091-001)

New Name FSIS Host Lemonade

Nutrient Profile CACS Lemonade Create New

☐ Share Nutrient Profile with Process Specification

CACS Lemonade (5001941-001)

Desired Action Update Existing

Target Specification FSIS Host Lemonade (5084091-001)

New Name FSIS Host Lemonade

Nutrient Profile CACS Lemonade Create New

Key fields include:

Desired Action—Discussed below, at [Desired Action](#) on page 9-3

Target specification—Discussed below, at [Target Specification](#) on page 9-3

New Name—Discussed below, at [New Name](#) on page 9-3

Nutrient Profile Name—Discussed below, at [Nutrient Profile](#) on page 9-4

Nutrient Profile Desired Action—Discussed below, at [Nutrient Profile Desired Action](#) on page 9-4

Desired Action

Use the Desired Action drop-down list to set the action for the export routine to perform. You can choose from the following:

None—Perform no action on the trade specification

Create New—Create a new trade specification using the data from the DWB specification

Create New Issue—Create a new issue of the selected trade specification using the data from the DWB specification

Update Existing—Update the selected trade specification using the data from the DWB specification

Nutrient Profile Only—Update the nutrient profile without affecting the parent specification (see figure 9-4 below)

Figure 9-4: Example Nutrient Profile Only action

The screenshot shows the 'Design Workbench Export' dialog box. The 'Desired Action' dropdown is set to 'Nutrient Profile Only'. The 'Target Specification' is 'FSIS Host Lemonade (5001092-001)'. The 'New Name' is 'FSIS Host Lemonade'. The 'Nutrient Profile' dropdown is set to 'Create New Issue'. A red circle highlights the 'Desired Action' dropdown, and another red circle highlights the 'Nutrient Profile' dropdown. A text box on the right says: 'In this example, DWB would create a new issue of the nutrient profile without changing the GSM process specification'. A mouse cursor is pointing at the 'Create New Issue' option in the 'Nutrient Profile' dropdown.

Target Specification

Click the Target Specification link to search for the targeted specification.

New Name

In the New Name field you can enter a name for the specification that you are creating.

Nutrient Profile

In the Nutrient Profile field you can see the name of the affected nutrient profile. If you are creating a new nutrient profile, you can add a new name in this field.

Nutrient Profile Desired Action

In the desired action drop-down list, set the action for the export routine to perform. You can choose from the following:

None—Perform no action on the nutrient profile

Create New—Create a new nutrient profile using the data from the DWB specification

Create New Issue—Create a new issue of the selected nutrient profile using the data from the DWB specification

Update Existing—Update the selected nutrient profile using the data from the DWB specification

Share Nutrient Profile Check Box

Check the Share Nutrient Profile box to share the nutrient profile defined on the trade specification with the defined process specification.

Process Specification Section

In the Process Specification section(s) you can control the behavior of the export as it relates to the process specification. If there are intermediate process specifications in your formula, DWB displays a section for each of those processes. In the example below, there is one intermediate process specification in addition to the top-level DWB specification, which gets mapped to a process specification, as shown in figure 9-5 below.

Figure 9-5: Process specification

Meat Mix, Salisbury Steak, 15% Pork (5001394-001)	
Desired Action	Update Existing ▼
Target Specification	Meat Mix, Salisbury Steak, 15% Pork 20060816 (5082152-001)
New Name	Enhanced Meat Mix, Salisbury Steak, 15% Pork 20060816
Nutrient Profile	Meat Mix, Salisbury Steak, 15% Pork (5082151-001)
	Meat Mix, Salisbury Steak, 15% Pork Update Existing ▼
Onions, Reconstituted (5001396-001)	
Desired Action	Update Existing ▼
Target Specification	Onions, Reconstituted 20060816 (5083149-001)
New Name	Big Onions, Reconstituted 20060816
Nutrient Profile	Onions, Reconstituted Create New ▼

Each section is composed of the following data:

- ❑ [Desired Action](#) on page 9-5
- ❑ [Target Specification](#) on page 9-5
- ❑ [New Name](#) on page 9-5
- ❑ [Nutrient Profile](#) on page 9-5
- ❑ [Nutrient Profile Desired Action](#) on page 9-5

Desired Action

Use the Desired Action drop-down list to set the action that you want the export routine to perform. You can choose from the following:

None—Perform no action on the process specification

Create New—Create a new process using the data from the DWB specification

Create New Issue—Create a new issue of the selected process specification using the data from the DWB specification

Update Existing—Update the selected process specification using the data from the DWB specification

Target Specification

Click the Target Specification link to search for the targeted specification.

New Name

In the New Name field you can enter a name for the specification that you are creating.

Nutrient Profile

In the Nutrient Profile field you can see the name of the affected nutrient profile. If you are creating a new nutrient profile, you can add a new name in this field.

Nutrient Profile Desired Action

In the desired action drop-down list, set the action for the export routine to perform. You can choose from the following:

None—Perform no action on the nutrient profile

Create New—Create a new nutrient profile using the data from the DWB specification

Create New Issue—Create a new issue of the selected nutrient profile using the data from the DWB specification

Update Existing—Update the selected nutrient profile using the data from the DWB specification

Note The Share Nutrient Profile check box applies only to the top-level process specification. To link the intermediate process specification to the same nutrient profile, you must link it manually.

Once you have defined the export criteria, click **Export** to have the system perform your described actions. The system performs the export and returns you to the DWB specification. You can find your exported specification(s) on the GSM Action Items page.

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