# MRP

## Exercise Introduction

Material resource planning is intended for 3 objectives:

- Ensure materials are available for production and products are available for delivery to customers.
- Maintain the lowest possible material and product levels in store to achieve LEAN processes.
- Plan manufacturing activities, delivery schedules and purchasing activities.

## Bill of Material (BOM)

A critical input to the MRP process is the bill of material (BOM), which shows how components and semi-finished products are combined to produce the final product. A graphical representation of the BOM for the NRG-A bar is shown below:
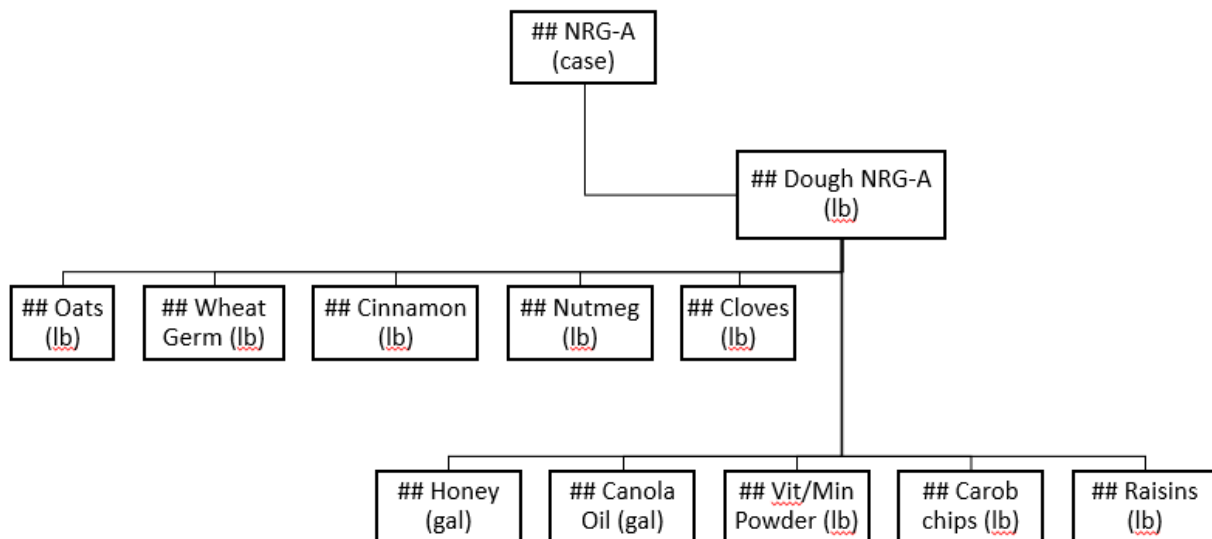


The raw materials (Oats, Wheat Germ, etc.) are combined in a mixer to produce a 500 lb. batch of dough. The dough is then transferred to the baking line, where it is formed into bars, baked and packaged. For simplicity, we have ignored the wrappers, boxes and cases that are needed to produce a complete case of Fitter Snacker bars.

To view the BOMs for Fitter Snacker, follow the menu path:

**Logistics ▷Production ▷Master Data ▷Bills of Material ▷Reporting ▷BOM Explosion ▷Material BOM ▷Multilevel BOM**

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Material BOM   Edit   Goto   Extras   Settings   Environment   System   Help

## Explode BOM: Multi-Level BOM: Initial Screen

Material          00F100
Plant             00PT
Alternative BOM
BOM Application   PP01

Selection
Valid From        07/31/2008
Change Number

Required qty

Enter **##F100** for Material, **##PT** for Plant and **PP01** for BOM Application, then click on the execute (⊕) icon

Material BOM   Edit   Goto   Extras   Settings   Environment   System   Help

## Display Multilevel BOM

Material          00F100
Plant/Usage/Alt.  00PT / 1 / 01
Description       00 NRG-A
Base Qty (CS)     7.000
Reqd Qty (CS)     7

This screen shows 7 cases of snack bars requires 500 lbs. of dough, and that to produce 500 lbs. of dough, 300 lbs. of Oats, 50 lbs. of Wheat Germ, etc. are required

| Level no. | Item | Ob | Componen | | | | |
|---|---|---|---|---|---|---|---|
| .1 | 0010 | | 00S200 | | | | |
| ..2 | 0010 | | 00R380 | | | | |
| ..2 | 0020 | | 00R420 | 00 Wheat Germ | 50 | LB | L |
| ..2 | 0030 | | 00R320 | 00 Cinnamon | 5 | LB | L |
| ..2 | 0040 | | 00R370 | 00 Nutmeg | 2 | LB | L |
| ..2 | 0050 | | 00R330 | 00 Cloves | 1 | LB | L |
| ..2 | 0060 | | 00R360 | 00 Honey | 10 | GAL | L |
| ..2 | 0070 | | 00R300 | 00 Canola | 7 | GAL | L |
| ..2 | 0080 | | 00R410 | 00 Vit/Min Powder | 5 | LB | L |
| ..2 | 0090 | | 00R310 | 00 Carob Chips | 50 | LB | L |
| ..2 | 0100 | | 00R400 | 00 Raisins | 50 | LB | L |

This screen shows the recipe required for seven cases of dough.  To learn more about any of the materials required to make an NRG-A bar, select the item and click on the detail icon.

With the nutmeg selected, click on the where-used icon (⬚), which will call up the following screen:

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This screen shows that Nutmeg is used in two products—the dough for NRG-A and NRG-B bars.  (You can double click on each line to view the products.) According to help.sap.com, the where-used list can be used to:

- Determine requirements for a specific material
- Select products that are affected by a change to an individual part
- Find assemblies that will be delayed if, for example, there is a delay in the delivery of a raw material
- Calculate the effect on the cost of a product if the price of a raw material rises

Click on the exit icon (  ) until you return to the SAP Easy Access screen.

## Display Workcenters

Production is carried out at workcenters.  In the SAP ERP system, workcenters can represent machines or groups of machines, production lines, assembly lines, employees or groups of employees.

To display the workcenters used for Fitter Snacker's snack bar production, follow the menu path:

**Logistics ▷Production ▷Master Data ▷Work Centers ▷Work Center ▷Display**



Enter **##PT** for plant, then click on the **Work center** field, and click on the search icon and search for BAKELINE using ##PT as filter criterion OR type BAKELINE directly

Click on the Basic data icon with BAKELINE selected
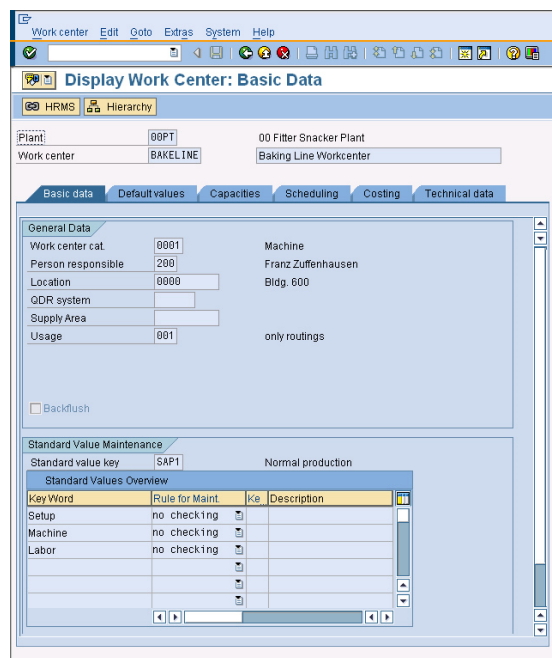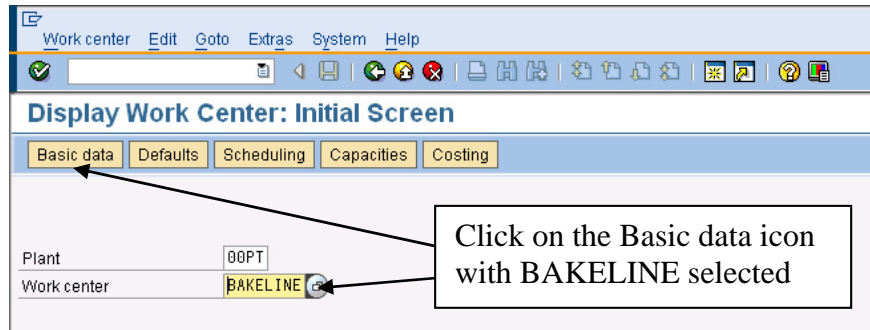


This multi-tabbed screen contains all relevant data for the workcenter.
Click on the exit icon ( ) until you return to the SAP Easy Access screen.

## Routings

Routings define the work centers that a product must visit in the production process. Routings also define the operations that must be performed at each workcenter and the components that are needed for each operation.

## 1. Create ##F100 (NRG-A bar) and ##F110 (NRG-B bar) Routings

To create a routing for the NRG-A bars, follow the menu path: