Practical Instructions for Routine Operation of NIRS

ISI Check Cell Equation

1. To start, click on “Routine Analysis”
2. Before analyzing samples, verify check cell equation.
3. Select “ISI Check Cell Equation” from the menu.
4. Replace metal plate with check cell.
5. Click on “Files” and “Spectra File” and select “chk.nir” from the menu.
6. On the drop down menu for the analysis file, select “no” for the storage option.
7. Click on “Done” and then “Extend”.
8. Click on “Scan”.
9. In the sample number field, type in today’s date and add analyst’s initials to the analyst field.
10. Click on “analyze”.
11. After the spectra scan appears, click on “Exit”.
12. The results should indicate: “No change in check cell and T= <3”
13. Print screen with results for QA manager by pressing the “Print Screen” key. Next, click on “Start”, “Accessories”, and “Paint” and then paste.

Routine Analysis

1. To start, click on “Routine Analysis”
2. Load sample cell.
3. Select product based on feed code (SOP 664) and NIR transfer form
4. Product options will include “Hay, Fresh, Alfalfa (ah equ.)”, “Hay, Fresh, grass & grass mix (gh equ.)”, “Hay, Fresh, legume& grass / legume mix (mh equ.)”, “Corn silage”, and “Haylage-grass/legume mix (hg equ.)”
5. Click on “Files”
6. Click on appropriate spectra file from the table & SOP 664
7. Click on “Ok” and “Extend”
8. Choose appropriate analysis file name from the table & SOP 664
9. Click on “Ok” and “Extend”
10. Click on “Scan”
11. Enter lab number with a leading zero and analyst’s initials
12. Click on “scan”
13. The spectra scan will appear – Click “exit”
14. According to SOP 664.1, ensure following diagnostic parameters for each equation are displayed

Equation	**Filename**	Diagnostic Parameters
13-gh50b-2.eqa	1h*FY*[*a-z*]_gh.txt	Lab numbers, Sugars

13-hg50b-2.eqa	1h*FY*[*a-z*]_hg.txt	Lab numbers, ADP
12-mh50-2.eqa	1h*FY*[*a-z*]_mh.txt	Lab numbers, IVTDMD48H
13-ah50b-2.eqa	1h*FY*[*a-z*]_ah.txt	Lab numbers, RUP
13-cs50b-2.eqa	1h*FY*[*a-z*]_cs.txt	Lab numbers, Starch

15. Click on the enter key three times
16. Write down all of the file types being used on the NIR form.
17. Repeat for all sample

QC Samples

1. Follow schedule listed on Weekly QA Reporting Protocol and also choose at least one appropriate QC samples for the type of samples being analyzed.
2. Select product based on feed type
3. Enter sample number is date (0507) plus QC number – Example: 0507QC12GH07
4. Analyze sample like a routine sample
5. Check results (DM, CP, ADF, NDF) to see if passing

Transferring and Saving Data

1. Click on “Exit to Program Manager”
2. Click on “No” when asked about turning off lamp
3. Select files to transfer – write down the files used on the NIR form
4. Click on “View and Modify File” and “All File Types”
5. Select appropriate file with “anl” extension (reference NIR transfer form)
6. Click on “Ok” and scroll to check and ensure the results for the samples analyzed are present.
7. Click on “file”, “export”, “to a file”, and find appropriate txt file (“1” will be in front of the file name)
8. Click on “yes” and “overwrite”
9. Click on “ exit to program manager”
10. Repeat steps 2 through 8 for each “anl” you worked with
11. Click on “Start” and “Save Data”
12. Copy paperwork and save in monthly folder
13. Click on “File exit to Program Manager”