



CropScan 3000B

Grain Analysis System



**The Next Generation
of Near Infrared Analysers**

CropScan 3000B Grain Analysis System

Near Infrared Transmission (NIT) Spectroscopy

Near Infrared Transmission Spectroscopy is the most widely used technology for measuring protein, oil and moisture in grains and oil seeds. NIT analysers offer farmers, grain buyers, grain processors, bio-fuel producers, and feed companies, a rapid means of determining the composition of their incoming materials, their process streams and the final products. NIR Technology Systems' range of Whole Grain Analysers require no grinding and are designed for ease of use.

When operated from our CropNet software, the CropScan analysers can collect weighbridge data and combine all the information and send it to the web. From our CropNet software, farmers can monitor the inload and outload of grain, post data to buyers with complete silo profiles of the protein, moisture, oil, test weight, screenings and tonnage of grain stored on farm.

CropScan 3000B Grain Analysis System

- Touch Screen Operation
- Measures Protein and Moisture in Wheat, Barley, Oats, Sorghum and Rice.
- Measures Protein, Oil and Moisture in Canola(Rape Seed), Soybean, Corn.
- Suitable for use in a farm office or weighbridge shed
- Weighbridge software available
- Internet software available

The CropScan 3000B Whole Grain Analyser is a bench top analyser designed for rapid measurement of protein, moisture, starch and oil in wheat, barley, corn, soybean, canola, oats, triticale, lupins and other cereals grains and oil seeds.

The CropScan 3000B uses a pour through sampling system with a inlet and outlet flap mechanism flowing the grain in and out of the sample chamber. Software automatically sets the sample pathlength to a 8, 16, 24 or 30mm as setup in the calibration file.

The Touch Screen PC provides users a simple to use interface. The screen is setup like a test report. Once the analysis been made for protein, moisture, oil etc,

the CropScan reads the Test Weight and Screenings from the Sievematic II, provides pop up menus for Variety, Storage Bin Name, Farmers Name, Paddock details etc. Then press the Print Report button and a Load Ticket is generated.

By connecting the CropScan 3000B to second monitor, then CropNet Farm Data Management Software provides a means of connecting to a weighbridge monitor and thereby capturing truck weights along with other grain quality measurement parameters. The duel screen option plugs right into the back of the 3000B and the CropNet FMD Software can be operated from a duel screen running off the CropScan 3000B's internal computer.



CropScan 3000B Whole Grain Analyser



CropScan 3000B

Serial Number: 1165

ABC GRAIN

2 FARMER RD LAVERTON NSW 2345

TOM BROWN

LOT 217

Product:	Wheat14B	Date:	11/03/2015
Sample	W5	Time:	10:50:55
Variety:			
Tonnage:			

Protein % (cm)	13.0
Moisture %	11.2
Test Weight kg/hL	
Screenings %	

Print Report

Ready



VIEWS



START



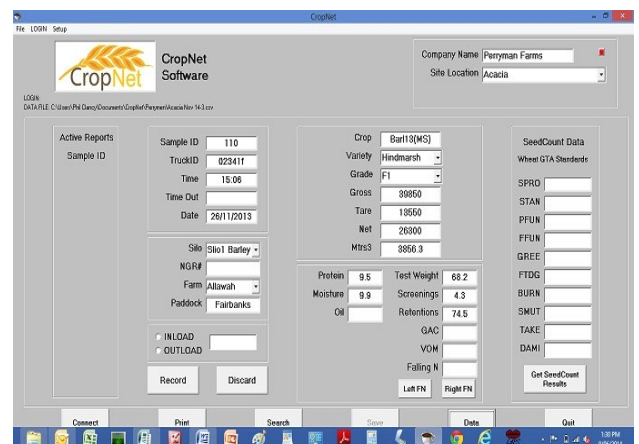
SETTINGS

CropNet Data Management Software

CropNet is a system including grain testing equipment, computers and software that can generate comprehensive information on the quality of grains in storage both on farm and at the silo. The system consists of:

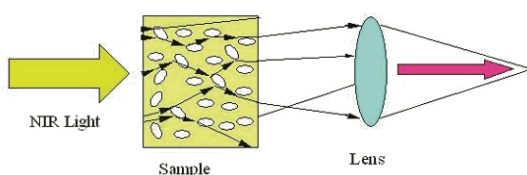
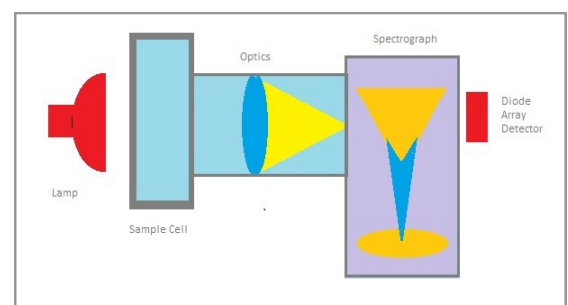
- CropScan 3000B Grain Analysis System
- SieveMatic II Test Weight and Screenings System
- SeedCount Sc5000R Imager Analyser for measuring black tip, black point, size, colour, defects and staining of grains.
- TACS Falling Number equipment.

CropNet Data Management Software reads the data from each instrument and the tonnage from the weighbridge and combines the data into a spreadsheet. Reports, Tables and Graphs can be generated from the CropNet Software and printer or emailed.



How the CropScan analysers work.

Light from the lamp, passes through a sample of grains or oil seeds. The light bounces off the surfaces of the grains or oil seeds and propagates through the sample until it reaches the other side. The emerging light is focused into the slit of a flat field spectrograph that separates the light into its individual frequencies, across the wavelength range from 720-1100nm. The separated light is then directed onto a silicon photo diode array detector. This array detector measures the intensity of the light at each frequency to produce what is called the NIT spectrum of the sample.



Within this region of the electromagnetic spectrum, N-H (protein), C-H (fats and oils) and O-H (water) and C-O-H (carbohydrates) absorb NIR light at specific wavelengths. The NIT spectrum contains information about the concentration of these components. Calibration models, stored in the CropScan's computer, converts this information to % Protein, % Moisture, % Oil and % Starch and displays the results on the screen.

Calibrations:

NIR Technology Systems has developed a range of calibrations for grains and oil seeds.

The following table shows the matrix of products vs constituents.

Product	Constituent
Hard Wheat	Protein, Moisture
Soft Wheat	Protein, Moisture
Durum Wheat	Protein, Moisture
Malt Barley	Protein, Moisture, Colour
Feed Barley	Protein, Moisture
Oats	Protein, Moisture
Sorghum	Protein, Moisture
Triticale	Protein, Moisture
Corn (Maize)	Protein, Moisture, Oil, Starch
Soybean	Protein, Moisture, Oil, Fiber
Canola	Protein, Moisture, Oil
Rice	Protein, Moisture, Amylose
Field Peas, Chick Peas	Protein, Moisture
Faba Beans	Protein, Moisture
Lupins	Protein, Moisture
Lentils	Protein, Moisture

CropNet Grain Analysis Systems:

NIR Technology Systems and Next Instruments has brought together a range of instruments and grain testing equipment to suit farmers, grain traders and bulk handlers:

SeedCount and CornCount Image Analysis Systems:



Sievematic Grain Shaker and Sievematic II Auto Test Weight and Screenings System



TACS Australia: Falling Number Equipment and GrainVac Vacuum Spear



GTE Sieves, Trays, Cups, Scales, Spears, Chondrometer.



Specification	CropScan 3000B
Wavelength Range	720-1100nm
Optical Detector	Silicon Diode Array
Lamp	Halogen 12VDC, 10W
Scan Rate	2-4 per scan
Sample Pathlength: Automatic	8, 16, 24 and 30mm
Display	Touch Screen PC Windows & OS
Power	19VDC using 110 –240VAC
Operating Temperature Range	5-45°C, 41-113°F,
Dimensions (cm) Weight (Kg)	40 W x 40 D x 33 H 12Kg

Manufactured by:

NIR Technology Systems

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