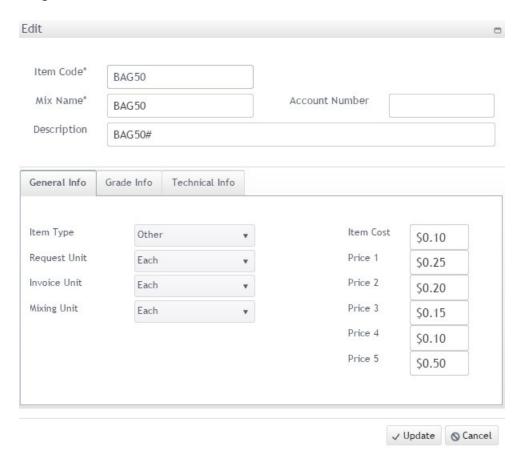# form-U-net Bagged Fertilizer Blending
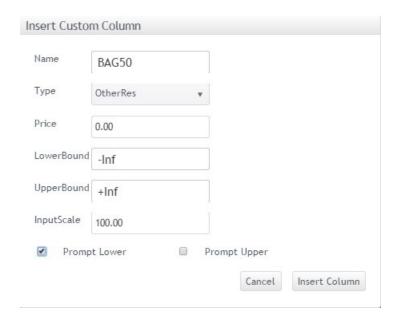
Last Modified on 01/10/2023 1:52 pm CST

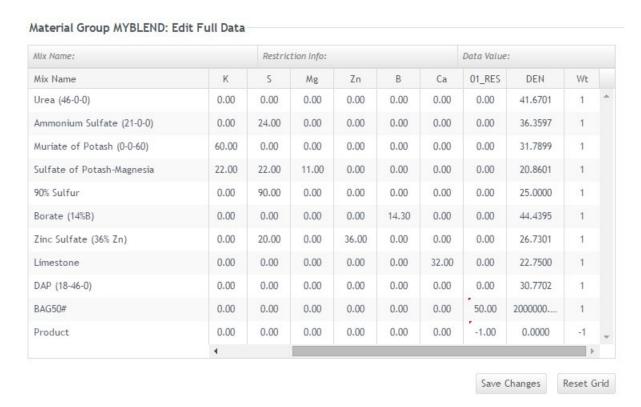**Q. How is form-U-net used to create bagged fertilizer blends?**

A. To create bagged fertilizer blends in form-U-net, add an item for the empty bags in the appropriate size by navigating to *Item Information / Add New Item*. In this example, the *Item Code* BAG50 is used because the bags are 50 lbs. Set the *Item Type* to *Other*, the units as *Each*, and then set the *Item Cost* and *Prices*. Select **Update** to save the changes.

Navigate to *Material Groups / Edit Selected Material Group / My Group Settings / Products in Group*. Add BAG50 to the dry material group to be used with bagging. Select *Edit Selected Material Group / Edit Data*. Select a cell in the *DEN* column and right-click. In the menu that opens, select *Insert Custom Column*. Enter the *Name* and the *InputScale* as shown below, and select **Insert Column**. The new custom column is labeled *01_RES*.

Insert Custom Column

Field	Value
Name	BAG50
Type	OtherRes ▼
Price	0.00
LowerBound	-Inf
UpperBound	+Inf
InputScale	100.00

☑ Prompt Lower   ☐ Prompt Upper

Cancel   Insert Column

Enter the weight of blended product the bag is to contain in the *BAG50* row of the *01_RES* column. In this case, *50* is entered. In the *Product* row in the custom column, enter *-1*. Select **Save Changes**. Below is an example of the custom column.

Material Group MYBLEND: Edit Full Data

Mix Name:							Restriction Info:	Data Value:	
Mix Name	K	S	Mg	Zn	B	Ca	01_RES	DEN	Wt
Urea (46-0-0)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.6701	1
Ammonium Sulfate (21-0-0)	0.00	24.00	0.00	0.00	0.00	0.00	0.00	36.3597	1
Muriate of Potash (0-0-60)	60.00	0.00	0.00	0.00	0.00	0.00	0.00	31.7899	1
Sulfate of Potash-Magnesia	22.00	22.00	11.00	0.00	0.00	0.00	0.00	20.8601	1
90% Sulfur	0.00	90.00	0.00	0.00	0.00	0.00	0.00	25.0000	1
Borate (14%B)	0.00	0.00	0.00	0.00	14.30	0.00	0.00	44.4395	1
Zinc Sulfate (36% Zn)	0.00	20.00	0.00	36.00	0.00	0.00	0.00	26.7301	1
Limestone	0.00	0.00	0.00	0.00	0.00	32.00	0.00	22.7500	1
DAP (18-46-0)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.7702	1
BAG50#	0.00	0.00	0.00	0.00	0.00	0.00	50.00	2000000....	1
Product	0.00	0.00	0.00	0.00	0.00	0.00	-1.00	0.0000	-1

Save Changes   Reset Grid

On the *Edit Selected Material Group / Edit Restrictions* window, optionally change the *Code* of the *BAG50* row from *01_RES* to *BAG50*. Edit the *Restriction Name* so it reads BAG50 (0=Yes).
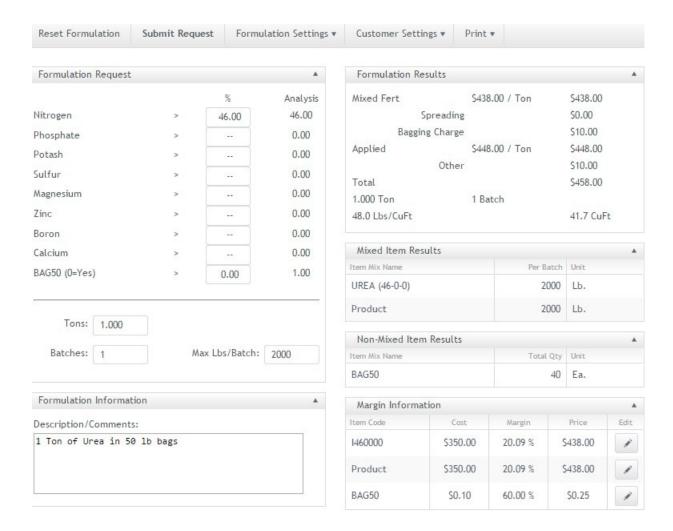
Material Group MYBLEND: Edit Restrictions

Restriction Name:

Restriction Info:

Restriction Name	Code	Min	Price	Lower Bound	Upper Bound	Input Scale	Unit
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
Magnesium	Mg	0.0000	$0.0000	-Inf	Inf	100.00	Pound
Zinc	Zn	0.0000	$0.0000	-Inf	Inf	100.00	Pound
Boron	B	0.0000	$0.0000	-Inf	Inf	100.00	Pound
Calcium	Ca	0.0000	$0.0000	-Inf	Inf	100.00	Pound
BAG50 (0=Yes)	BAG50	1.0000	$0.0000	-Inf	Inf	100.00	Pound
CuFt or Gal/Ton	DEN	0.0000	$0.0000	-Inf	Inf	2000.00	Pound
Weight balance	Wt	0.0000	$0.0000	0.000	0.000	1.00	Pound

Save Changes   Reset Grid

At *Edit Selected Material Group / Edit Activities*, in the *BAG50* row, scroll to the right and uncheck the *Mix* option. Select **Save Changes**. This ensures the weight of the empty bag is not included in the blended weight of items.

Optionally, set up a *Bagging Charge* in *Material Groups / Edit Selected Material Group / Edit Information* by entering a *Mixing Charge ($/Ton)* and selecting *Bagging* from the *Description* drop-down menu in the *Mixing Charge* area. For this example, *10* is entered in the *Mixing Charge ($/Ton)* field. Select **Save Changes**.

Return to the *Formulation* window, and enter a simple blend of bagged Urea fertilizer. In this example, enter a *Grade* of 46% Nitrogen, and enter a *0* for BAG50 (0=Yes), indicating this blend is in bags. Optionally add a comment indicating this is a 1 Ton blend of Urea in 50 lb bags. Select **Submit Request**. The blend results are shown below.

| Reset Formulation | Submit Request | Formulation Settings ▼ | Customer Settings ▼ | Print ▼ |

Formulation Request ▲

	%	Analysis
Nitrogen	> 46.00	46.00
Phosphate	> --	0.00
Potash	> --	0.00
Sulfur	> --	0.00
Magnesium	> --	0.00
Zinc	> --	0.00
Boron	> --	0.00
Calcium	> --	0.00
BAG50 (0=Yes)	> 0.00	1.00

Tons: 1.000

Batches: 1   Max Lbs/Batch: 2000

Formulation Information ▲

Description/Comments:

```
1 Ton of Urea in 50 lb bags
```

Formulation Results ▲

Mixed Fert		$438.00 / Ton	$438.00
	Spreading		$0.00
	Bagging Charge		$10.00
Applied		$448.00 / Ton	$448.00
	Other		$10.00
Total			$458.00
1.000 Ton		1 Batch	
48.0 Lbs/CuFt			41.7 CuFt

Mixed Item Results ▲

Item Mix Name	Per Batch	Unit
UREA (46-0-0)	2000	Lb.
Product	2000	Lb.

Non-Mixed Item Results ▲

Item Mix Name	Total Qty	Unit
BAG50	40	Ea.

Margin Information ▲

Item Code	Cost	Margin	Price	Edit
I460000	$350.00	20.09 %	$438.00	✏
Product	$350.00	20.09 %	$438.00	✏
BAG50	$0.10	60.00 %	$0.25	✏

Notice there is an *Other* price of $10.00 listed in the *Formulation Results*. This is the price of the 40 fertilizer bags priced at $0.25 each. This Material Group also had a *Bagging Charge* set up at $10.00/ton.

Because the BAG50 item does not have the *Mix* option selected in *Edit Activities,* the bag quantity is listed separately in the *Non-Mixed Item Results* grid. The BAG50 item is also listed below the *Product* row in the *Margin Information* grid. That *Product* row's *Cost, Margin,* and *Price* are only for Mixed items.

Examples of the Mixing Sheet and the Quote Sheet from this formulation are shown below. On the Quote Sheet, notice the bagged fertilizer is priced per ton. A price per bag on the Quote sheet or in the *Formulation Results* grid on the *Formulation* window is not available.

form-U-net Mix Sheet
6/5/2015

Material System is Dry Mixing
Density = 48.00 Lb./(Cu. Ft.)

BAG50   =   40.00 Ea. /Ton -   40 Ea. /Batch

46-0-0

Material Name	Percent	Units/Batch	Scale (Lbs)	Actual
UREA (46-0-0)	100.00	2,000.00 Lb.	2,000	_____

1 Batch

Formulation Description/Comments:
   I Ton of Urea in 50 lb bags

form-U-net Quote Sheet
6/5/2015

Description	Code	Quantity		Unit Price	Item Total
Mixed Fertilizer (46-0-0)		1	Ton	$438.00	$438.00
UREA (46-0-0)	I460000	1.000	Ton		
Bagging Charge		1.000	Ton	$10.00	$10.00
BAG50	BAG50	40.000	Ea.	$0.25	$10.00
Total Price					$458.00

46-0-0

Estimated Nutrient Analysis	
Total Nitrogen (N)	46.00%
Available Phosphate (P205)	0.00%
Soluble Potash (K20)	0.00%