Phoenix Application Note

Cocoa Butter

Introduction

This application note describes the general results when measuring cocoa butter using for the Phoenix NIR Analyzers.

Method

All samples were run on a Phoenix Series NIR Analyzer and calibrations were developed using Alligator Calibration software.

All samples were analyzed between 40-50° C. Samples were mixed well before loading in the cup taking care to minimize air bubbles.

The following sample accessories were used:
Ring Cup
0.3 mm reflector

Results

Samples were collected from many locations around the world and include many different types of cocoa butter.

All results are on as-is basis.

Definitions

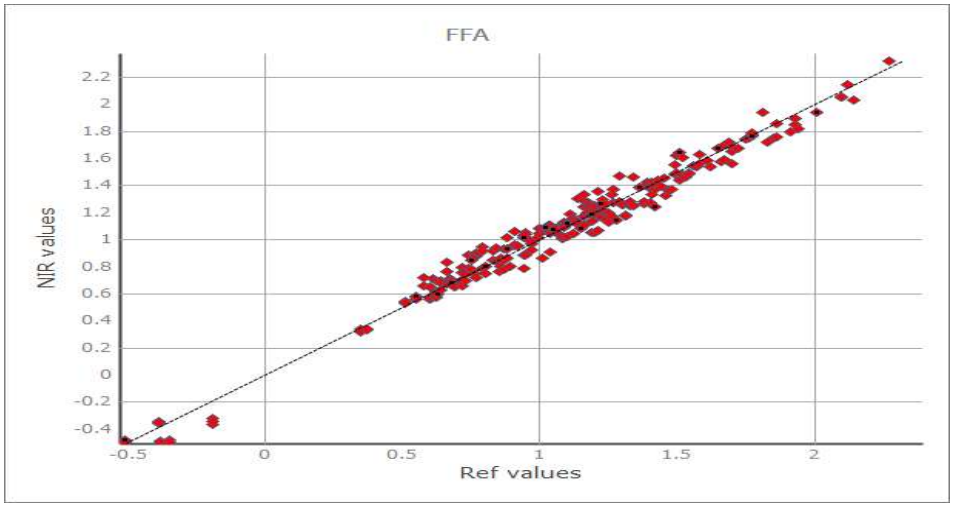
# of Samples: Total number of samples for each constituent.

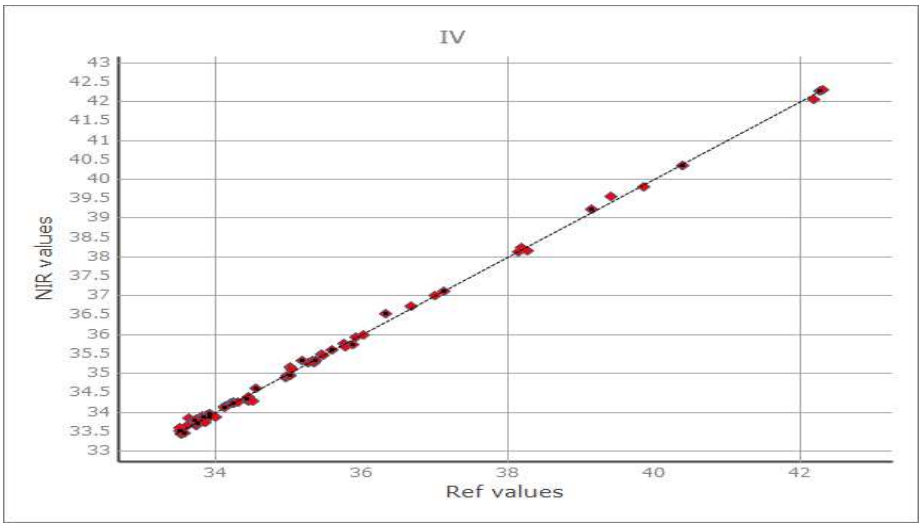
Range: Constituent range in the calibration

R^2: Correlation coefficient is the agreement between the wet chemistry and NIR results. Correlation is dependent on lab accuracy and constituent range.

SECV: Cross Validation Error of the calibration. This value is approximately what can be expected when using the calibration for routine analysis.

Constituent	# of Samples	Range	R^2	SECV
FFA	472	0.1 – 2.2	0.97	0.077
Iodine Value (IV)	204	33.5 – 42.3	0.99	0.3


FFA
NIR values
Ref values
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.5
0
0.5
1
1.5
2


IV
NIR values
Ref values
43
42.5
42
41.5
41
40.5
40
39.5
39
38.5
38
37.5
37
36.5
36
35.5
35
34.5
34
33.5
33
34
36
38
40
42