

Walloon Agricultural Research Centre



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Walloon Agricultural Research Centre
(CRA-W)

Agricultural Product Quality Department,

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- **Presentation of CRA-W
Walloon Agricultural Research Centre**
 - **Overview of the activities of
Agricultural Product Quality Department**





Walloon Agricultural Research Centre (Gembloux)

- **Founded in 1872**
- **Public Interest Organisation (OIP)**
- **Under the Regional Government of Wallonia.**

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CRA-W's missions



«CRA-W has the mission to assist the Government in the definition and the development of a integrated and concerted policy in agricultural Research».

(Walloon Decree of 3 July 2004)

To accomplish this mission, CRA-W has in charge of:

- * fundamental researches,
- * applied researches,
- * service activities.



CRA-W : multidisciplinary approaches



- Genetic Resources and plant breeding
- Crop production techniques
- Biodiversity
- Plant protection
- Agricultural equipments
- Animal Production and welfare
- Sustainable ecosystems
- ...
- Quality, traceability, food safety
- Valorisation of agricultural productions
- Development of analytical methods
- ...





Biometry, Data Management and Agrometeorology



Biotechnology



Agricultural Engineering



Biological Control and Plant Genetic Resources



Pesticide research



Crop production



Animal Production and Nutrition



Quality of Agricultural Products

Agricultural Systems (Libramont)



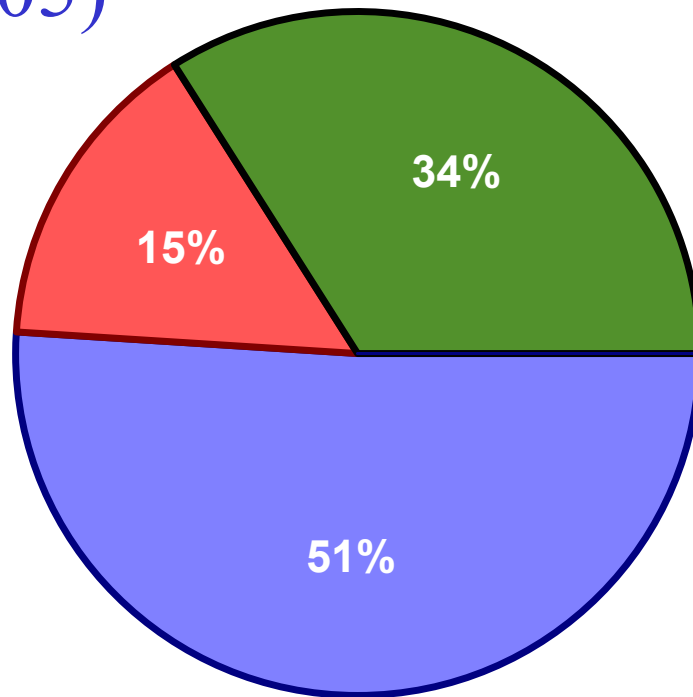
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Activity reports

Personnel:
~450,
Scientists:
~120

CRA-W budget : 33.038.000 €

(2005)

Service incomes
4 963 0000 €



Project contracts
11 200 000 €

- DGA-RW
- SPF-Santé Pub.
- SSTC - BFSPO
- EU
- Private
- ...

Regional subvention
16 875 000 €

13 597 000 € = Personal salaries (80%)
2 280 000 € = Operational costs
890 000 € = Investment cost (e.g. equipment) (3%)
108 000 € = Various

Buildings and permanent facilities excluded!

Quality of Agricultural Products Department

3 laboratories :

- **Microbiology & Molecular biology**
Dr Gilbert Berben
- **Analytical chemistry & Technology**
Dr Georges Sinnaeve
- **Spectroscopy & Chemometrics**
Dr Vincent Baeten

58 employees - 17 scientists



Molecular biology used in safety and authentication items:

- **DNA & protein-based detection** of animal protein in feedingstuffs – development and validation of methods (CRL, SAFEED-PAP, FARIMAL)
- **GMO detection** in food, feed and seed - development and validation of methods with emphasis on enforcement purposes (routine analyses, Co-Extra, member of the Belgian NRL consortium, member of ENGL)
- Search of transgenic rapeseed in the environment of the Walloon Region (Walloon Region call)
- Search by AFLP of molecular markers for bovine breed characterization (TRACE)

Microbiology : dairy starters and their valorisation:

- Characterization of the microbiological consortium of the department's kefir grain and assessment of its use as probiotic for livestock production



- Animal and plant products : determination of the **composition** (DM, Protein, fat, fatty acids) to support field trials – Milk Analysis (national guidance)
- **Technological and physico-chemical properties** of plant products (wheat and rye)
- **Reference methods** for the development and maintenance of NIR, MIR and Raman calibrations
- Development of methods for the determination of **food and feed contaminants** (mycotoxins, antibiotics, heavy metals...)
- Techniques involved : pH metry, rheology, GC, GC-MS, LC, LC-MS-MS, ICP ...



- Development of **spectroscopy methods** (NIR, MIR and Raman) for food/feed quality and safety
- Setting up of spectral data bases, calibration development and maintenance of **spectrometer networks** (e.g. INGOT, PROVIMI, REQUASUD)
- Testing and development of **chemometrics methods**
- **Detection of animal protein in feedingstuffs** (CRL, SAFEED-PAP, FARIMAL)
- Development of **web-based tools** (e.g. web-site, data-base management)



NIR INSTRUMENTS – CRA-W

- 1976 R.Biston au CRA – Station de Haute Belgique
- 1979 Neotec FQA51 (*Feed Quality Analyser*)

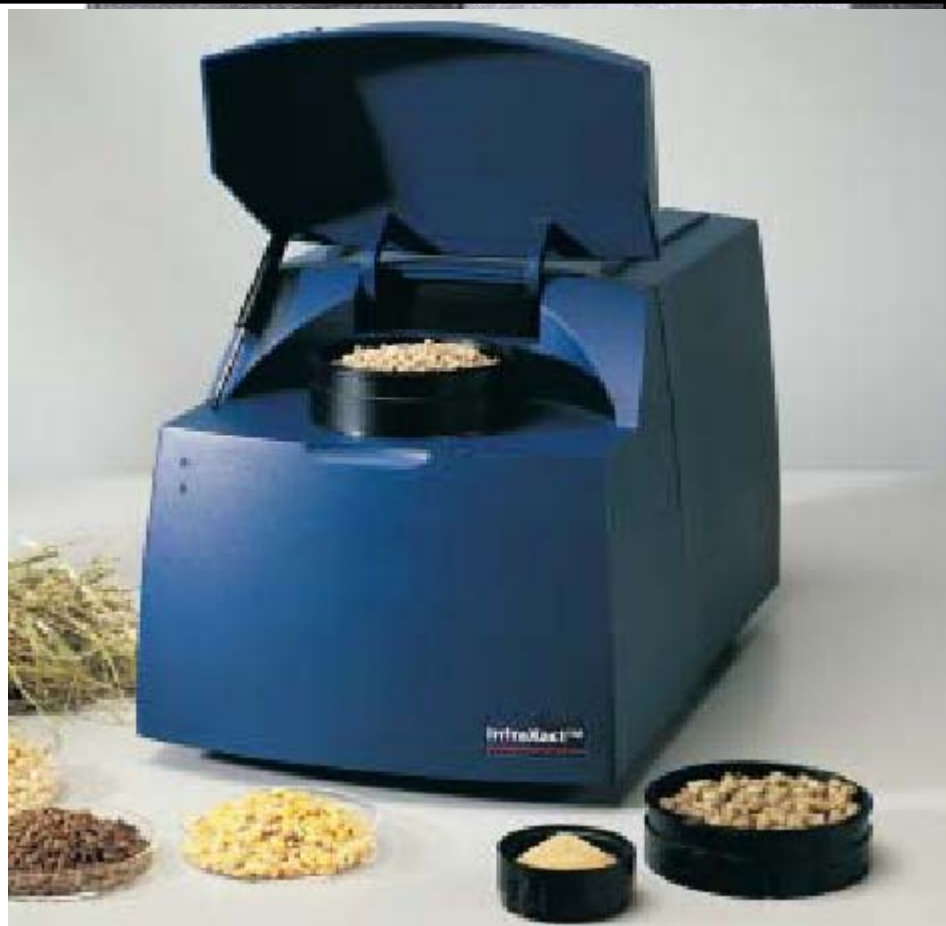


NIR INSTRUMENTS – CRA-W

•1981 Neotec 6350 (*Research Analyser*) + Nova III

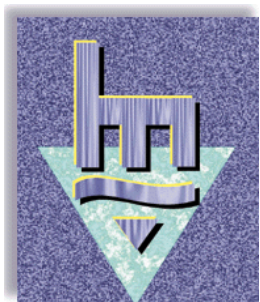
John Shenk when I got my first 386:

“Pierre, it will allow you to make mistakes faster”



Quality Dpt and European Projects

- **FLAIR-QUEST Concerted Action n°1, COST 901: “Spectroscopic techniques (NIR, NMR, FTIR) for rapid food quality assessment” (1990-1995)**



- **STAFANIR (SMT4-CT96-2102): “Standardisation of food analysis by NIR” (1995-1998)**

- **ASTEQ (FAIR5-CT97-3516) “Artificial Sensing Techniques for Evaluating Quality – Fruit Quality” (1996-2000)**



Quality Dpt and European Projects

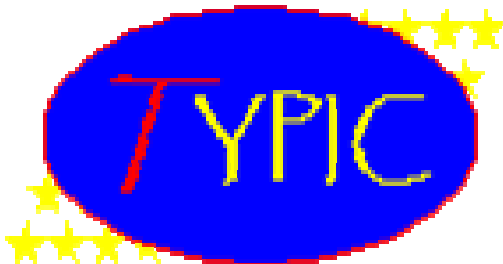


- **STRATFEED (G6RD-CT-2000-00414)**
Strategies and methods for the detection and quantification of mammalian tissues in feedingstuffs (2001-2004)

- **MEDEO (G6RD-CT-2000-00440)**
Development and assessment of methods for the detection of adulteration of olive oil with hazelnut oil (2001-2004)



MEDEO



Chaussée de N

- **TYPIC (QLK5-2001-02225)** “Typical food products in Europe: consumer preference and objective assessment”. (2002-2005)

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Quality Dpt and European Projects

- **TRACE (IP, 6FWP) “Tracing Food Commodities in Europe” (2005-2009)**



- **CO-EXTRA (IP, 6FWP) “GM and non-GM supply chains: their CO-EXistence and TRAcability ” (2005-2009)**



Quality Dpt and European Projects



- **SAFEED-PAP (FOOD-CT-2006-036221 - 7FWP) “Detection of presence of species-specific processed animal proteins in animal feed” (2006-2009)**



- **CRL “Community Reference Laboratory for the detection of animal proteins (by Commission Regulation no. 776/2006 of 23rd May 2006)” (2006-2011)**





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