



Quick Notes for Users of Beef Ration and Nutrition Decision Software & Sheep Companion Modules

Standard & Professional Editions





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System Requirements

The **Standard Edition** requires a version of MS (Microsoft) Excel or another spreadsheet that is capable of reading an MS Excel version 5.0 or beyond spreadsheet. The **Professional Edition** requires a spreadsheet capable of reading MS Excel 2000 or beyond. BRaNDS 07 Professional Edition was upgraded from the earlier versions to accommodate MS Office 07 users as well. All copies of the BRaNDS program are distributed in “compatibility mode.” For users of Excel 07, the copy of BRaNDS, after installation, can be saved in the *.xlsm format. Earlier editions of BRaNDS – Professional will not work satisfactorily with Excel 07 systems.

*** Note ***

Check for software patches that are available from Microsoft’s Web site for your version of Windows and Excel. These patches are free upgrades from the company and may be accessed at <http://support.microsoft.com>. If using Excel 07, be sure to check for and download the latest patches; otherwise, graphics might become disorientated when viewing the screens.

Computer Setup

Before you begin:

This software uses MS Excel as an interface and to format reports. However much of the code runs independent of Excel and therefore requires the following -

1. You must have a version of MS Excel installed on your computer. When installing, **choose to do a complete installation**. Earlier versions considered this complete installation a “custom” installation. If doing the custom installation, be sure to check all options.
2. Now install the software from the program CD on to your computer by running the **SETUP.EXE** file on the CD. (double click this file on the CD to run).
3. Once the Program is installed a directory called ‘BRaNDS’ will be placed on your computer’s hard drive and the main program file ‘BRaNDS.xls’ (professional edition users) or the ‘Cow.xls’ (standard cow program users) or the ‘Feedyard.xls’ (standard feedlot edition) will be located there.
4. You must allow the program code to function – to do this reduce security levels.
5. Run this program by going to the ‘Programs’ menu and selecting ‘BRaNDS Application – BRaNDS (for professional users) ‘Cow (standard cow edition users) or Feedyard (standard feedlot edition users) . You will not need your program CD to run this program now, so store the CD in a safe place.



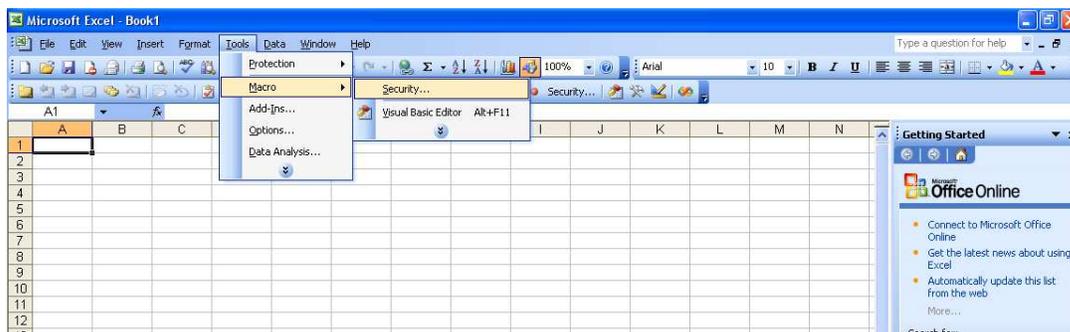
To make the BRaNDS Program work, or any Excel based application that uses outside code, there are three areas that need to be addressed; the first being Excel Security, the second being the Excel Add-Ins, and occasionally VB (Visual Basic) References. The security aspects always are an issue with Excel 07 and later the other areas may or may not be.

Note that when performing the steps that follow, you will close Excel and then restart the BRaNDS program to have these files and settings take effect. These items will be retained in Excel from this point forward and will not need to be loaded again.

Excel 2003 or earlier

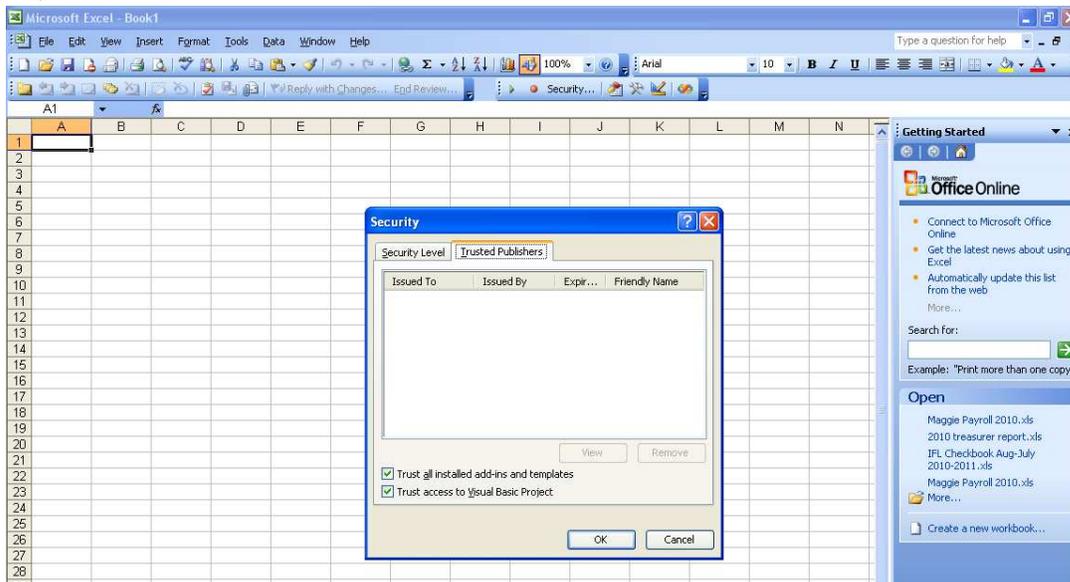
Security

From the Excel Menu select : TOOLS – MACROS – Security.



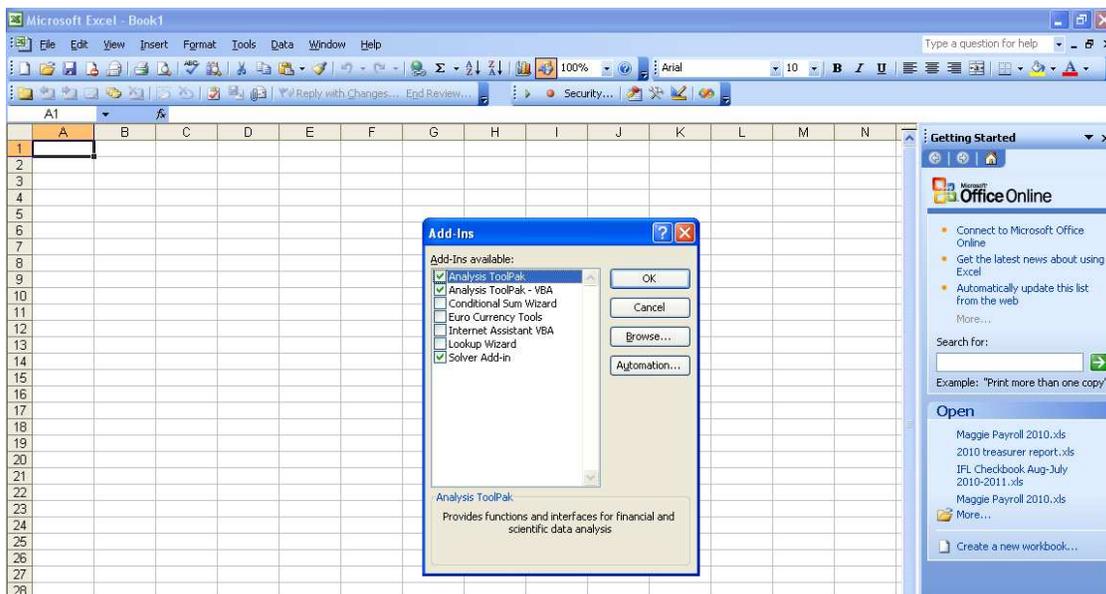
Then with the pop-up box select LOW or medium. (I usually select LOW or else I will still need to give Excel permission to run the code each time I run the program.)

Note that the pop-up box also has two tabs. The first one that shows is the SECURITIES and this is where you select the security level. The other tab is called TRUSTED PUBLISHERS. On this tab be sure to check the TRUST ACCESS TO VBA PROJECT box.



Add-Ins

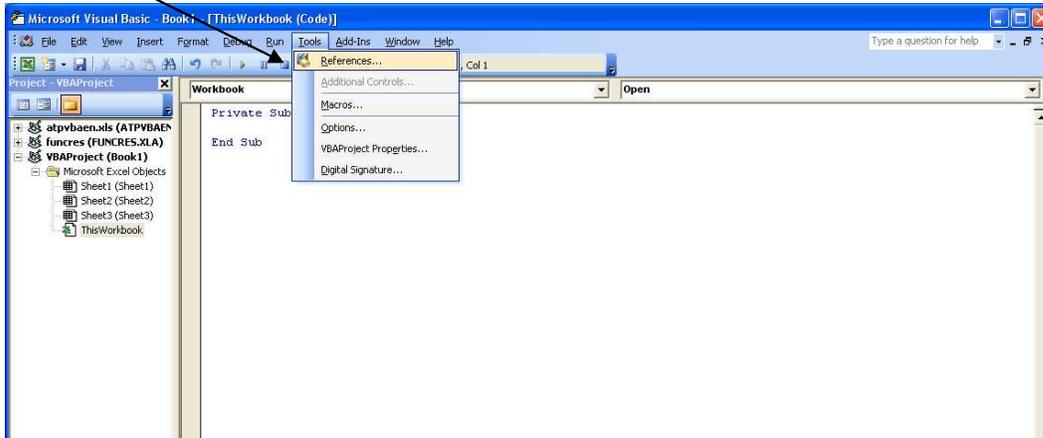
From the Excel Menu select : TOOLS – ADD-INS. Then with the pop-up box select be sure to check; SOLVER ADD IN, ANALYSIS PAK, and ANALYSIS PAK VBA then select the OK button.



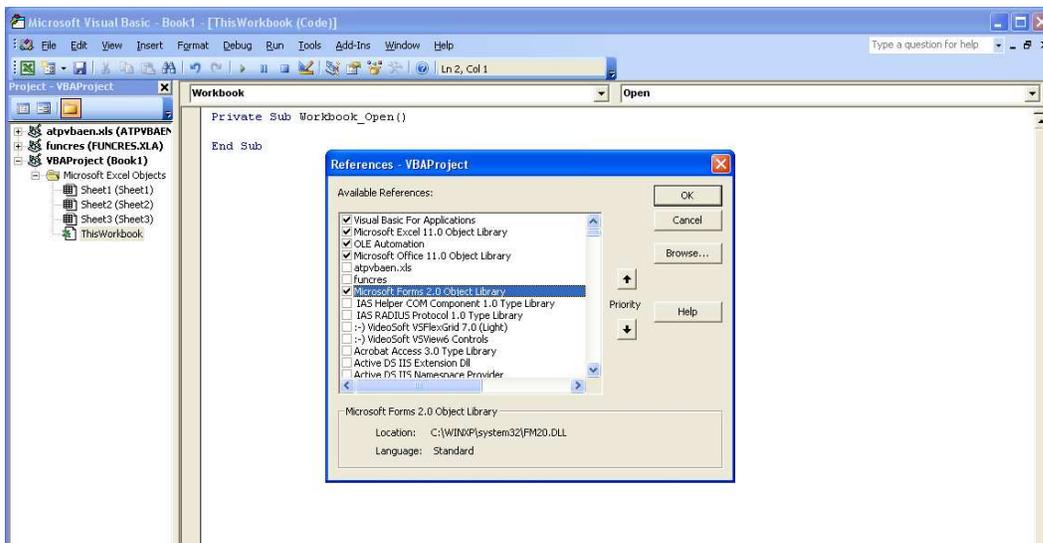


VB References

If there are references that are needed after the Excel ADD-INS are selected a screen shot showing computer code will show up. If this occurs, select TOOLS-REFERENCES from the VB menu bar. Note that if the TOOLS-REFERENCES area is disabled, select the little blue square icon immediately below the TOOLS item to reset and enable the REFERENCES selection.



On the pop-up now check the Microsoft Excel Object Library, Visual Basic for Applications, OLE Automation (you may not need this one), Microsoft Forms, Microsoft Office Object Library, and SOLVER. Occasionally you may not find one of these files listed. If this happens, use the BROWSE button to search for it.

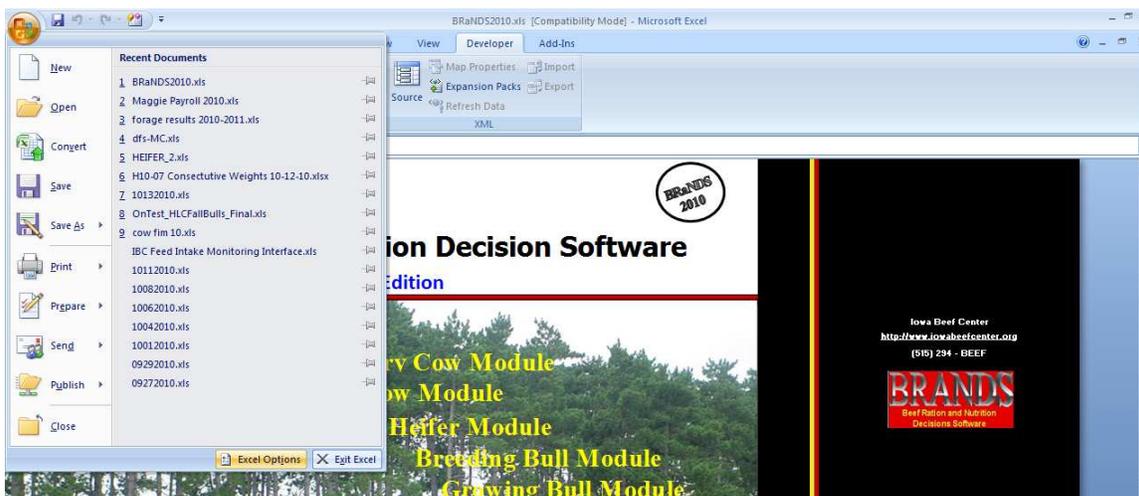




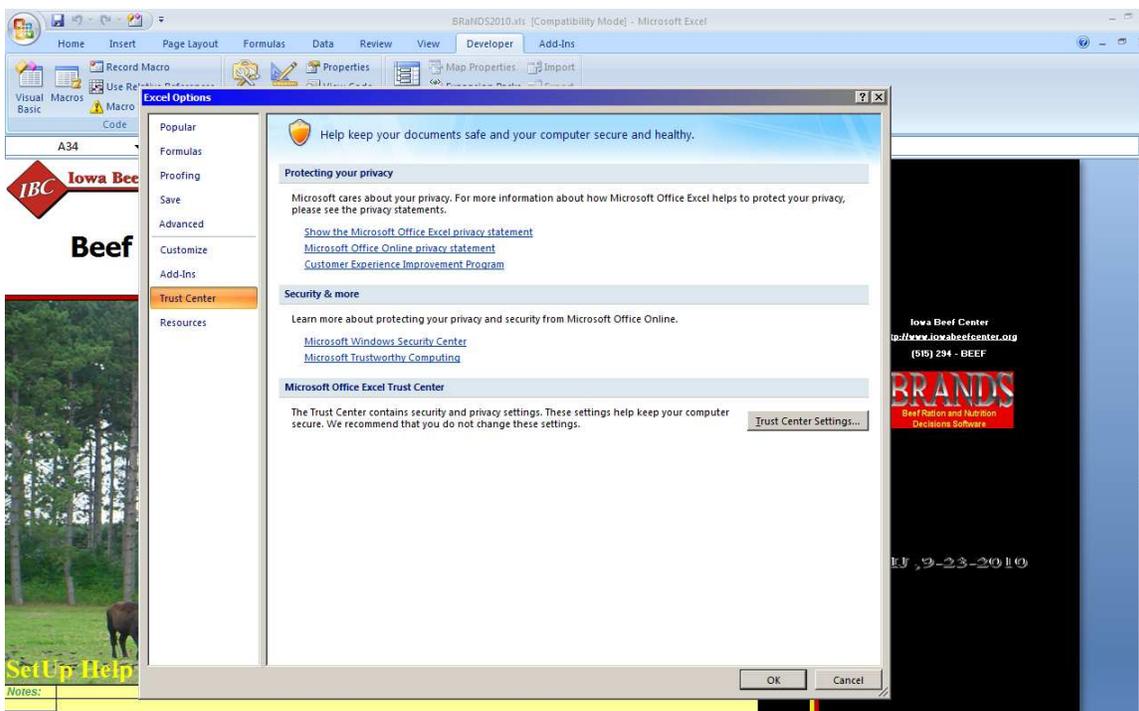
Excel 2007

Security

Select the MS Office Button on top and then select EXCEL OPTIONS.

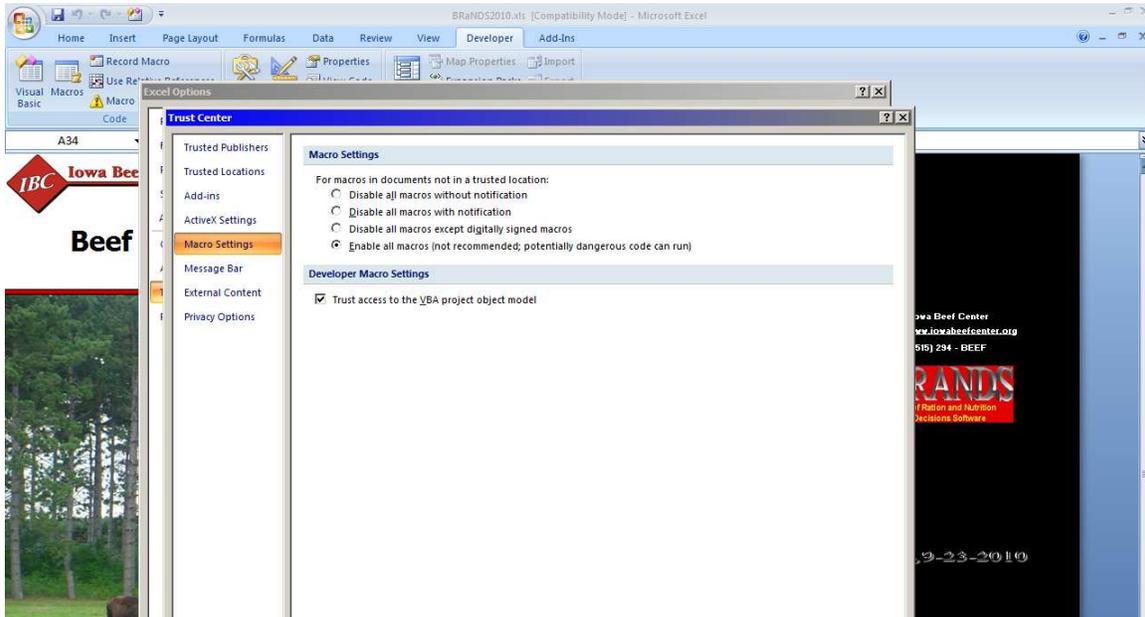


Select the TRUST CENTER item from the side menu followed by the TRUST CENTER SETTINGS button.



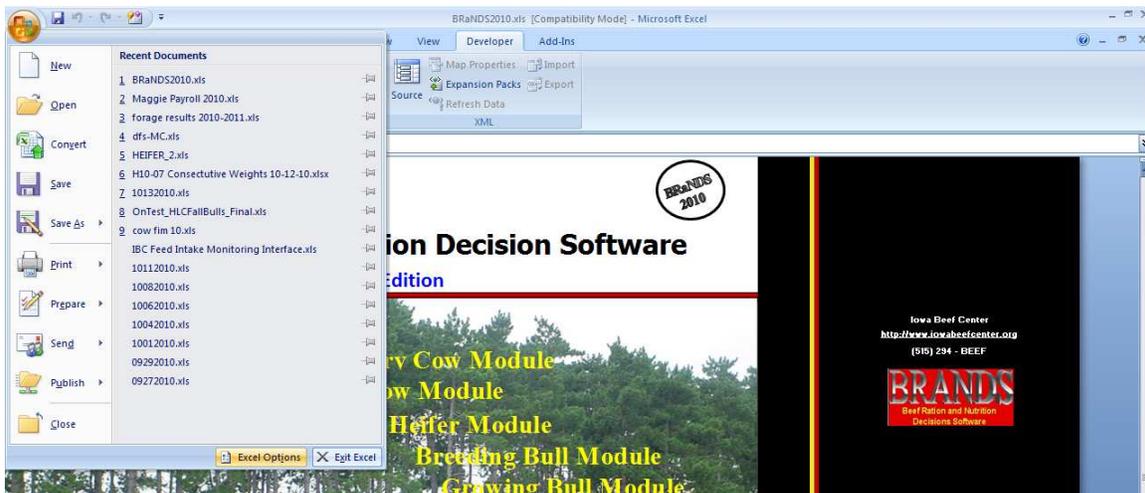


Select the **MACRO SETTINGS** button from the new side menu. In the pop-up box check the “Enable All Macros...” option and check the “Trust Access to the VBA Project...”. Select the OK buttons to move on.

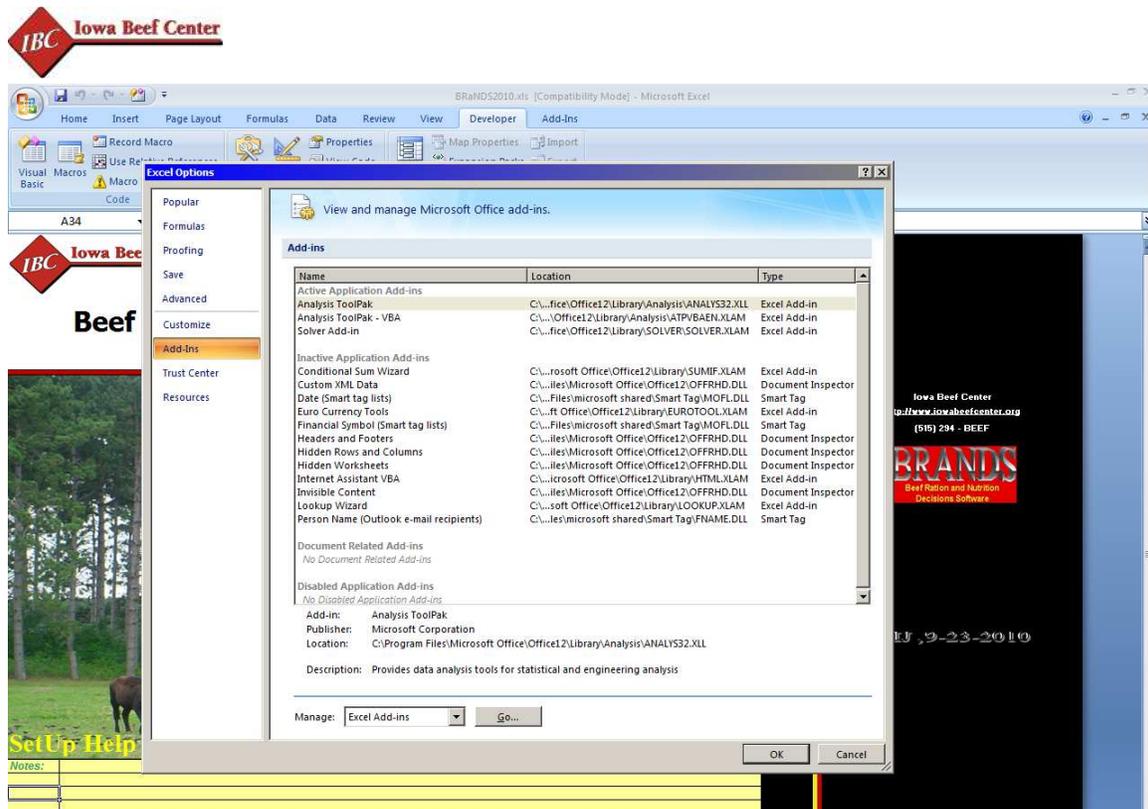


Add-Ins

Select the **MS Office Button** on top and then select **EXCEL OPTIONS**.

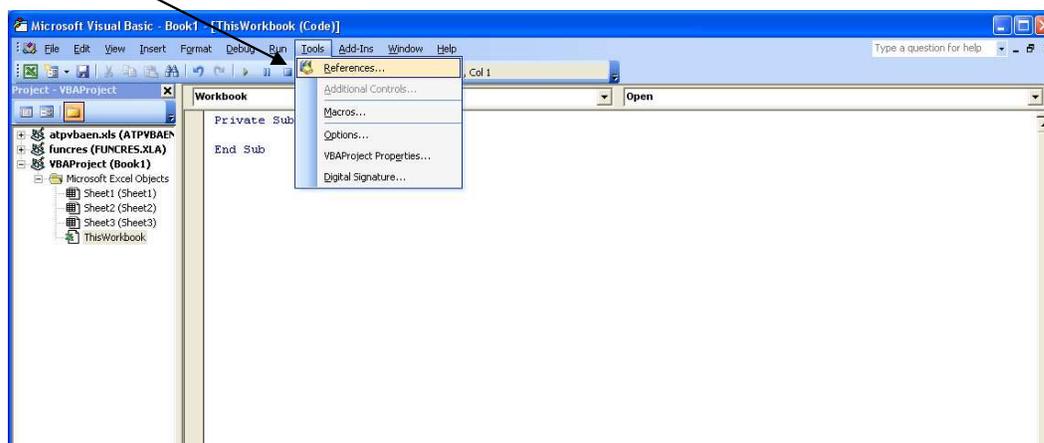


Select the **ADD-INS** side menu item. Be sure that the **SOLVER ADD IN**, **ANALYSIS PAK**, and **ANALYSIS PAK VBA** are in the Active application Add-Ins area. If they are not, select each of these from the Inactive area below and then select the **GO** button to activate these items.



VB References

If there are references that are needed after the Excel ADD-INS are selected a screen shot showing computer code will show up. If this occurs, select TOOLS-REFERENCES from the VB menu bar. Note that if the TOOLS-REFERENCES area is disabled, select the little blue square icon immediately below the TOOLS item to reset and enable the REFERENCES selection.

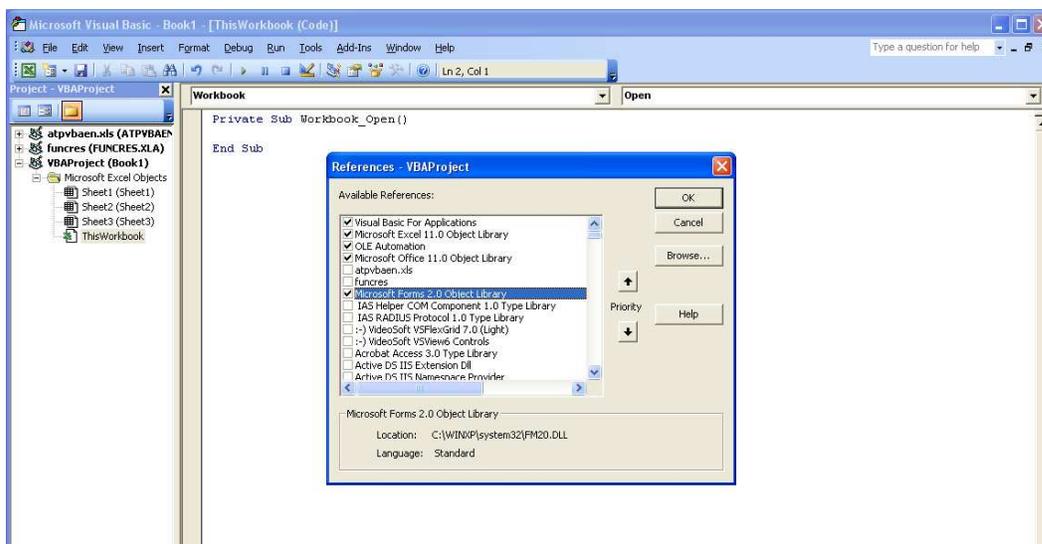




On the pop-up now be sure to check:

- * Microsoft Excel Object Library,
- * Visual Basic for Applications,
- * OLE Automation(you may not need this one),
- * Microsoft Forms, Microsoft Office Object Library, and
- * SOLVER.

Occasionally you may not find one of these files listed. If this happens, be sure that you went through the “ADD INS” step previously mentioned or use the BROWSE button to search for it. Once selecting the correct check boxes be sure to select FILE-SAVE from the menu to retain the settings.

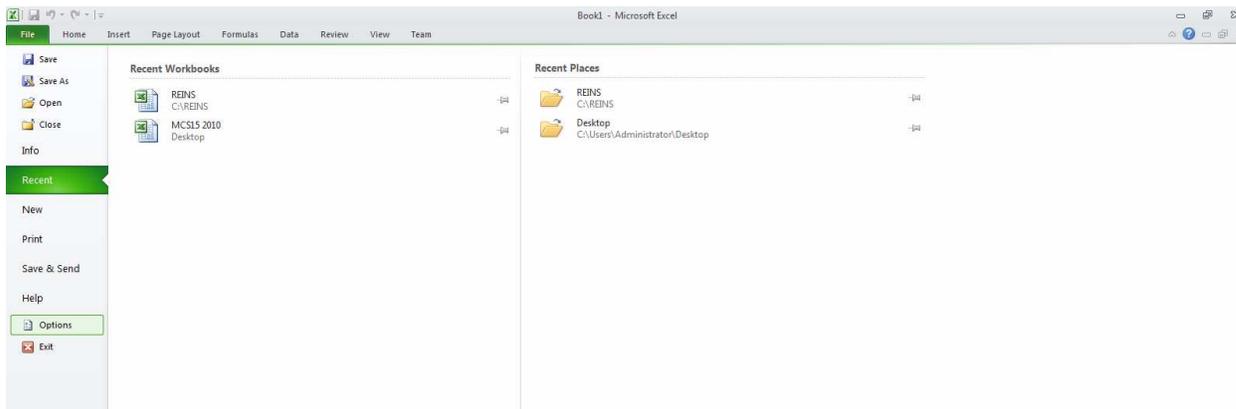




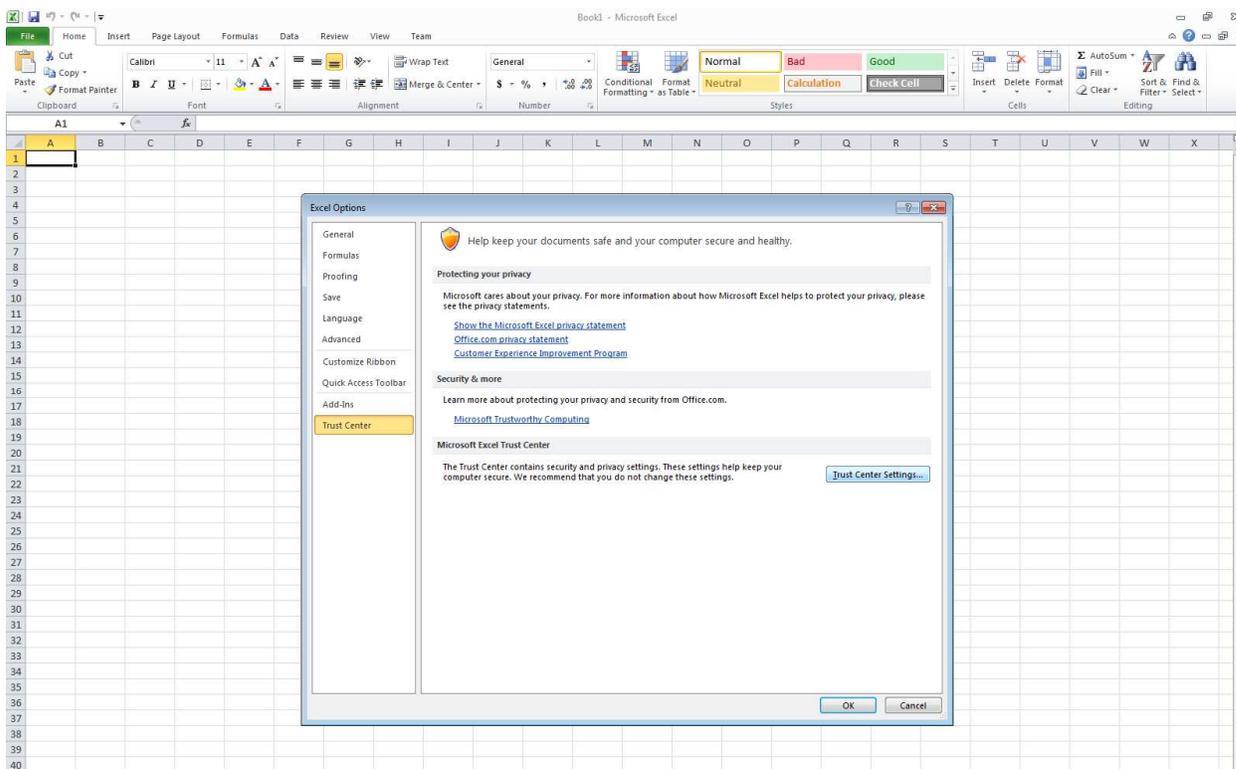
Excel 2010

Security

From the menu bar select FILE and then select OPTIONS from the side menu bar.

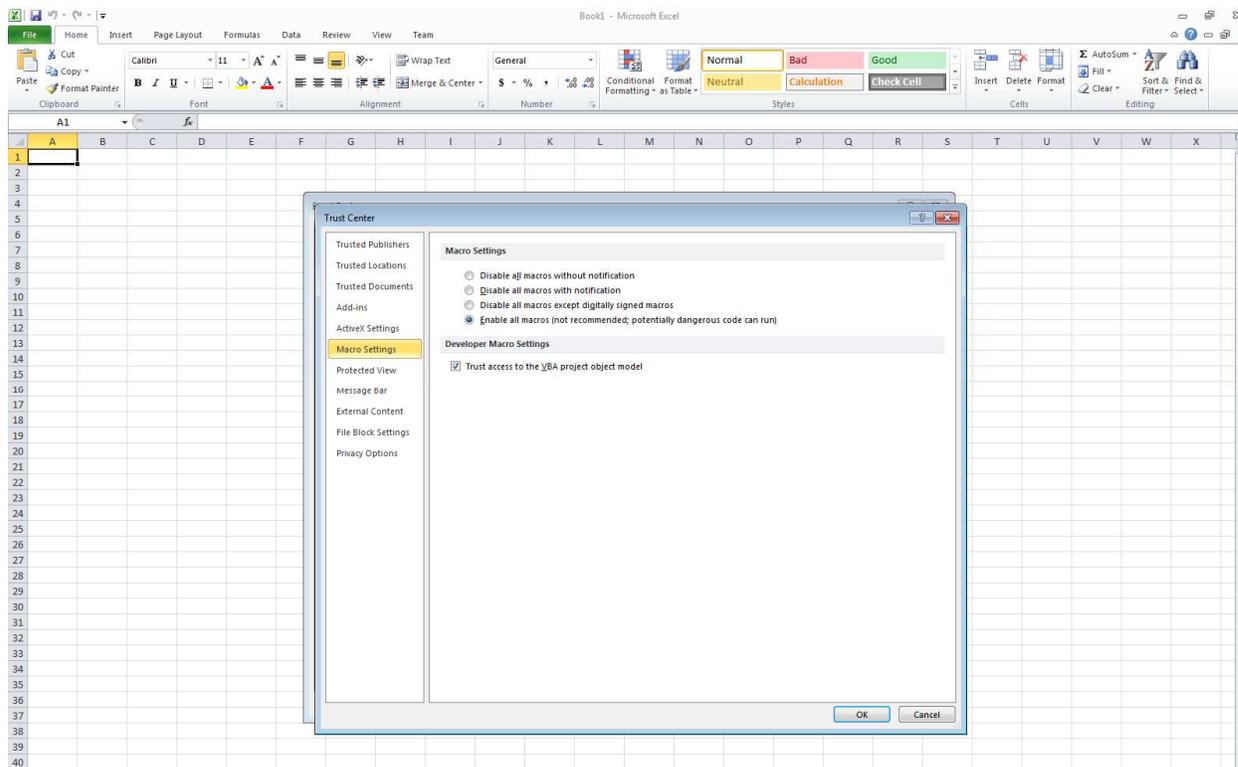


Select TRUST CENTER followed by TRUST CENTER SETTINGS.



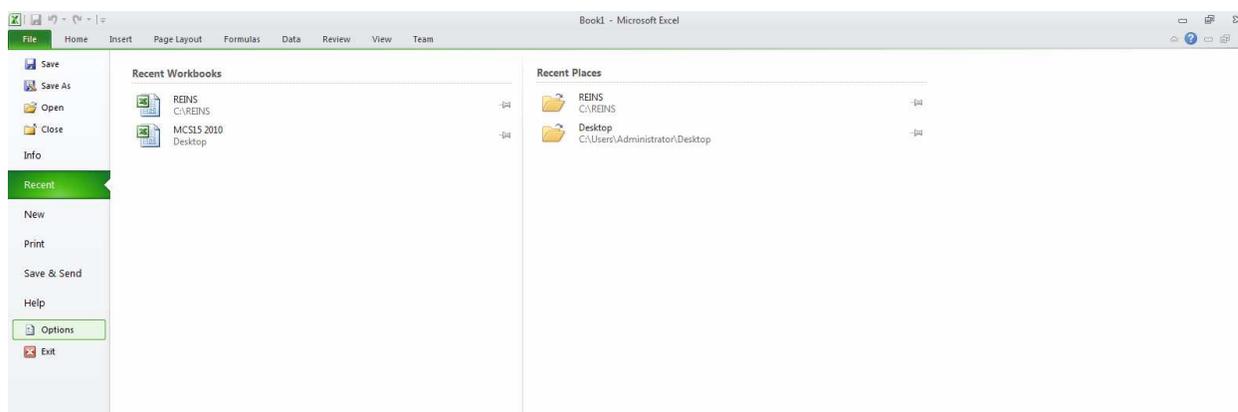


Select the **MACRO SETTINGS** button from the new side menu. In the pop-up box check the “Enable All Macros...” option and check the “Trust Access to the VBA Project...”. Select the **OK** buttons to move on.



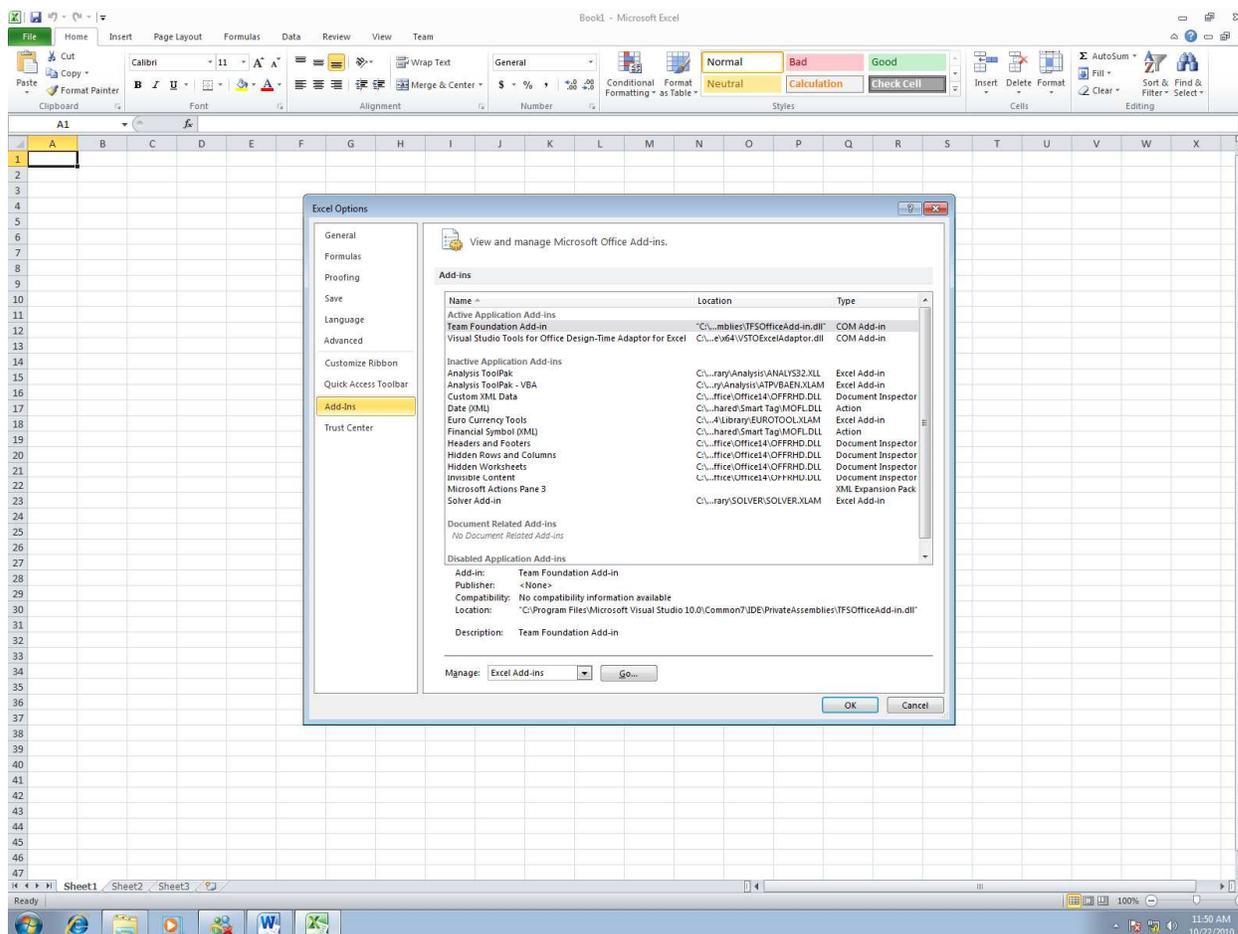
Add-Ins

From the menu bar select **FILE** and then select **OPTIONS** from the side menu bar.





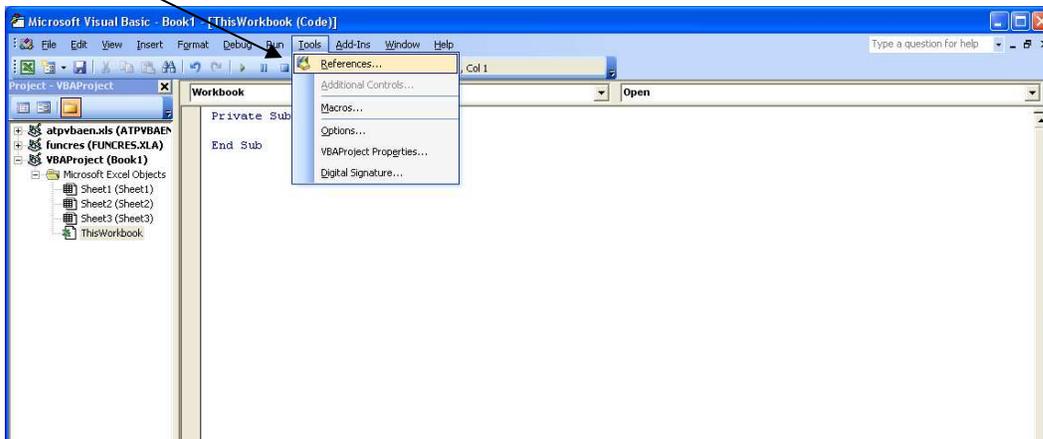
Select the ADD-INS side menu item. Be sure that the SOLVER ADD IN, ANALYSIS PAK, and ANALYSIS PAK VBA are in the Active application Add-Ins area. If they are not, select each of these from the Inactive area below and then select the GO button to activate these items.





VB References

If there are references that are needed after the Excel ADD-INS are selected a screen shot showing computer code will show up. If this occurs, select TOOLS-REFERENCES from the VB menu bar. Note that if the TOOLS-REFERENCES area is disabled, select the little blue square icon immediately below the TOOLS item to reset and enable the REFERENCES selection.



On the pop-up now be sure to check:

- * Microsoft Excel Object Library,
- * Visual Basic for Applications,
- * OLE Automation (you may not need this one),
- * Microsoft Forms, Microsoft Office Object Library, and
- * SOLVER.

The SOLVER from the previous versions of Excel does not load as expected with the newer versions and you may see a check next to SOLVER and the word “Missing” (see following picture). Be sure to uncheck this and select the SOLVER listed below. Occasionally you may not find one of these files such as SOLVER listed. If this happens, be sure that you went through the “ADD INS” step previously mentioned or use the BROWSE button to search for it. Once selecting the correct check boxes be sure to select FILE-SAVE from the menu to retain the settings.

A screenshot of the Microsoft Visual Basic Editor interface. The main window shows a code editor with the following text:

```
Private Sub Workbook_Open()  
  
End Sub
```

The Project Explorer on the left shows a project named "VBAPProject (Book1)" containing "Microsoft Excel Objects" with "Sheet1 (Sheet1)", "Sheet2 (Sheet2)", and "Sheet3 (Sheet3)", and "ThisWorkbook". A "References - VBAPProject" dialog box is open in the foreground. It lists "Available References" with the following items:

- Visual Basic For Applications
- Microsoft Excel 11.0 Object Library
- OLE Automation
- Microsoft Office 11.0 Object Library
- atpvbaen.xls
- Funcres
- Microsoft Forms 2.0 Object Library
- IAS Helper COM Component 1.0 Type Library
- IAS RADILS Protocol 1.0 Type Library
- (-) VideoSoft VSFlexGrid 7.0 (Light)
- (-) VideoSoft VSView6 Controls
- Acrobat Access 3.0 Type Library
- Active DS LIS Extension DLL
- Active DS ITS NameSpace Provider

Below the list, it shows "Microsoft Forms 2.0 Object Library" with "Location: C:\WIN\F\system32\FM20.DLL" and "Language: Standard". The dialog box has "OK", "Cancel", "Browse...", "Priority" (with up/down arrows), and "Help" buttons.



Feeds and Feeding Concepts

Quick Notes

Note that there are a number of feeds with default nutrient values included with the program. Update these as necessary. Average default values on average are wrong and can result in under or over valuing given feed's nutrient profile. Generally, forage is the most variable and in diets that are built primarily on forage a forage test can go a long way in helping to do a good job in formulation.

Pricing: the cost per unit is an input. You are free to price ingredients as you see fit, but be sure that you take into account feed storage loss in the price that you provide.

Energy: energy estimation is probably the most allusive item we balance for. When balancing, strive to hit the "TARGET" energy level which equals "100%" in the BRaNDs outputs. Above this level, you will have excessive weight gain, below this level, you will have impaired performance.

Keep in Mind -

A given feed will have a set gross energy content but a variable available energy content. This variability is due to the digestibility of the feed for the animal that consumes it. For instance a stock cow will be able to glean more energy (calories) from a unit of dry hay than a lamb or baby calf due to gut capacity which influences retention time and subsequent digestion time and energy release. Since feed values are given as a set value that do not take into account these external factors, be consistent in how you test to value feeds in order that you can better anticipate results and supplement where necessary.

Selectivity is another issue that can impact results. A feed analysis of a feed delivered into a bunk with a mixer wagon generally is fairly true to it's analysis. If the feed is something that is grazed or provided in a bale feeder, the animals will tend to eat the better stuff and waste the rest. This situation may allow the animals to consume a diet that is 10, 20 or 30% higher in energy than what a feed test would indicate. If feed is provided in this way with a high level of permitted selectivity, be sure to increase the energy levels of the feed in the feed library 10 to 30%. NE m, NE g and TDN would be the nutrients to increase.



Protein: protein requirements are provided in the term of metabolizable protein (MP). Unlike crude protein, which is an estimation of protein based on nitrogen content of the feed, MP takes into account rumen degradable intake protein, undegradable protein and carbohydrate availability to arrive at a potentially more accurate ration. When balancing the MP, the goal is to cover the minimum requirement and if you over shoot it is generally not a big problem in most cases. Therefore strive for 100% or above of the MP requirement. 100% to 175% is tolerable in most situations.

Keep in mind –

- When crude protein and available crude protein are provided on a feed analysis report, use the available crude protein value.
- If MP is less than 100% and DIP ratio (degradable intake protein ratio) is above 100, a rumen by-pass protein should be used to finish the balance.
- If MP is less than 100% and DIP is less than 100 a rumen degradable protein can be used.
- When MP and DIP both equal 100, you have the most optimal balance.
- If MP and DIP are both above 100, protein can be removed if the feed stuff selection allows. For grazing cattle on high quality pasture this may not be possible and can probably be ignored due to a fairly wide tolerance for excess protein.
- Feed analysis reports generally do not provide a degradable crude protein percent. Refer to a similar feed's DIP value from the default library to arrive at an estimate.

Fiber: fiber requirements are not as precisely defined as protein or other nutrients. A minimum effective fiber level measured by eNDF should be monitored though based on past experience and the following eNDF minimum guidelines:

- Breeding stock (cows and bulls) >> 25% eNDF
- Young developing calves >> 18% eNDF
- Bulls in a bull test >> 13-15% eNDF
- Feedlot cattle >> 9% eNDF (adapted from the 18% eNDF level)
- Lambs in feedyard – eNDF is somewhat ignored when whole grains / pellets are fed.
- No real guidelines are established for other classes of sheep, so use the cattle guidelines as a starting point. Sheep can get by with less eNDF since the volume of the rumen is smaller and the potential for excessive acid production is somewhat less.



- The eye of the master is important in all situations however when making the final call since a need for additional effective fiber (chewable) is expressed by scours, health and cravings.
- A feed testing laboratory can provide the NDF (neutral detergent fiber) concentration, but will probably not provide an estimate of the effectiveness. This can be determined by particle length.

Minerals: although mineral nutrition becomes a bit intimidating due to the number of different macro and trace minerals involved the concept to keep in mind is that we are trying to provide a level in a window defined by a tolerable upper and lower limit. This window frame is somewhat flexible since it is dependent on mineral availability and diet interactions.

Keep in mind –

- These limits in your BRaNDS program are not bare minimums or absolute maximums, but rather are tolerable limits for productive animals.
- Trace mineral analysis is difficult or expensive in many cases, so generally trace minerals are added to the ration to achieve the NRC minimum level. This along with the level in the feeds already in the diet a comfortable level will exist in the ration.
- Trace mineral levels of base feeds can vary greatly based on location of feed origin. If you have a feed grown in a region that has a high level of a given mineral, you may need to evaluate the feeds for that mineral or just not provide any in the supplement. Iron for instance is generally never added. Selenium may or may not be added. Iodine is almost always added as examples.

Vitamins: generally we are only concerned with fat soluble vitamins in ruminant nutrition, although there are times when the addition of a water soluble vitamin does show a benefit. Vitamins like minerals have a window of tolerance. The window of tolerance concerning vitamins seems to be fairly wide and requirements can vary due to tissue storage. In general, animals kept outside on green forage would not require supplementation. Animals fed stored feeds would need supplementation. The level provided in the stored feed appears dependant on the duration the animal is fed the stored feed since reserves are depleted over time.