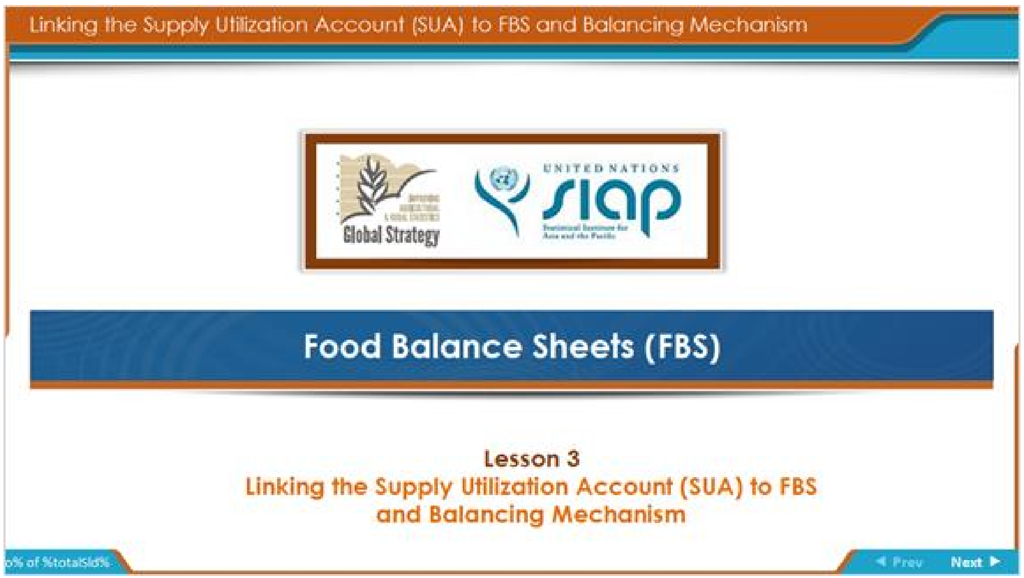
Food Balance Sheets (FBS) - Module3

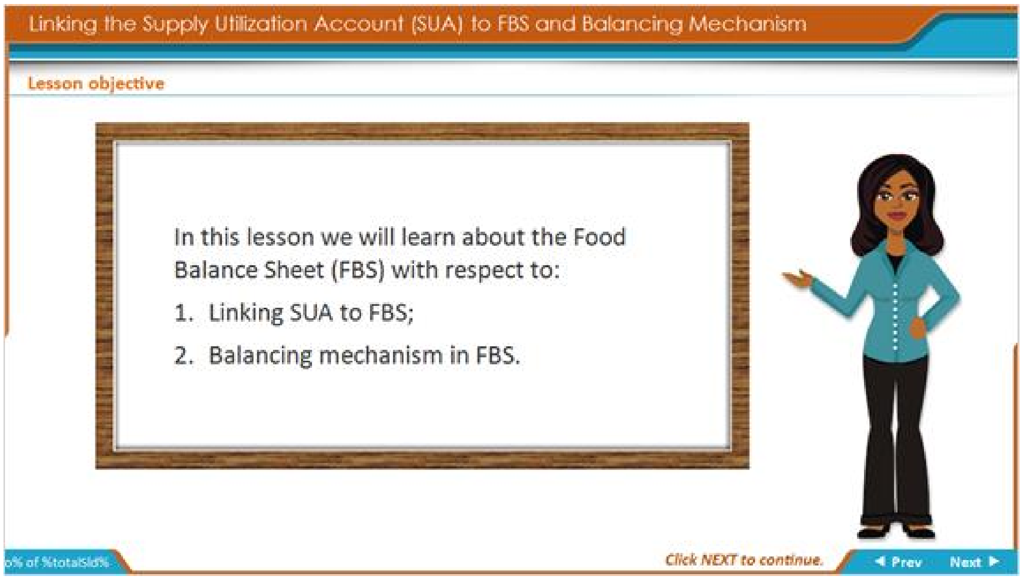
1. Module 3

1.1 Welcome



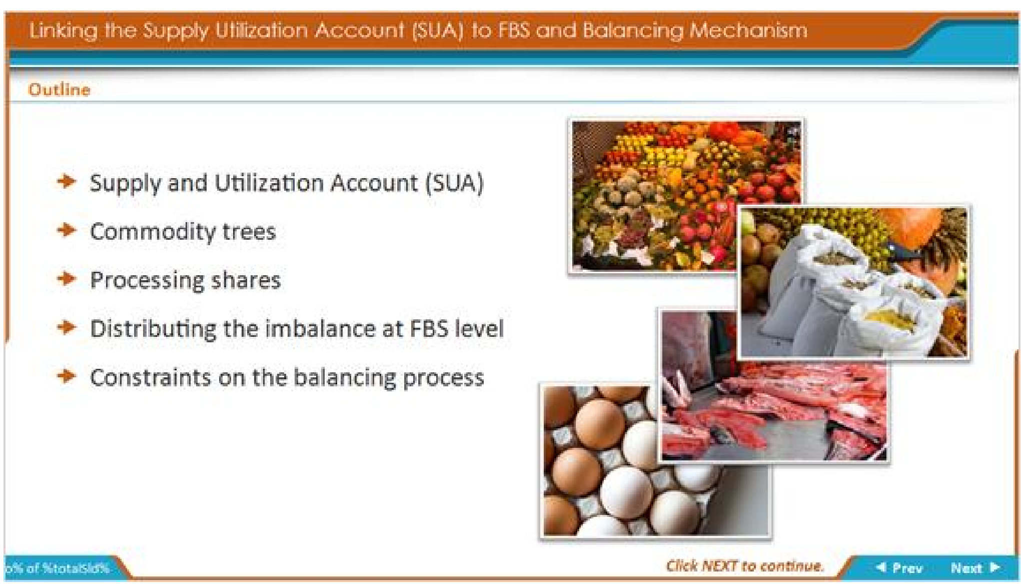
Notes:

1.2 Lesson objective



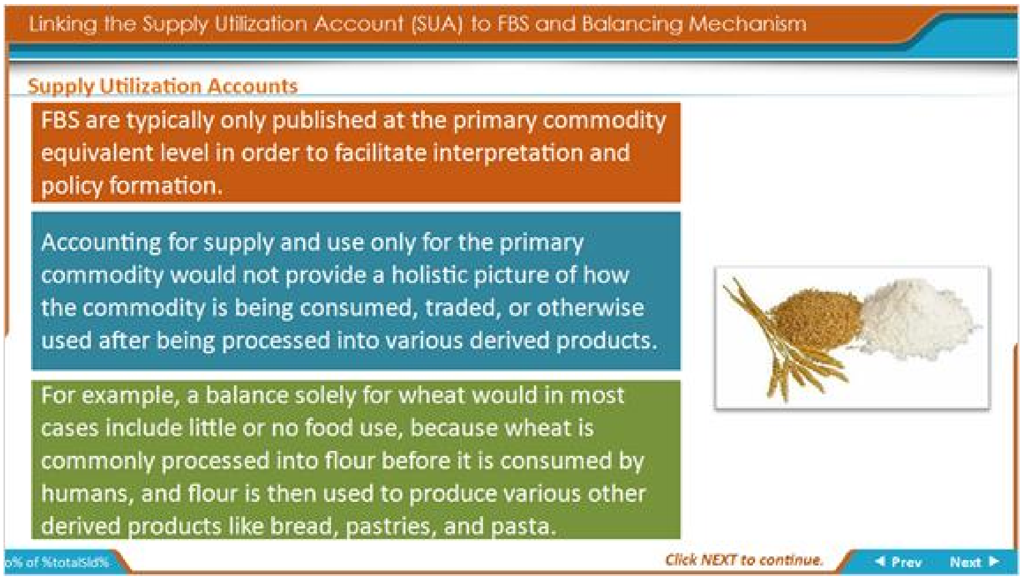
Notes:

1.3 Outline



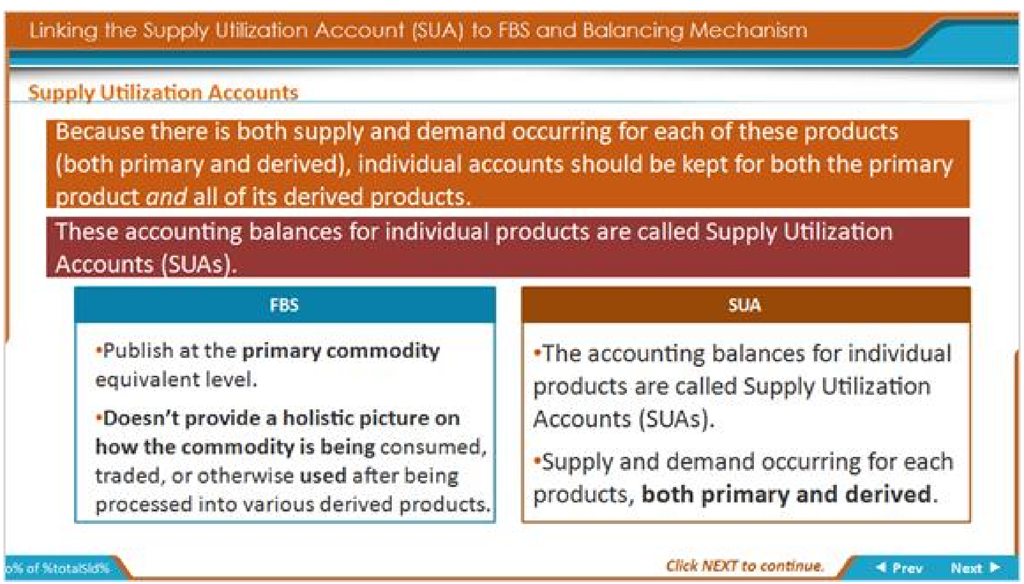
Notes:

1.4 Supply Utilization Accounts



Notes:

1.5 Supply Utilization Accounts



Notes:

1.6 Supply Utilization Accounts

Linking the Supply Utilization Account (SUA) to FBS and Balancing Mechanism

Supply Utilization Accounts

For the purposes of deriving FBS, SUAs are typically organized into tables where the SUA for the primary commodity is at the top, and the SUAs for all of the products derived from that commodity follow.

Sample for blank SUA table for paddy rice:

Product	Production	Imports	Exports	Stock change	Food	Food processing	Feed	Seed	Net Tourist Food	Industrial Use	Loss	ROU
Paddy rice	-	-	-	-	-	-	-	-	-	-	-	-
Husked rice	-	-	-	-	-	-	-	-	-	-	-	-
Milled paddy rice	-	-	-	-	-	-	-	-	-	-	-	-
Rice bran	-	-	-	-	-	-	-	-	-	-	-	-
Broken rice	-	-	-	-	-	-	-	-	-	-	-	-
Rice flour	-	-	-	-	-	-	-	-	-	-	-	-

Primary commodity paddy rice that is processed can be both processed to produce husked rice, or milled paddy rice and rice bran. This process can also produce broken rice that can be used to produce rice flour. Each of these subsequent processing levels is linked back to the previous level through an extraction rate.

0% of %totalSld% *Click NEXT to continue.* ◄ Prev Next ►

Notes:

1.7 Supply Utilization Accounts

Linking the Supply Utilization Account (SUA) to FBS and Balancing Mechanism

Supply Utilization Accounts

Once individual SUAs have been elaborated for the primary commodity and all of its derived products, the accounts cannot simply be added together to arrive at one primary equivalent balance.

The balances are elaborated by weight in MT (metric ton) of primary commodity-equivalents. One MT of a derived product is not equivalent to one MT of the primary commodity.

100 MT X 0.55 = 55 MT

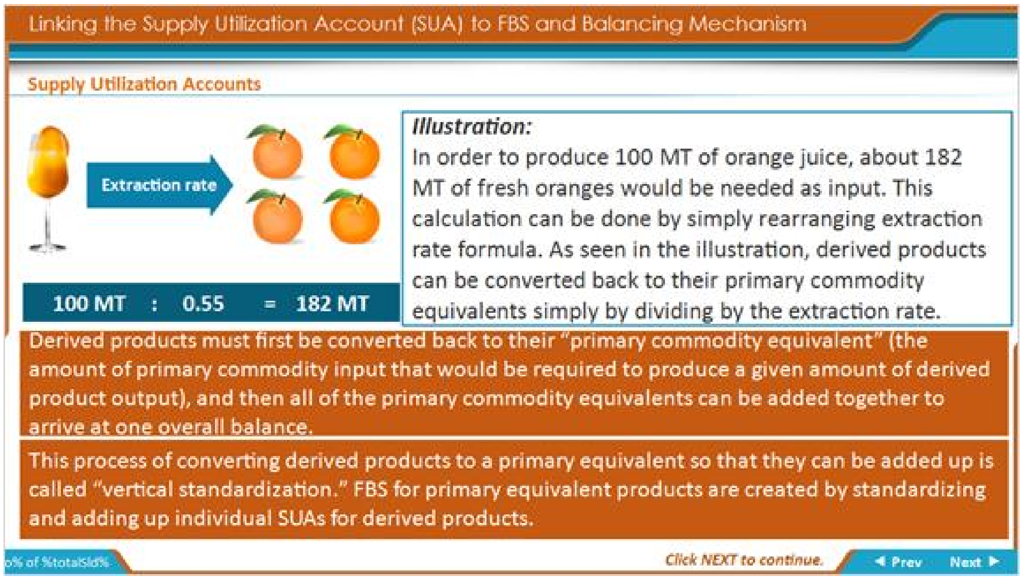
Illustration:

Company X sells both fresh oranges and orange juice, and they offer to sell the customer either 100 MT of fresh oranges or 100 MT of orange juice for the same price. Furthermore, Company X offers to process the fresh oranges into juice free of charge at an extraction rate of 55 percent (that is, 0.55 MT of juice output per 1 MT of fresh orange input). FBS compilers will recognize that the customer should most definitely choose the juice instead of the fresh oranges, because 100 MT of fresh oranges will only yield around 55 MT of juice after processing.

0% of %totalSld% *Click NEXT to continue.* ◄ Prev Next ►

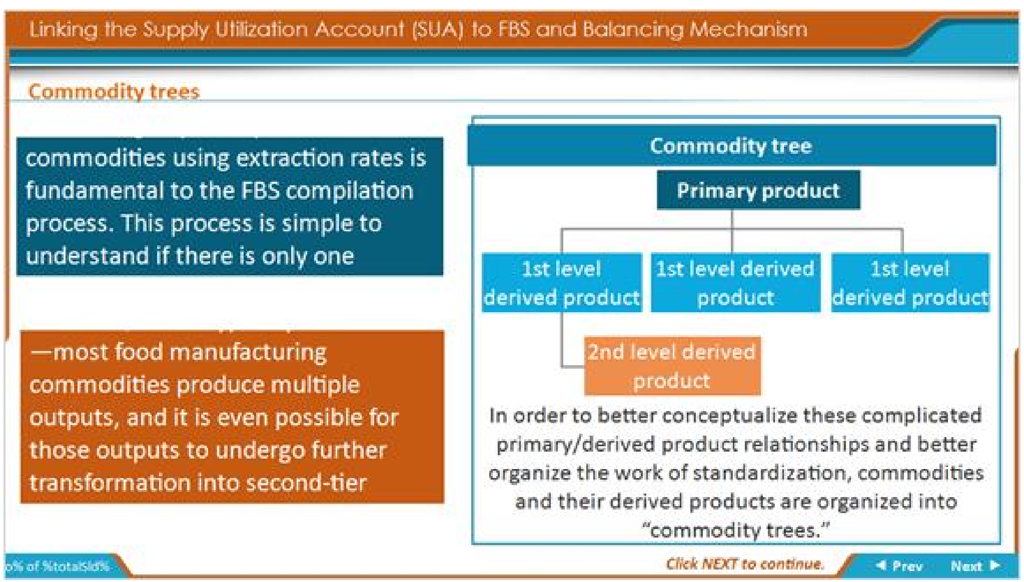
Notes:

1.8 Supply Utilization Accounts



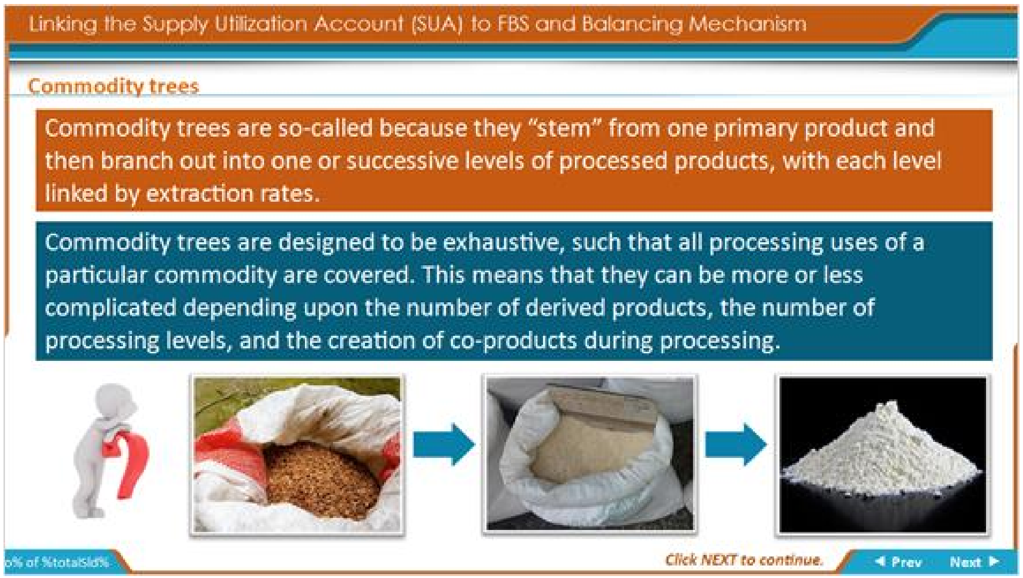
Notes:

1.9 Commodity trees



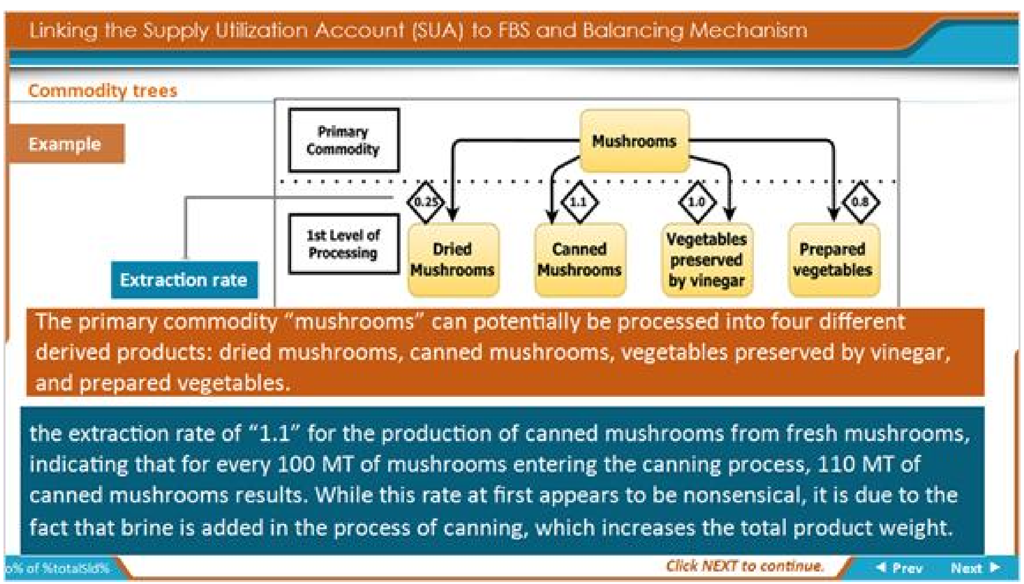
Notes:

1.10 Commodity trees



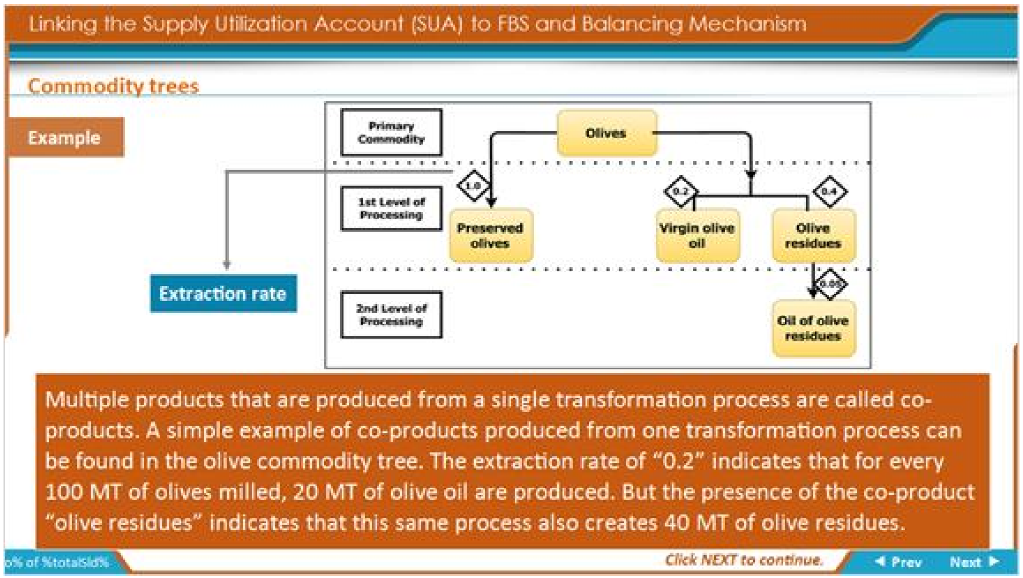
Notes:

1.11 Commodity trees



Notes:

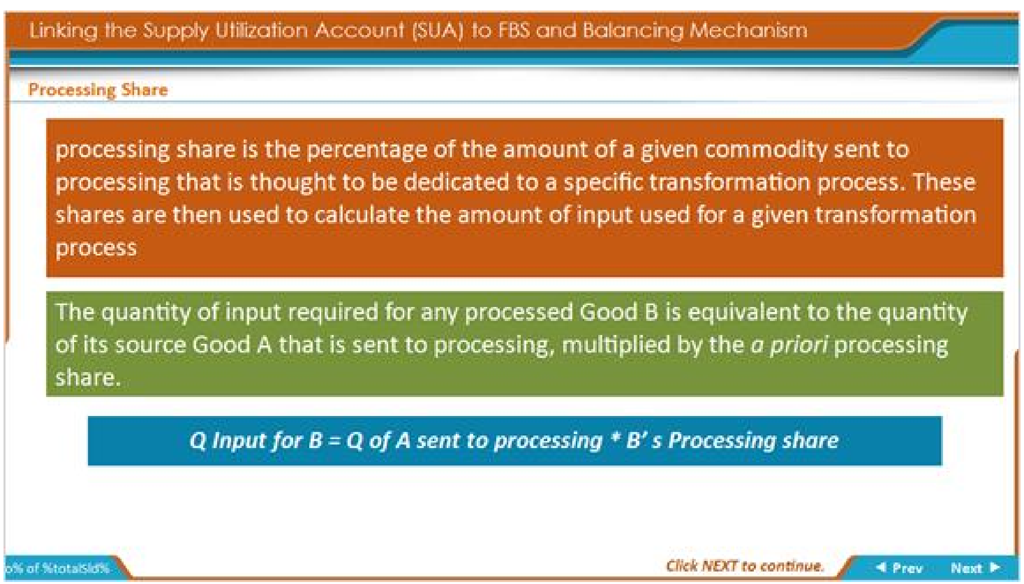
1.12 Commodity trees



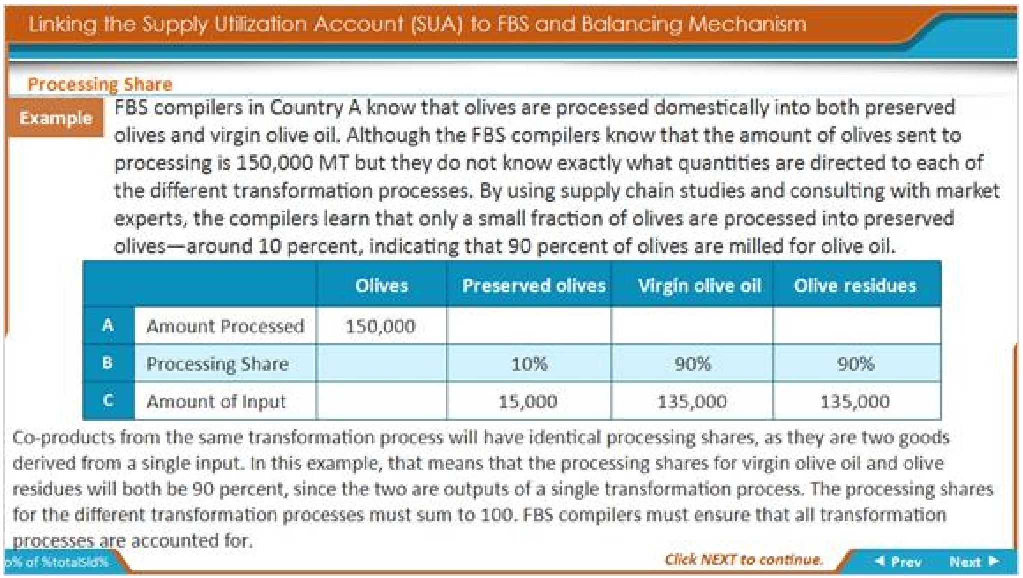
Notes:

The tree structures for nearly all commodities that undergo processing are available on FAO's website. Countries are encouraged to review those trees and update them as necessary for their purposes. These factors are contained within the document, Technical Conversion Factors for Agricultural Commodities, available here: http://www.fao.org/fileadmin/templates/ess/documents/methodology/tcf.pdf.

1.13 Processing Share



1.14 Processing Share



Linking the Supply Utilization Account (SUA) to FBS and Balancing Mechanism

Processing Share

Example

FBS compilers in Country A know that olives are processed domestically into both preserved olives and virgin olive oil. Although the FBS compilers know that the amount of olives sent to processing is 150,000 MT but they do not know exactly what quantities are directed to each of the different transformation processes. By using supply chain studies and consulting with market experts, the compilers learn that only a small fraction of olives are processed into preserved olives—around 10 percent, indicating that 90 percent of olives are milled for olive oil.

		Olives	Preserved olives	Virgin olive oil	Olive residues
A	Amount Processed	150,000			
B	Processing Share		10%	90%	90%
C	Amount of Input		15,000	135,000	135,000

Co-products from the same transformation process will have identical processing shares, as they are two goods derived from a single input. In this example, that means that the processing shares for virgin olive oil and olive residues will both be 90 percent, since the two are outputs of a single transformation process. The processing shares for the different transformation processes must sum to 100. FBS compilers must ensure that all transformation processes are accounted for.

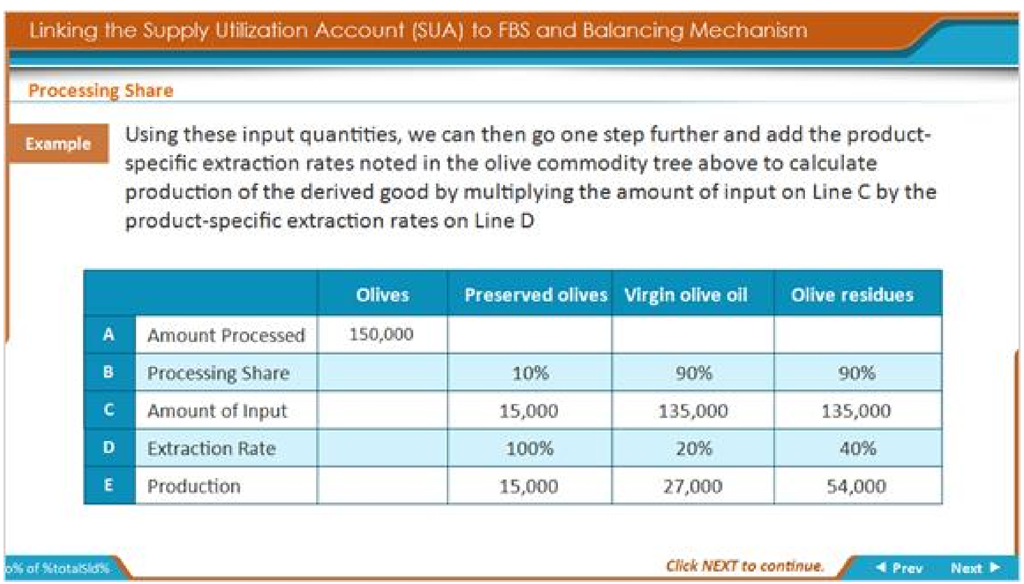
0% of %totalSld%

Click NEXT to continue. ◄ Prev Next ►

Notes:

For this example, although there are three output goods, there are only two transformation processes, so we only need to add the 10 percent processing share for preserved olives and the 90 percent processing share for olive oil as a check here.

1.15 Processing Share



Linking the Supply Utilization Account (SUA) to FBS and Balancing Mechanism

Processing Share

Example

Using these input quantities, we can then go one step further and add the product-specific extraction rates noted in the olive commodity tree above to calculate production of the derived good by multiplying the amount of input on Line C by the product-specific extraction rates on Line D

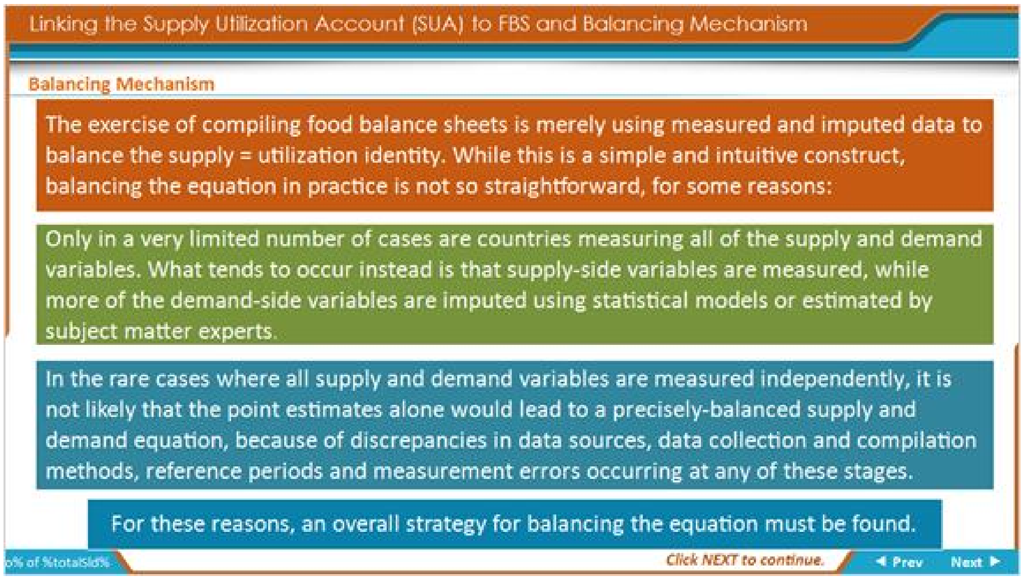
		Olives	Preserved olives	Virgin olive oil	Olive residues
A	Amount Processed	150,000			
B	Processing Share		10%	90%	90%
C	Amount of Input		15,000	135,000	135,000
D	Extraction Rate		100%	20%	40%
E	Production		15,000	27,000	54,000

0% of %totalSld%

Click NEXT to continue. ◄ Prev Next ►

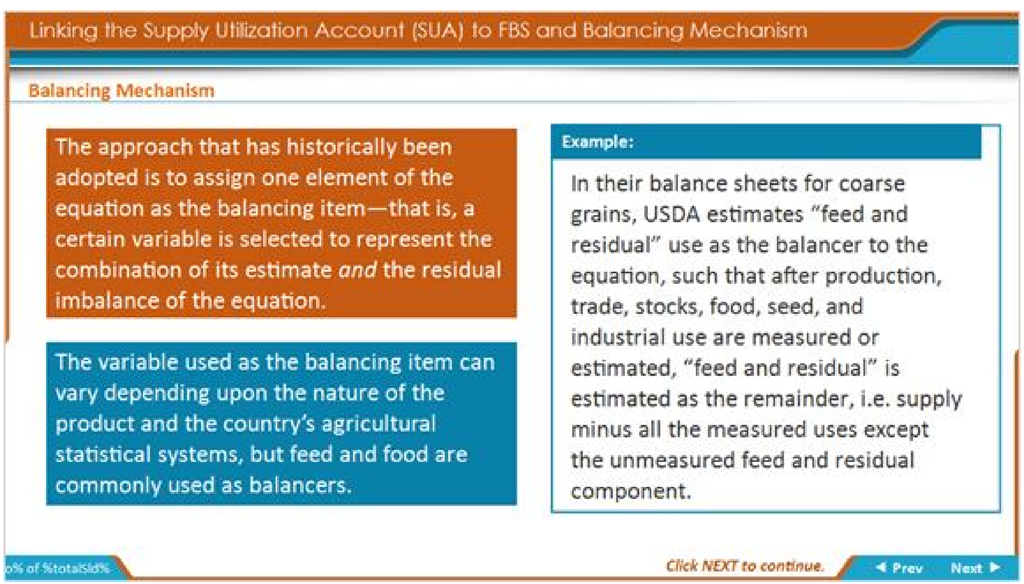
Notes:

1.16 Balancing Mechanism



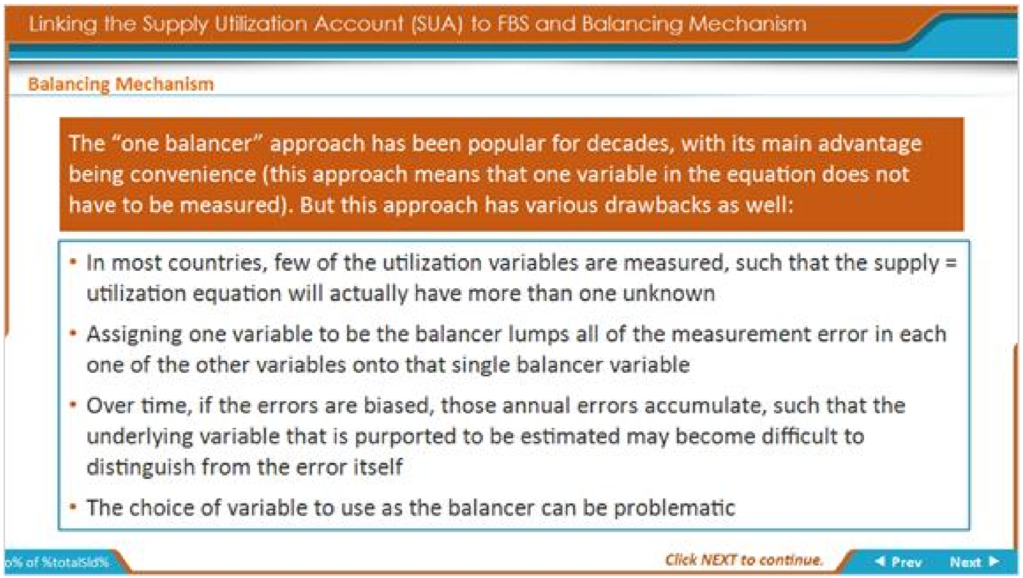
Notes:

1.17 Balancing Mechanism



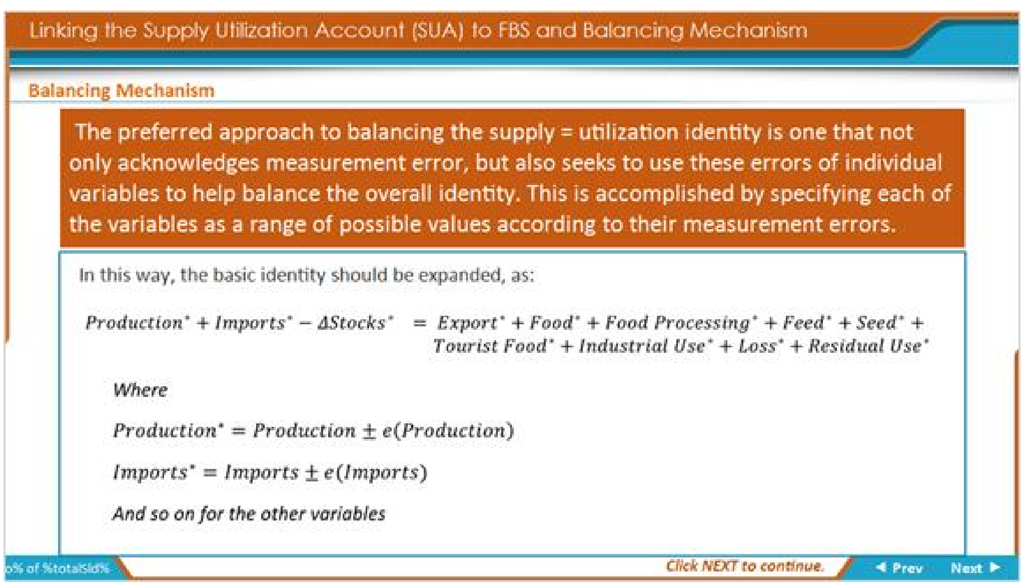
Notes:

1.18 Balancing Mechanism



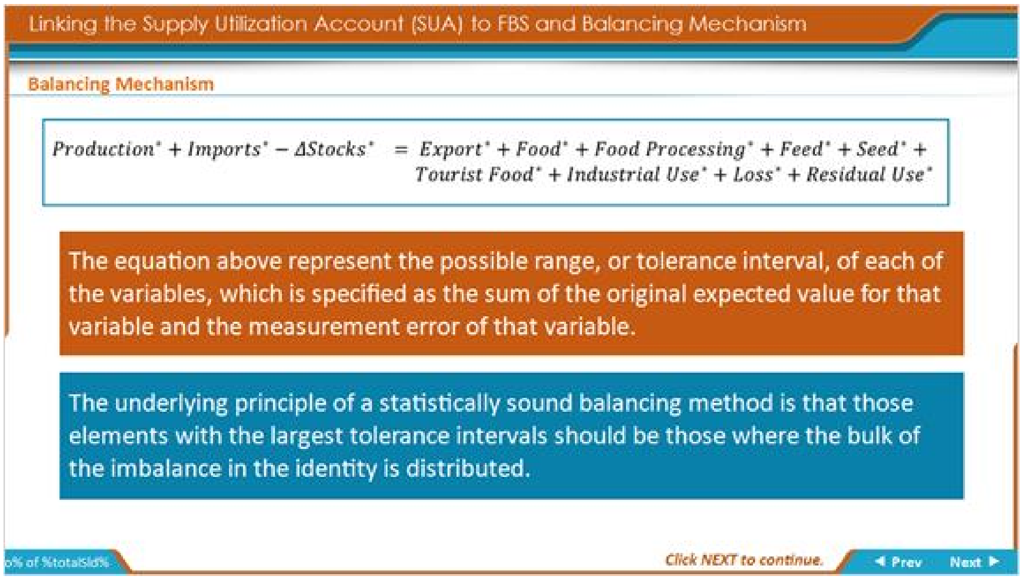
Notes:

1.19 Balancing Mechanism



Notes:

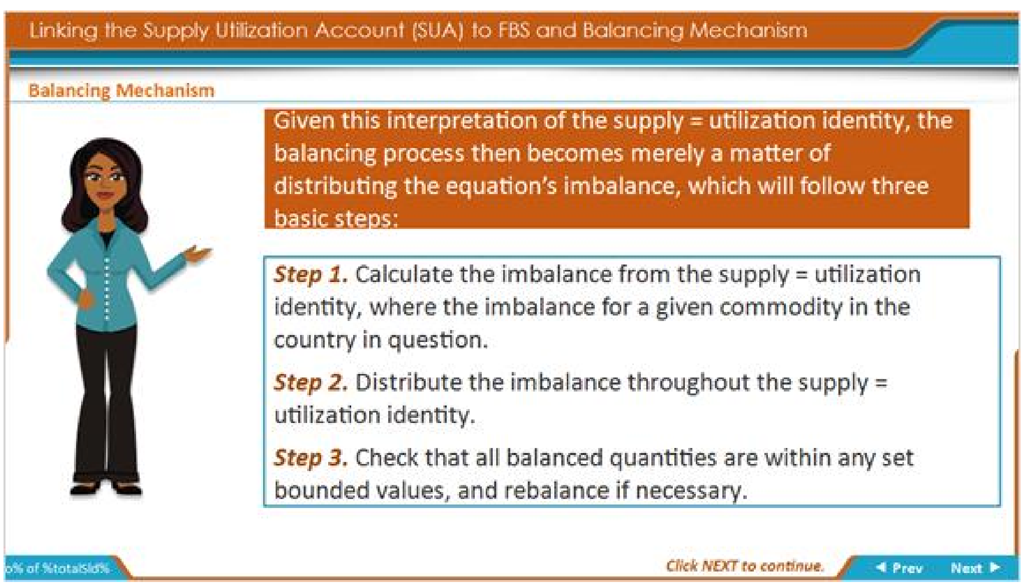
1.20 Balancing Mechanism



Notes:

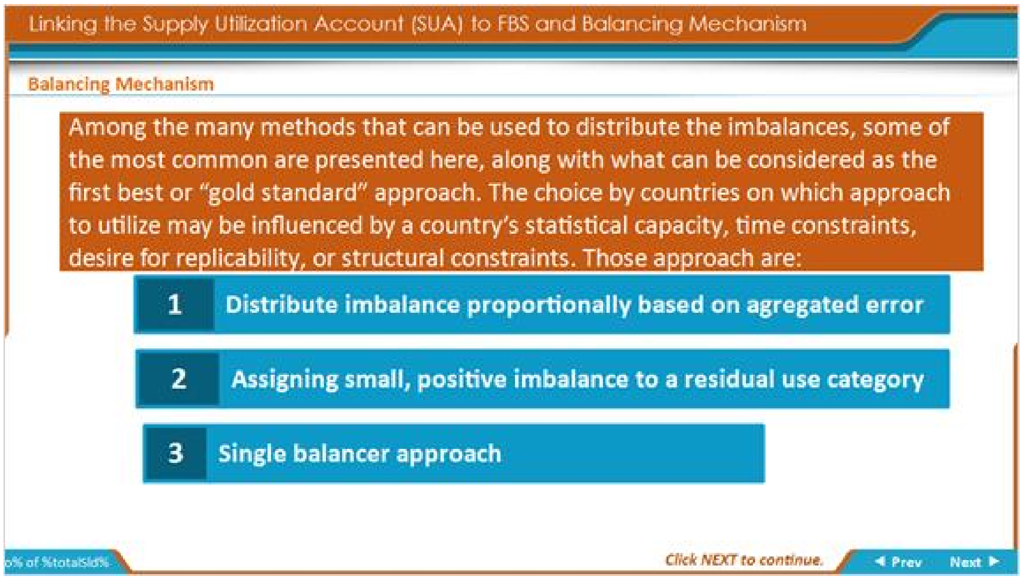
Further guidance on the estimation of these tolerance intervals is detailed in the next lesson

1.21 Balancing Mechanism



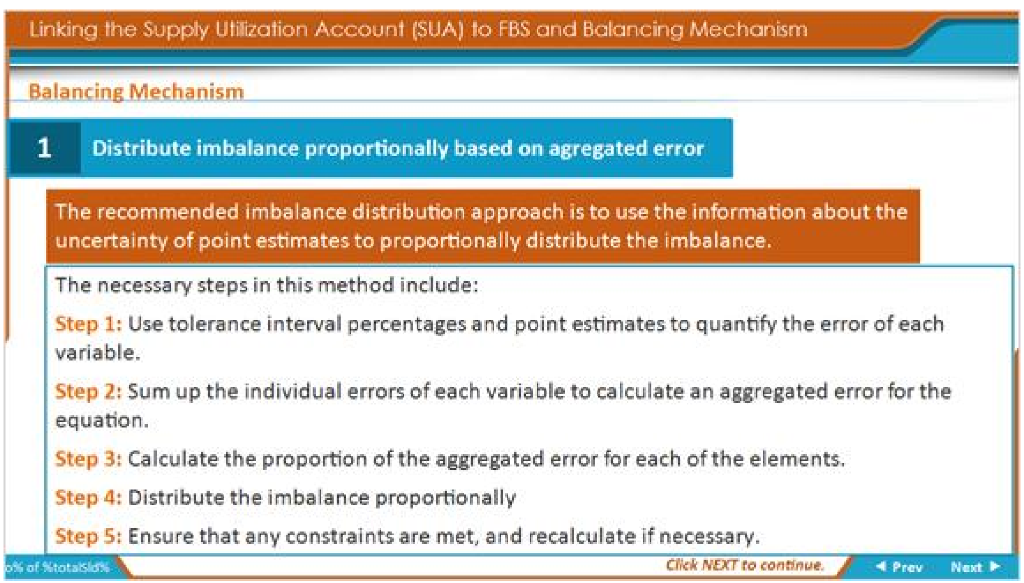
Notes:

1.22 Balancing Mechanism



Notes:

1.23 Balancing Mechanism

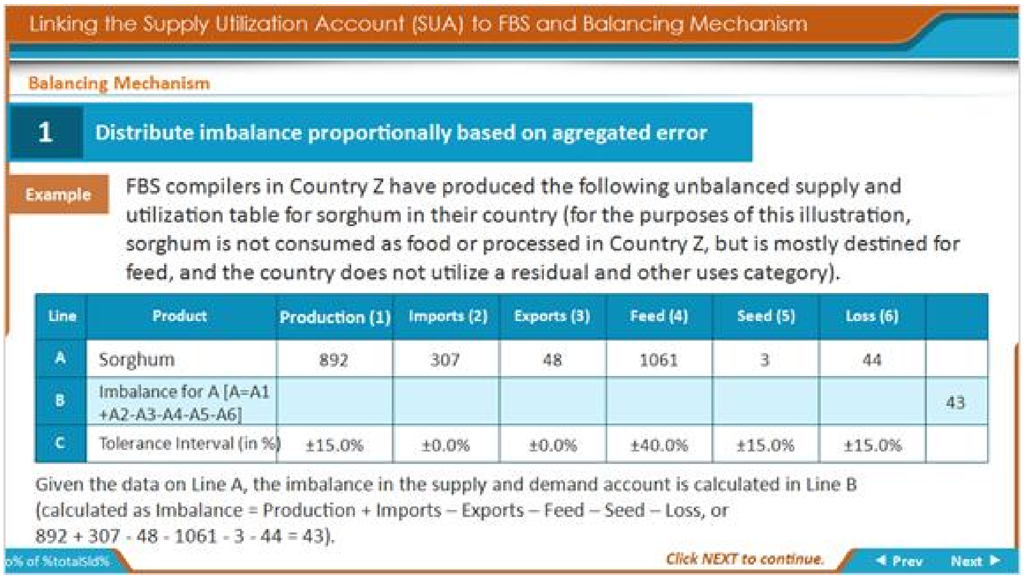


Notes:

If the quantity for a given variable should remain fixed because it is an official estimate, a tolerance interval of zero can be assigned.

Negative imbalance indicates that production and import variables must be increased and the remaining variables must be reduced from their pre-balanced values, while the opposite is true for a positive imbalance.

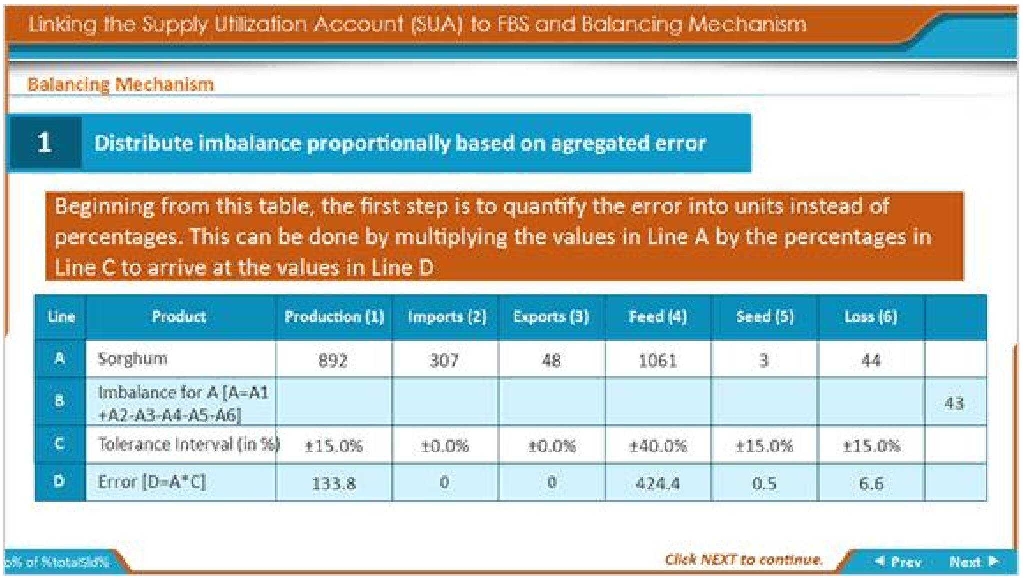
1.24 Balancing Mechanism



Notes:

Several variables have been eliminated from this short example, for simplicity’s sake

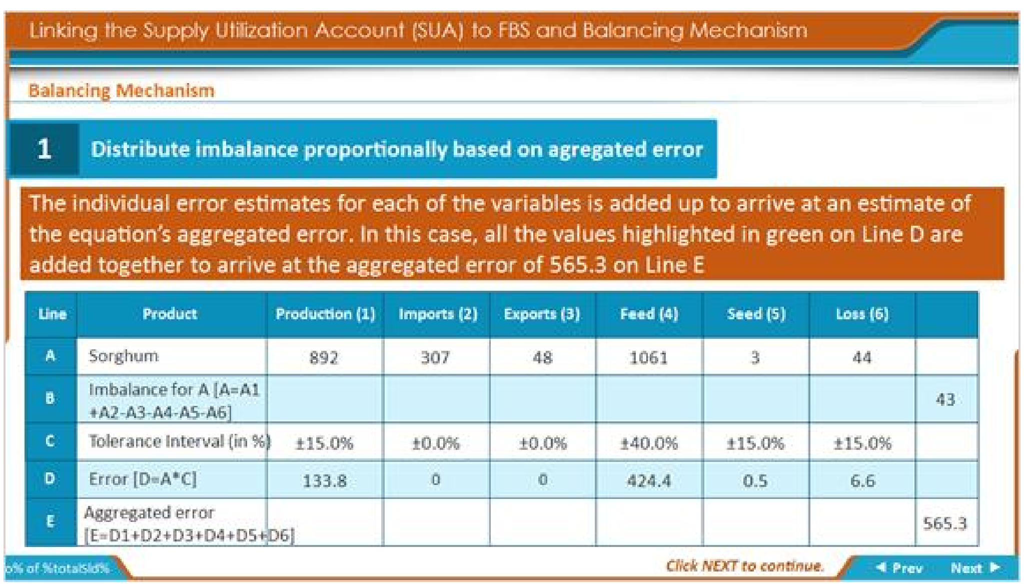
1.25 Balancing Mechanism



Line	Product	Production (1)	Imports (2)	Exports (3)	Feed (4)	Seed (5)	Loss (6)	
A	Sorghum	892	307	48	1061	3	44	
B	Imbalance for A [A=A1 +A2-A3-A4-A5-A6]							43
C	Tolerance Interval (in %)	±15.0%	±0.0%	±0.0%	±40.0%	±15.0%	±15.0%	
D	Error [D=A*C]	133.8	0	0	424.4	0.5	6.6	

Notes:

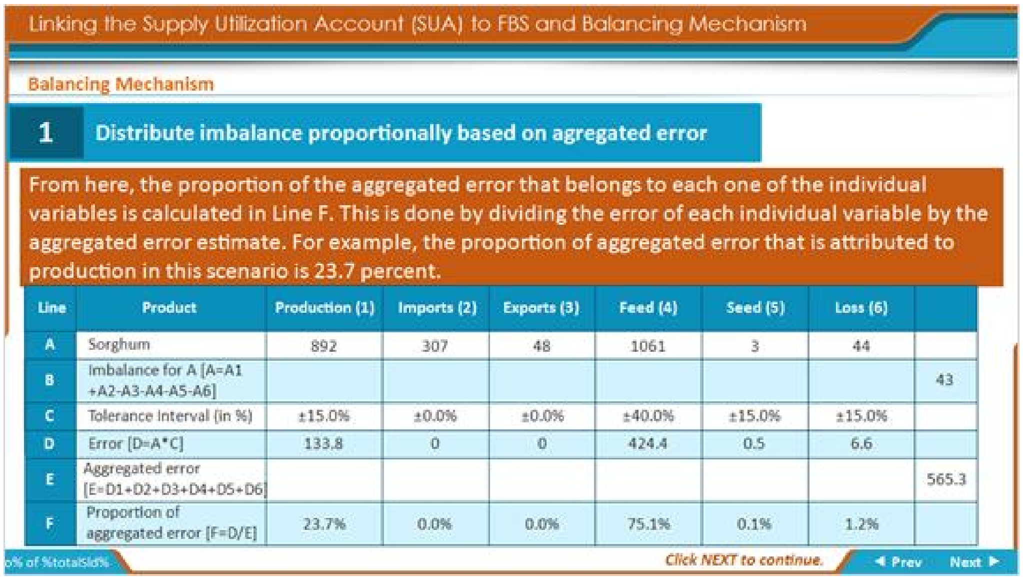
1.26 Balancing Mechanism



Line	Product	Production (1)	Imports (2)	Exports (3)	Feed (4)	Seed (5)	Loss (6)	
A	Sorghum	892	307	48	1061	3	44	
B	Imbalance for A [A=A1 +A2-A3-A4-A5-A6]							43
C	Tolerance Interval (in %)	±15.0%	±0.0%	±0.0%	±40.0%	±15.0%	±15.0%	
D	Error [D=A*C]	133.8	0	0	424.4	0.5	6.6	
E	Aggregated error [E=D1+D2+D3+D4+D5+D6]							565.3

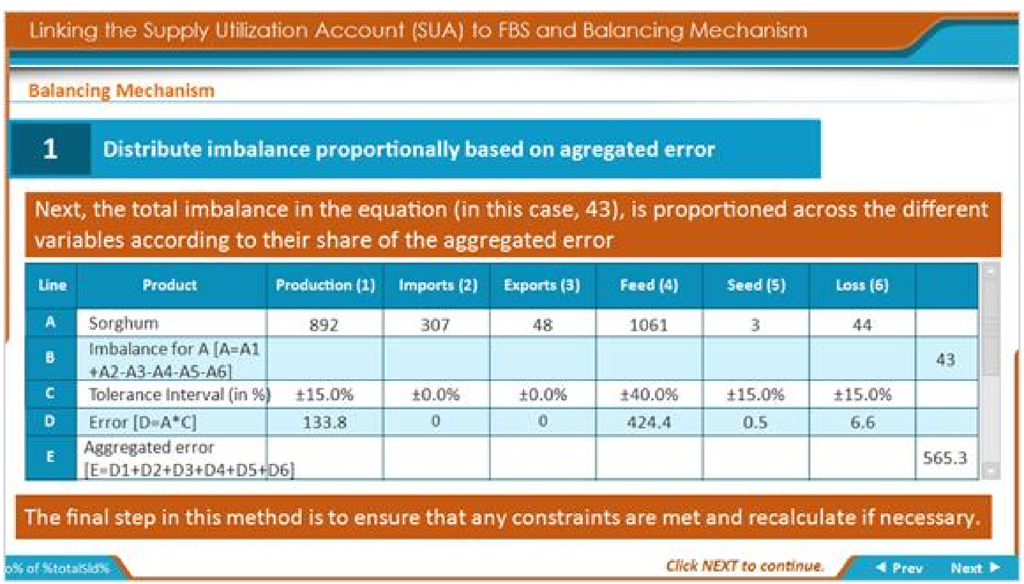
Notes:

1.27 Balancing Mechanism



Notes:

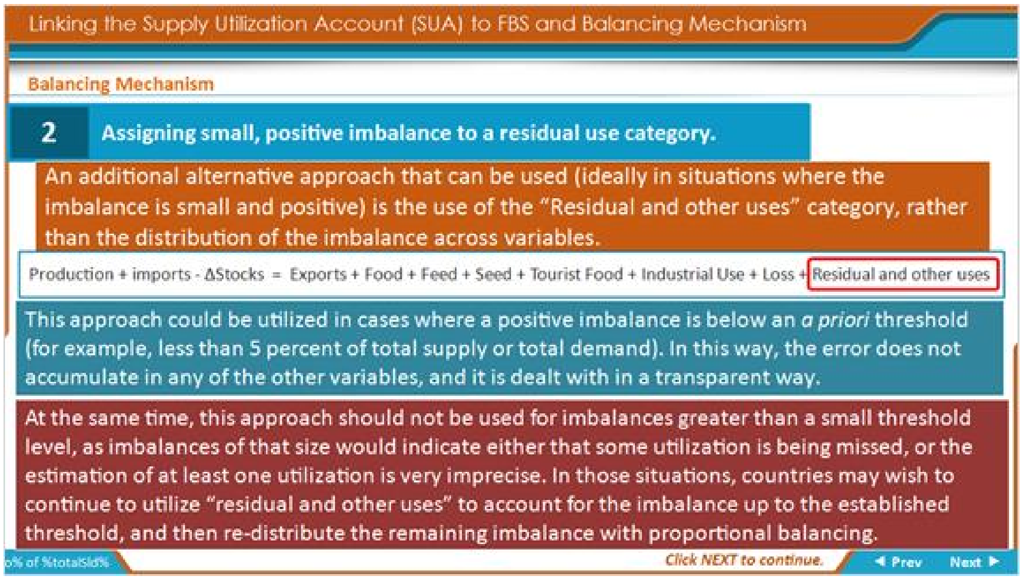
1.28 Balancing Mechanism



Notes:

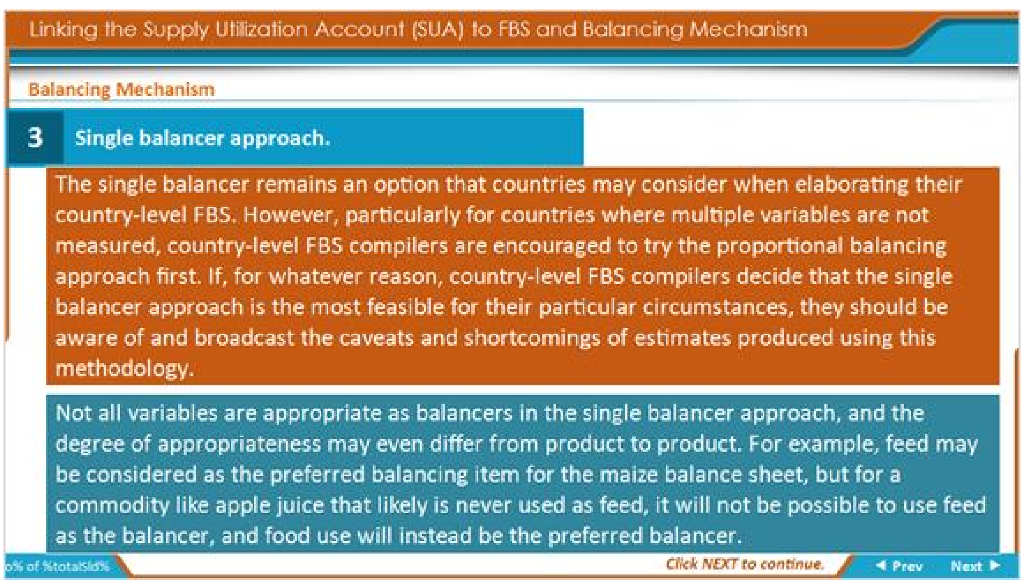
In this particular simplification, no values violate any constraints, so no rebalancing is necessary and the account can be considered to be balanced.

1.29 Balancing Mechanism



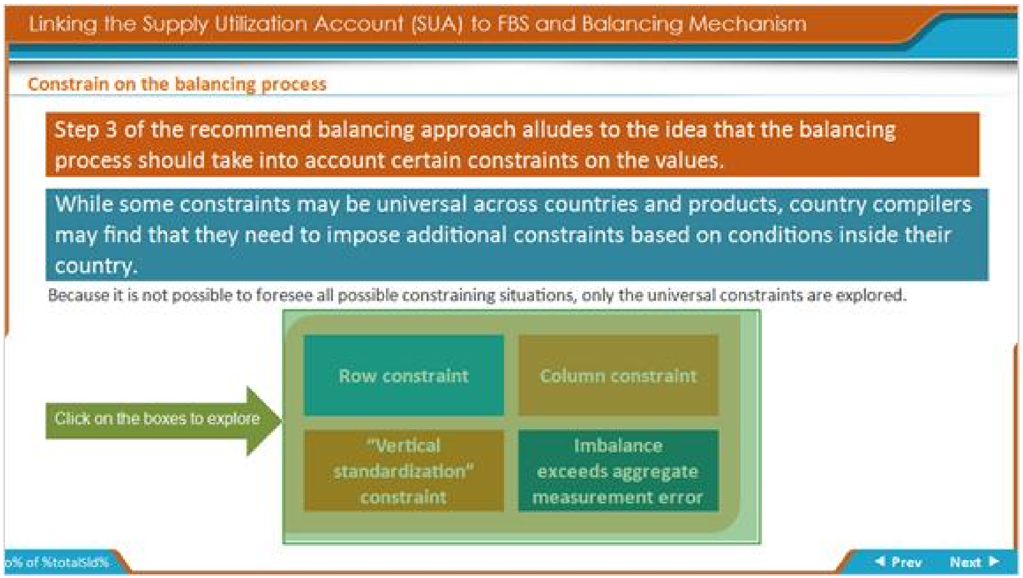
Notes:

1.30 Balancing Mechanism



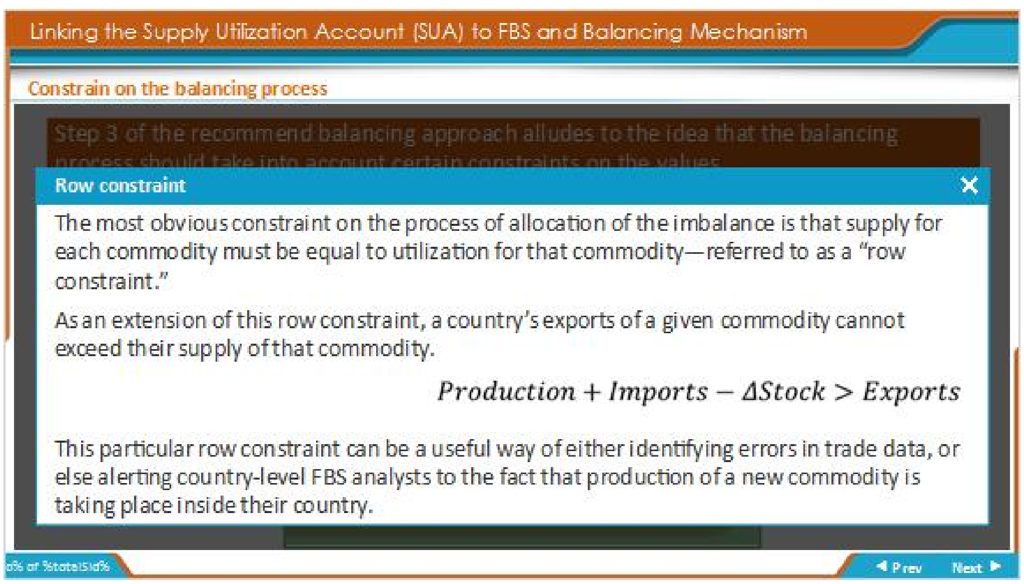
Notes:

1.31 Constrain on the balancing process

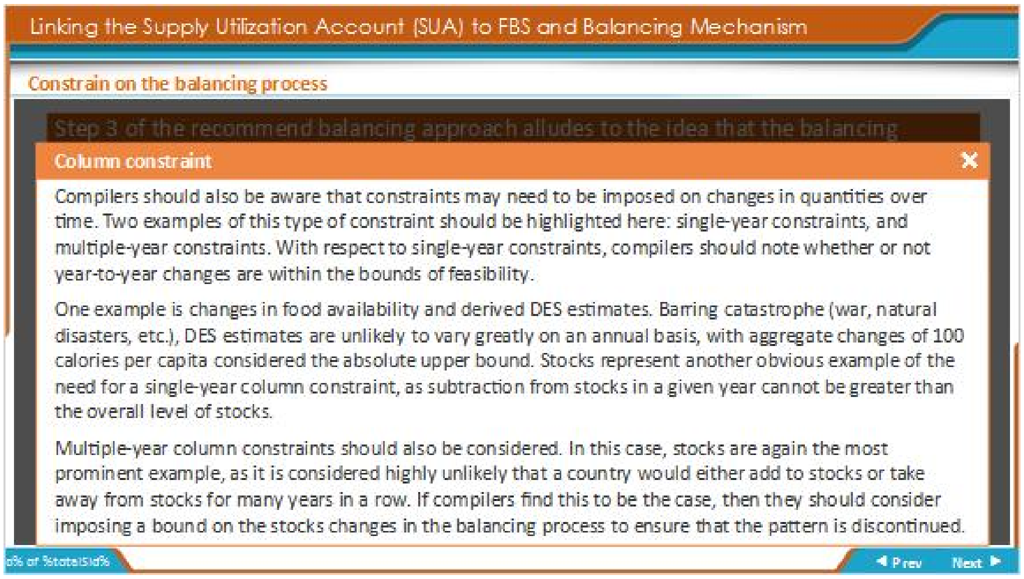


Notes:

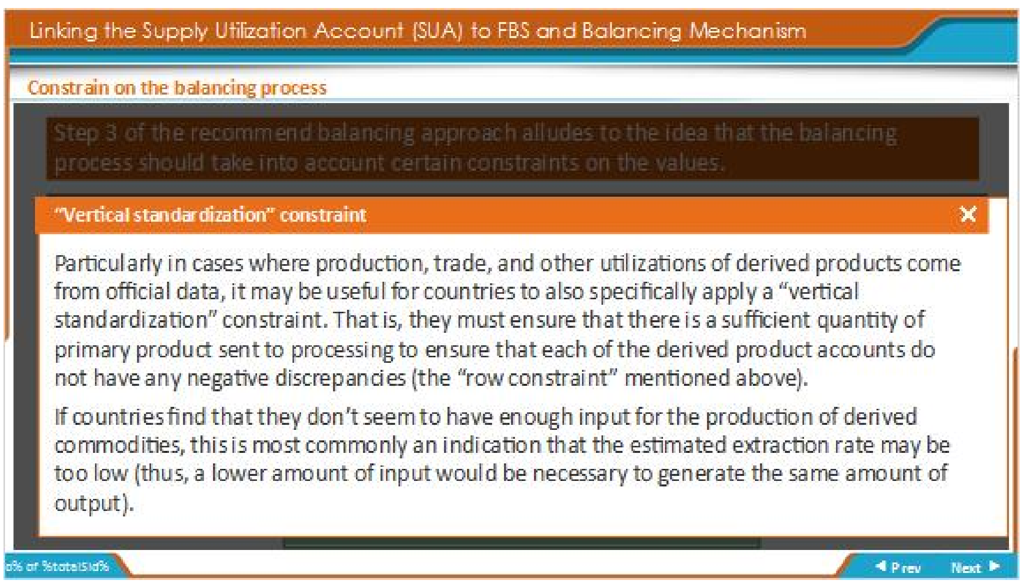
Tab 1 (Slide Layer)



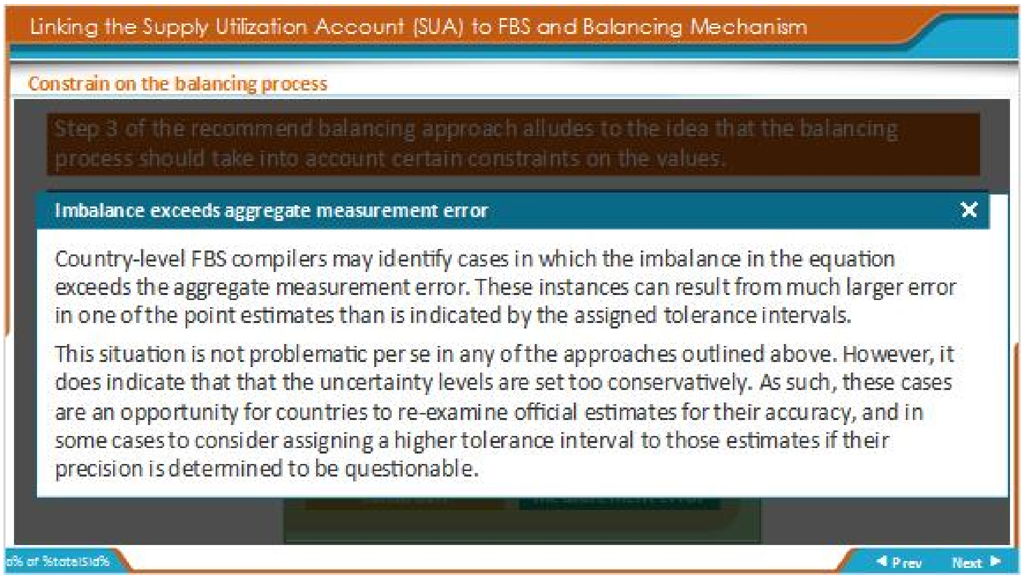
Tab 2 (Slide Layer)



Tab 3 (Slide Layer)

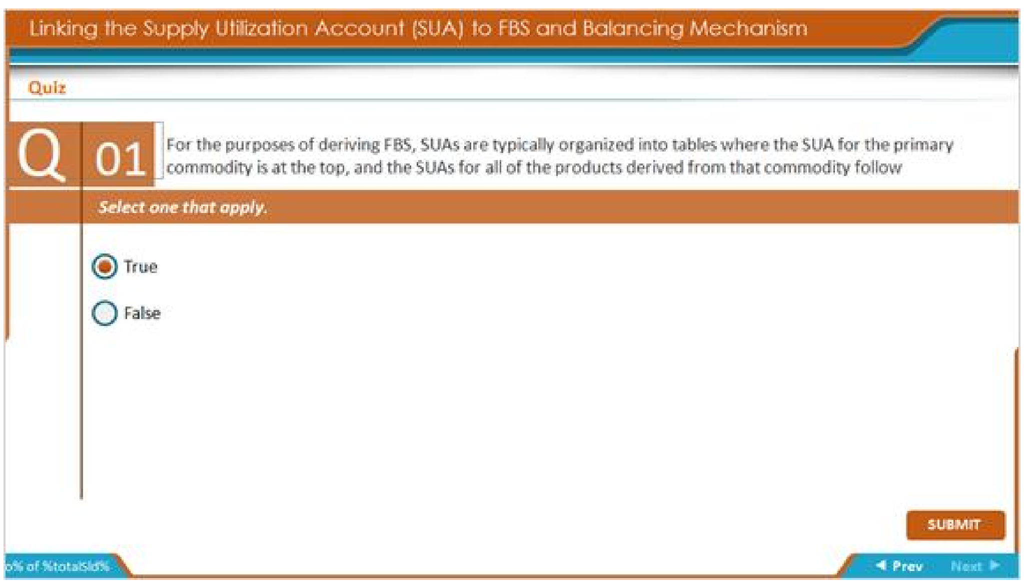


Tab 4 (Slide Layer)



1.32 Quiz 1

(Multiple Choice, 10 points, 1 attempt permitted)

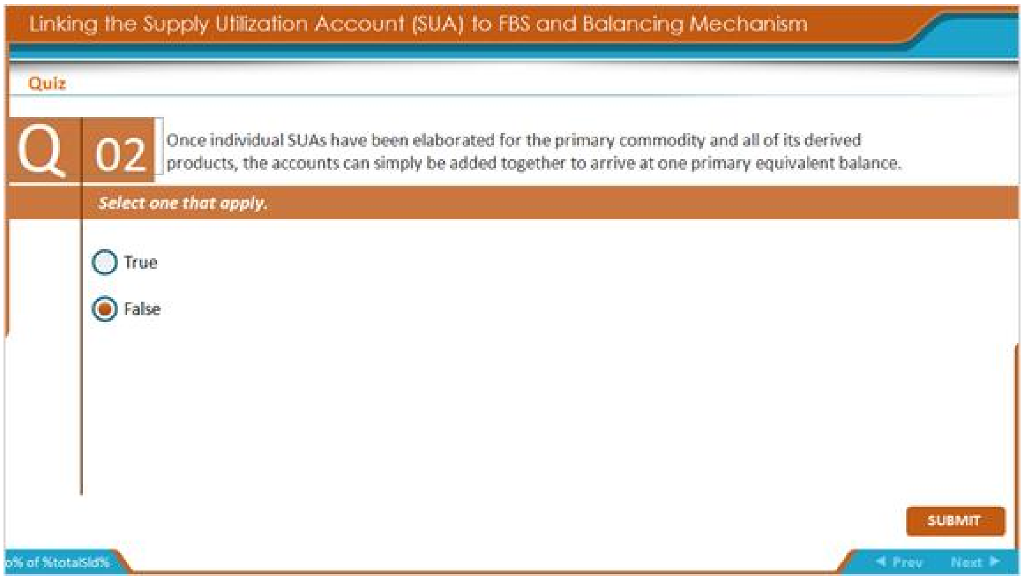


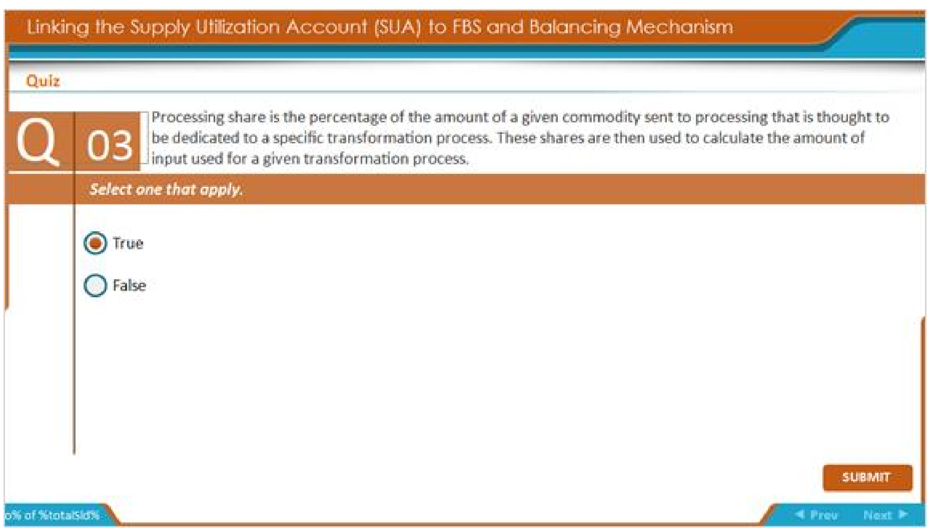
Feedback when correct:

That's right! You selected the correct response.

1.33 Quiz 2

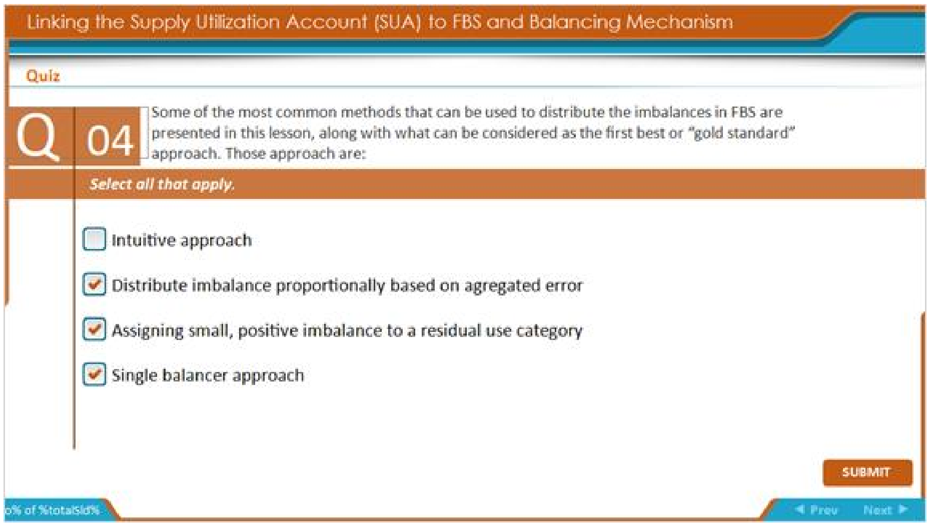
(Multiple Choice, 10 points, 1 attempt permitted)





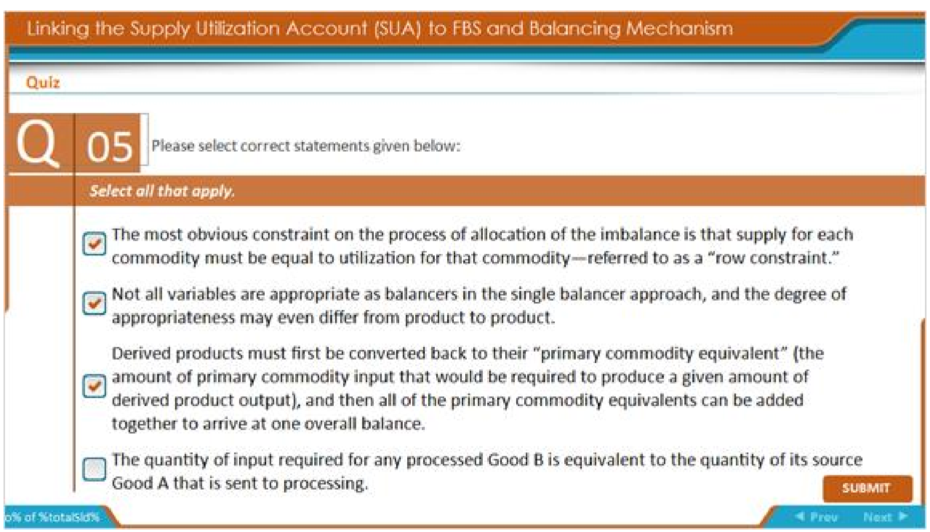
1.35 Quiz 4

(Multiple Response, 10 points, 2 attempts permitted)

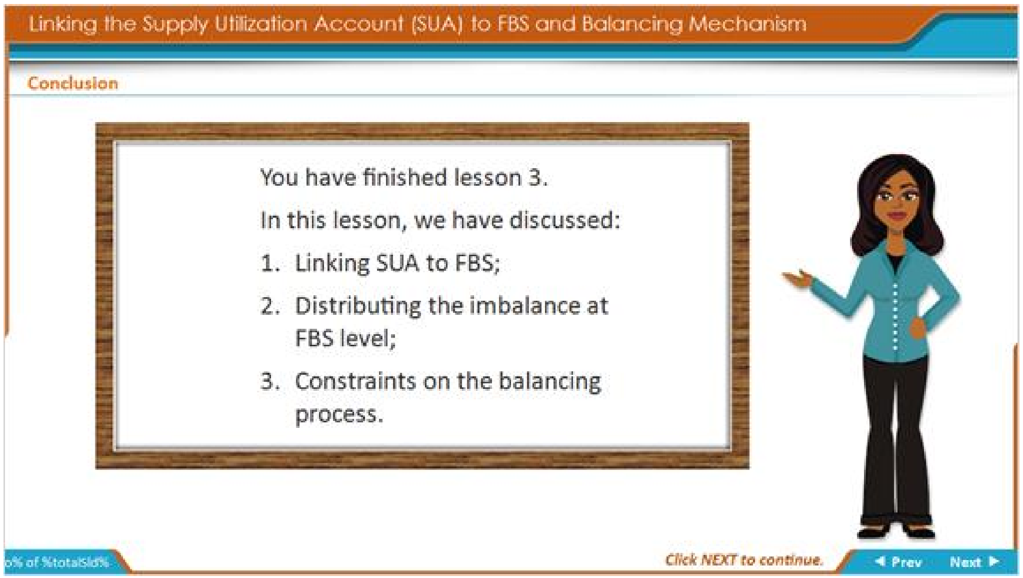


1.36 Quiz 5

(Multiple Response, 10 points, 2 attempts permitted)



1.37 Conclusion



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1.38 Thank You

Notes: