SPECIFICATION FOR (NIR) Grain ANALYSER

Near infrared Transmittance analyser for straight determination of Protein,fat ,fiber , moisture,starch,ash..etc… in in whole seed form without grinding of samples, directly on the original sample with a system to divide the sample into sub-samples automatically. Instrument should be rugged, dust and waterproof, vibration tolerant with automatic data recording system. The optical system should contain scanning, grating monochromator 570 - 1100 nm. Total Analysis time approx. 1 minute for a sample. The instrument to be supported by a flexible software packageproviding routine analysis with all essential accessories, built-in-multigrain cell. System should be able to handle Artificial Neural Network calibrations.

- Sample configuration : Stand-alone or network

- Wavelength range : 570-1100 nm

- Data points : >200 ,

- Optical Bandwidth : 7 nm

- Detector : Silicon ,

- Data point generator : Scanning Monochromator

- Measurement technique : Transmittance

- Sample presentation : Flow through sample system.Number of sub samples should be 20 for better analysis.

- Communications : Printer ,modem,external PC,LAN,Key board,Barcode,USBport ,Remote I/O , Self test. ,

- Calibration transferability : Yes

- Data Storage : USB memorystick for results and scans.

- Result presentation : Locally on screen and printer as well as on local or centralcomputer.,

- Outlier detector : Yes

- Calibration technique : Artificial Neural Network(ANN) and Partial Least Square (PLS) , Result report :Presented on the display as default ,Should be able to sent toPC/LIMS and Printer.

- Type of sample : Whole grain and with the optional Sample Transport Moduleto measure samples with lower quantities, Should be upgradeable to measure flour and semisolid samples .
- Networking : Analyzers should be possible to be networked with the manufacturers software.

- Freewares available on internet should not be used for networking to maintain privacy.
- Cleaning : Should have auto cleaning system. Calibration software should e supplied.
- Machine should be independent of variations due to sample temperature for accuracy.
- Machine Should be able to Measure semisolid and liquid samples.
- Machine Should be able to measure samples with low quantites e.g 50 seeds .
- Machine Should be able to measure Test Weight/hectoliter weight of samples.
- Warranty on monochromator should be for at least for 04 years.

***