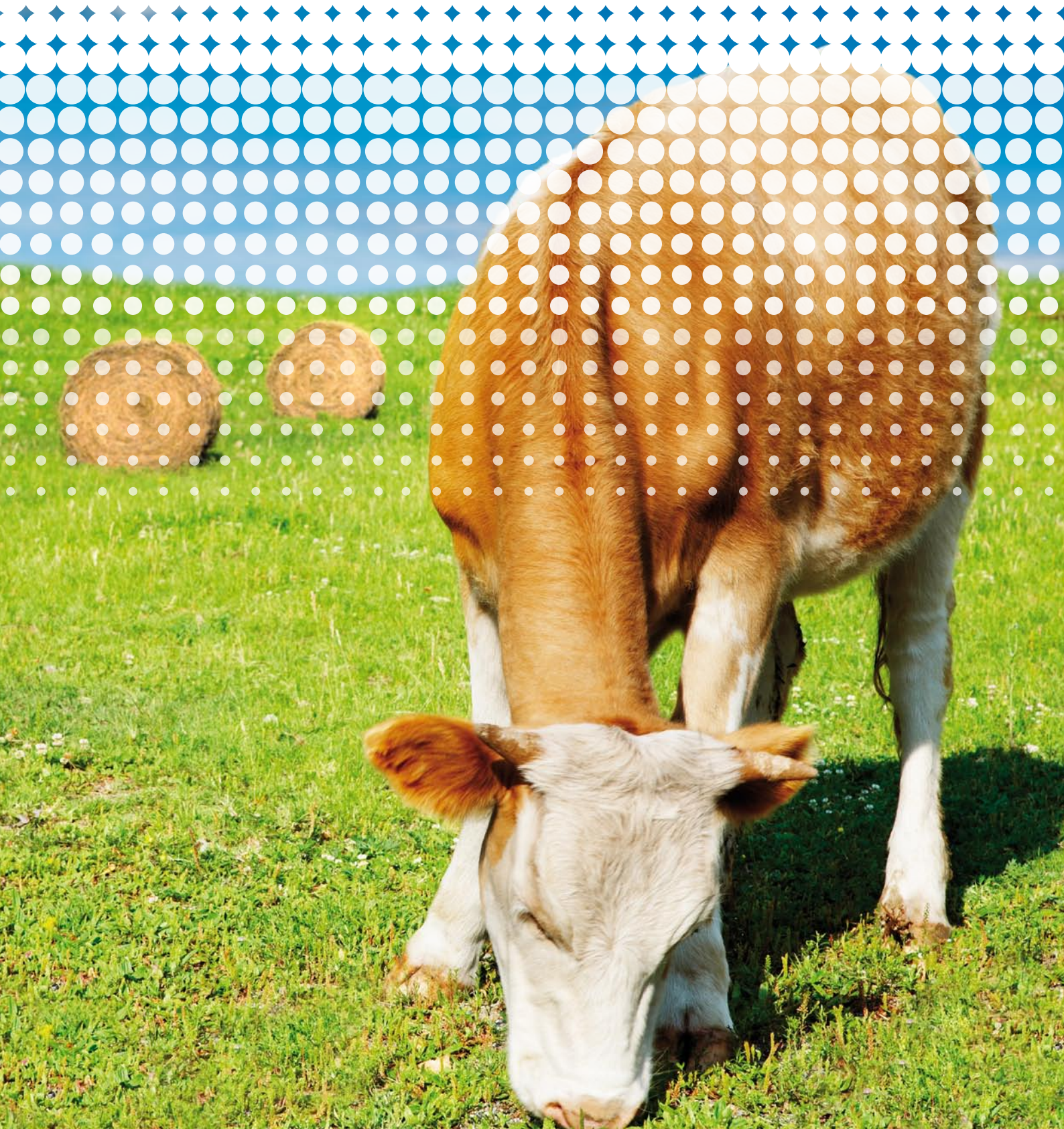




# AgriNIR™

PORTABLE ANALYZER FOR FORAGES



# AgriNIR™

the  
*bread-and-butter*  
instrument  
for any farmer

## THE PRODUCT

AgriNIR™ is a portable NIR analyzer for forages and grains that quantifies the percentage of moisture (dry matter), protein, starch, ash, ADF and NDF of the plant material being analyzed in seconds.



## FEATURES AND ADVANTAGES

### **Comfort**

Analysis performed on-site and in real time

### **Immediate results**

A complete analysis approximately in 60 seconds

### **Costs**

Low analytical costs (generally just depreciation)

### **Efficiency**

Virtually no sample preparation;

... a grab it and analyze it procedure;  
opportunity to increase measured replicates.

*More replicates mean more precision.*

### **Convenient**

The instrument is contained in a compact case.

All that is required for analysis in one place.

As soon as power is supplied and lamp stabilizes, sample analysis can begin.

### **Ready for Use**

The instrument is pre-loaded with NIR calibration curves for 6 NIR Families (Crop Families) and with a total of 33 curves

### **Maintenance**

Using a USB connection and the Internet there is the opportunity for constant and immediate diagnosis of the instrument and the predicted results

## VALIDATION

- AgriNIR™ has been validated and approved by University of Padua (Italy), Department of Animal Science in 2007.
- AgriNIR™ has been validated and approved by University of Cracow (Poland), Department of Animal Nutrition in 2008.
- All reference chemical Analysis in USA are conducted by commercial forage laboratories rated A or B by annual NFTA testing (National Forage Testing Association, USA)

**A laboratory in a trolley:**

- all of the components except the external power supply (AC or DC) are enclosed in high-impact transport case, that is equipped with wheels and an extendable handle

*Easy*  
to move  
& to operate

**AgriNIR™ system****The system components:**

- sample holding cup
- NIR light source and detector
- rugged, high capacity computing device
- user Interface with keyboard, display, printer and USB port 110v AC and 12v DC
- AC power cable
- lighter adapter for field use

**Optional:**

- GSM/GPRS communication mobile

**SIZE****Material:** ABS**Dimensions:** 50 x 30 x 46 cm (approximately 20 x 12 x 18 inches)**Weight:** 19 Kg (approximately 42 pounds)

ABS provides a rugged and sturdy enclosure for measuring components

**ACCURACY****Moisture:** 2 %**Starch:** 3 %**Crude Protein:** 3 %**Ash:** 3 %**ADF:** 3 %**NDF:** 3 %**USER INTERFACE****Keys:** Soft**Display:** LCD 1/4 VGA

Easy to read on-screen instructions makes for easy operation

**OPERATING ENVIRONMENT****Working temperature**

0°C / +40°C (104°F)

**Power supply**

110 - 220v AC

(external power supply included)

9 - 32v DC

(lighter plug or vehicle battery clips included)

## NIR FAMILIES (CROP FAMILIES)

In this table, the 33 NIR calibration curves (Y) are shown in their relationship to each of the 6 NIR Families (Crop Families).

NIR FAMILIES (Crop Families)	CHEMICAL PARAMETERS					
	Moisture	Starch	Crude Protein	Ash	ADF	NDF
Corn Silage	Y	Y	Y	Y	Y	Y
Alfalfa Hay	Y	n.a.	Y	Y	Y	Y
High Moisture Corn	Y	Y	Y	Y	n.a.	Y
Hay	Y	n.a.	Y	Y	Y	Y
Grass Silage	Y	Y	Y	Y	Y	Y
TMR	Y	Y	Y	Y	Y	Y

33 calibration curves included by default in the instrument so that you can immediately start to analyze your material on site and begin seeing the advantages offered by using AgriNIR™. New NIR Families (Crop Families) or Chemical Parameters calibration curves can be developed by specific customer request (C0/C1/C2 Maintenance Programs).

## HOW TO USE IT

- Put the material in the sampling cup
- Insert the sampling cup into the AgriNIR™
- Start the analysis, and read the result on the display; the analysis results can be printed on ticket or transferred to PC



# DG NIR MANAGER

SOFTWARE SUITE

a *Software Suite* for NIR experts

NIR experts looking for new development

## THE PRODUCT

Software suite for the creation and the updating of the calibration curves: new NIR families (Crop Families) or new Chemical Parameters of the existing NIR Families (Crop Families). Useful tool for NIR experts able to independently update the calibration curves. A key point for accurate readings.

## MAIN FEATURES

### NIR Information Manager

Definition of new NIR Families (Crop Families) and related chemical parameters analyzed

### Spectra Collection Manager

Acquisition of spectra scanned by AgriNIR™ and their management in an SQL DB

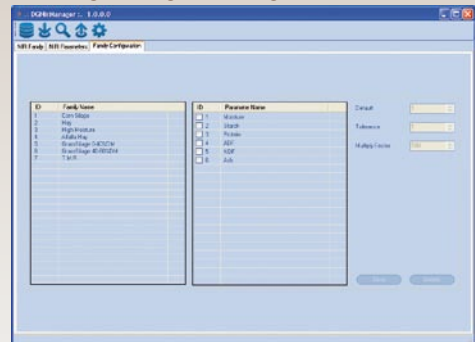
### Spectra and Curves Manager

Mathematical treatment of spectra thanks to libraries of algorithms available and capability to export and import data to/from standard software for MULTIVARIATE STATISTICAL ANALYSIS

### AgriNIR™ Data Manager

Creation of files ready for updating AgriNIR™ device; all data are protected

### NIR INFORMATION MANAGER



### SPECTRA COLLECTION MANAGER



### SPECTRA AND CURVES MANAGER



### AGRINIR™ DATA MANAGER



## DG NIR MANAGER

Updating of the calibration curves can be done with a USB key or by GSM/GPRS.

*Different Solutions for Different Customers.  
Customization is key to our philosophy.*

## MAINTENANCE OF NIR CALIBRATION CURVES

TASKS	Model Maintenance Classes		
	K0*	K1	K2
Get samples from field, representative of your working area (10 for each family to be upgraded).	user	user	user
Scan samples using AgriNIR™ and save SPECTRA on USB key, tagging each sample SPECTRA and physical sample with a unique ID.	user	user	user
SEND to dg/a.p.** physical samples with unique ID and USB key with all SPECTRA, previously stored.	user	----	user
Perform reference chemical analysis on each physical samples using your reference LAB.	user	user	dg/a.p.**
Send to dg/a.p.** results of reference chemical analysis and USB key with all SPECTRA, previously stored.	user	user	----
Data evaluation and mathematical treatments (based on dg/a.p.** NIR Manager sw package).	user	dg/a.p.**	dg/a.p.**
Development of the new calibration curves.	user	dg/a.p.**	dg/a.p.**
Updating of the AgriNIR™ calibration curves (through USB key or directly via GSM/GPRS).	user	dg/a.p.**	dg/a.p.**

\* Class K0 should be reserved to those users who are or employ an NIR expert  
 \*\* dinamica generale®/authorized partner

## CREATION OF NIR CALIBRATION CURVES

TASKS	Model Development Classes		
	C0*	C1	C2
Get samples from field, representative of your working area (100 for each new family to be developed).	user	user	user
Scan samples using AgriNIR™ and save SPECTRA on USB key (starting from GRASS SILAGE NIR FAMILY), tagging each sample SPECTRA and physical sample with a unique ID.	user	user	user
SEND to dg/a.p.** physical samples with unique ID and USB key with all SPECTRA, previously stored.	user	----	user
Perform reference chemical analysis on each physical samples using your reference LAB.	user	user	dg/a.p.**
Send to dg/a.p.** results of reference chemical analysis and USB key with all SPECTRA, previously stored.	user	user	----
Data evaluation and mathematical treatments (based on dg/a.p.** NIR Manager sw package).	user	dg/a.p.**	dg/a.p.**
Development of the new calibration curves.	user	dg/a.p.**	dg/a.p.**
Updating of the AgriNIR™ calibration curves (through USB key or directly via GSM/GPRS).	user	dg/a.p.**	dg/a.p.**

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## NOTE

Keys to success are in the hands of the user

- **Key1:** User must obtain at least 10 unique and representative samples for each NIR Family (Crop Family) of interest
  - **Key2:** User must provide a unique code for each sample and associate that code with each spectrum
- K1 Maintenance Class is included with instrument purchase.

# CONTACTS

GENERAL INFORMATION

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R&D DEPARTMENT

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CUSTOMER SERVICE

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# TDI ASSISTANCE

Technical assistance 24 hours a day, 365 days a year.

# QUALITY & CERTIFICATIONS

High work standards are a mainstay  
of the *dinamica generale*<sup>®</sup> philosophy.

The company obtained ISO 9001 certification in 1999  
and in 2003 obtained adaptation to norm ISO 9001:2000 (VISION 2000)  
and the prestigious ISO 14001 environmental management system certification.



ISO 9001/2000 ISO 14001

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