

Seed Blending with form-U-net

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Q. Can form-U-net be setup to blend seed or other non-fertilizer items?

A. Seed blending can be completed using custom columns in a Material Group. For example, a lawn and garden supplier wants to create different seed blends using bluegrass, K31 fescue, and annual ryegrass. These three seed items need to be created in *Item Information*. Below is an example for creating a Bluegrass Seed item. Set the *Item Type* to *Other* on the *General Info* tab.

The screenshot shows a software interface for editing an item. At the top, there is a title bar that says "Edit". Below it, there are several input fields: "Item Code*" with the value "Bluegrass", "Mix Name*" with "Bluegrass Seed", "Account Number" (empty), and "Description" with "Bluegrass Seed". Below these fields are three tabs: "General Info", "Grade Info", and "Technical Info". The "General Info" tab is selected. Under this tab, there are several rows of fields. The first row is "Item Type" with a dropdown menu showing "Other" (this row is highlighted with a red border). The second row is "Request Unit" with a dropdown showing "Pound". The third row is "Invoice Unit" with a dropdown showing "Pound". The fourth row is "Mixing Unit" with a dropdown showing "Pound". To the right of these fields are five rows of price fields: "Item Cost" (\$0.70), "Price 1" (\$1.20), "Price 2" (\$1.10), "Price 3" (\$1.25), "Price 4" (\$5.30), and "Price 5" (\$1.00). At the bottom right of the form, there are two buttons: "Update" and "Cancel".

On the *Technical Info* tab, set the *Density* to 25 lbs/cu. Ft.

Next, create a new dry mixing Material Group with the new seed items added.

Material Group SEED1: Edit MyGroup

General Technical Specialty Key Products **Products In Group**

Show: All Products Fertilizers Chemicals Services Other Products

Products in Material Group: Products Available to Add:

Item Code: Bluegrass Mix Name: Bluegrass Seed Description: Bluegrass Seed	-	Item Code: I103000 Mix Name: 10-30-0 Description: Ammonium Phosphate Suspension	+
Item Code: Fescue Mix Name: Fescue K31 Description: Fescue K31	-	Item Code: I103400 Mix Name: 10-34-0 Description: Ammonium Polyphosphate 10-34-0	+
Item Code: RyegrassAn Mix Name: Ryegrass Annual Description: Ryegrass Annual	-	Item Code: I120000 Mix Name: AmmThio12-00-265 Description: Ammonium Thiosulfate 12-0-0	+
		Item Code: I200000 Mix Name: Aqua Amm 20-0-0 Description: Aqua Ammonia (20-0-0)	+
		Item Code: I005400 Description:	+

Save Changes Reset View

Custom restrictions need to be created for each item to specify quantities/rates of items to use in the blend. To add custom restrictions, navigate to the *Edit Selected Material Groups / Edit Data* window. Select the cell where the N column and the *Bluegrass Seed* row meet. Right-click in that cell, and select *Insert Custom Column*.

Material Group SEED1: Edit Full Data

Mix Name:	Restriction Info:				
Mix Name	N	P	K	S	Mg
Bluegrass Seed	0.00	0.00	0.00	0.00	0.00
Fescue K31				0.00	0.00
Ryegrass Annual				0.00	0.00
Product				0.00	0.00

Context menu options: Add 'Nutrient From' Column, **Insert Custom Column**, Delete Selected Column

In the *Insert Custom Column* window, enter the name of the restriction in the *Name* field. *Name* indicates the name of

the item as it displays in the *Formulation* grid. Set the *InputScale* to 100. Select the **Insert Column** button.

Insert Custom Column

Name

Type

Price

LowerBound

UpperBound

InputScale

Prompt Lower Prompt Upper

Finally, enter 100 in the cell where the *Bluegrass Seed* row and the *O1_RES* custom column meet. Press **Enter** on the keyboard, or select a different cell in the grid before selecting the **Save Changes** button. This indicates the Bluegrass item is 100% Bluegrass Seed.

Material Group SEED1: Edit Full Data

Mix Name:	Restriction Info:			
Mix Name	O1_RES	N	P	K
Bluegrass Seed	100.00	0.00	0.00	0.00
Fescue K31	0.00	0.00	0.00	0.00
Ryegrass Annual	0.00	0.00	0.00	0.00
Product	0.00	0.00	0.00	0.00

Repeat those steps for the other seed items. The *Edit Data* grid should look as shown below. Each item is showing 100 in its respective custom column.

Material Group SEED1: Edit Full Data

Mix Name:		Restriction Info:				
Mix Name	01_RES	02_RES	03_RES	N	P	
Bluegrass Seed	100.00	0.00	0.00	0.00	0.00	
Fescue K31	0.00	100.00	0.00	0.00	0.00	
Ryegrass Annual	0.00	0.00	100.00	0.00	0.00	
Product	0.00	0.00	0.00	0.00	0.00	

Finally, go to *Edit Selected Material Groups / Edit Restrictions* to view the new custom restrictions as established in *Edit Data*. The names entered in the *Restriction Name* field are shown here as well.

Restriction Name:		Restriction Info:					
Restriction Name	Code	Min	Price	Lower Bound	Upper Bound	Input Scale	Unit
Bluegrass	01_RES	0.0000	\$0.0000	-Inf	Inf	100.00	Pound
Fescue	02_RES	0.0000	\$0.0000	-Inf	Inf	100.00	Pound
Ryegrass	03_RES	0.0000	\$0.0000	-Inf	Inf	100.00	Pound
Nitrogen	N	0.0000	\$0.0000	-Inf	Inf	100.00	Pound
Phosphate	P	0.0000	\$0.0000	-Inf	Inf	100.00	Pound
Potash	K	0.0000	\$0.0000	-Inf	Inf	100.00	Pound
Sulfur	S	0.0000	\$0.0000	-Inf	Inf	100.00	Pound

With the setup complete, formulations can now be created for this scenario.

Below, the *Formulation Request* grid is shown in *Grade* mode.

Formulation Request

	>	%	Analysis
Bluegrass		--	0.00
Fescue		--	0.00
Ryegrass		--	0.00





Tons:

Batches: Max Lbs/Batch:

In the following example, the *Max Lbs/Batch* is set to 500 lbs on the *Formulation* grid. The request will be entered as 30% Bluegrass, 50% Fescue, and 20% Ryegrass. Below are the results of this request.

Formulation Results		
Mixed Fert	\$1.14 / Lb.	\$570.00
Spreading		\$0.00
Mixing Charge		\$0.00
Applied	\$1.14 / Lb.	\$570.00
Other		\$0.00
Total		\$570.00
500.000 Lb.	1 Batch	
25.0 Lbs/CuFt		20.0 CuFt

Mix Results		
Item Mix Name	Per Batch	Unit
Bluegrass Seed	150	Lb.
Fescue K31	250	Lb.
Ryegrass Annual	100	Lb.
Product	500	Lb.

Margin Information				
Item Code	Cost	Margin	Price	Edit
BlueGrass	\$0.70	41.67 %	\$1.20	
Fescue	\$0.65	45.83 %	\$1.20	
RyegrassAn	\$0.50	44.44 %	\$0.90	
Product	\$0.64	43.86 %	\$1.14	

Below is an example of request on an acre basis where a specific amount per acre of each product is entered. Based on a four acre request, the result is a total of 44 Lbs per Acre.

Formulation Request ▲

		Per Acre	Analysis
Bluegrass	>	15.00 Lb.	34.09
Fescue	>	25.00 Lb.	56.82
Ryegrass	>	4.00 Lb.	9.09

Acres: Rate Per Acre:

Batches: Max Lbs/Batch:

Formulation Information ▲

Description/Comments:




Formulation Results ▲

Mixed Fert	\$1.17 / Lb.	\$206.40
Spreading		\$0.00
Mixing Charge		\$0.00
Applied	\$1.17 / Lb.	\$206.40
Other		\$0.00
Total		\$206.40
4.0 Acres	\$51.60 / Acre	
176.000 Lb.	1 Batch	
4.0 Acres/Batch		
44 Lbs/Acre		
1.76 CuFt /Acre		
25.0 Lbs/CuFt		7.0 CuFt

Mix Results ▲

Item Mix Name	Per Batch	Unit
Bluegrass Seed	60	Lb.
Fescue K31	100	Lb.
Ryegrass Annual	16	Lb.
Product	176	Lb.

Margin Information ▲

Item Code	Cost	Margin	Price	Edit
BlueGrass	\$0.70	41.67 %	\$1.20	
Fescue	\$0.65	45.83 %	\$1.20	
RyegrassAn	\$0.50	44.44 %	\$0.90	
Product	\$0.65	44.44 %	\$1.17	