

Residue Analytics & Field Trials

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Agroforce™: Field Study Types

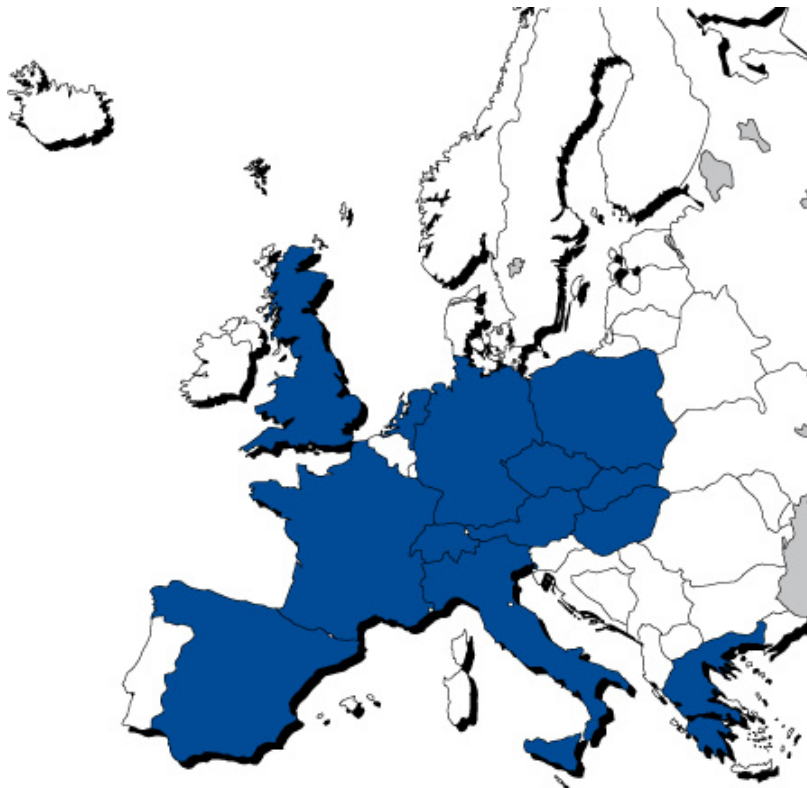
- Field Residue Trials: Harvest Trials, Decline Trials (CEC 7029/VI/95, OECD 509, EC 1107 -2009)
- Processing Studies (CEC 7035/VI/95- OECD 508)
- Soil Dissipation / Accumulation (EU Directive 95/36/EC, SETAC 1995)
- Post Harvest Treatment Studies
- Rotational Crop Studies (CEC 7524/VI/95 rev. 5- OECD 504)
- Sample Transportation
- Worker exposure study

2012 Capacity

- 2 Field Study Directors based in Switzerland
- 6 Field Principal Investigators
- Network of External Field Partners
- 4 Principal Investigators / Study Directors for Residue Analysis
- 4 Lab Technicians for Residue Analysis;
plus Technicians for Chromatography Support
- > 40 Members of Staff in Other Analytical Areas

⇒ **High Capacity, Experience and Flexibility**

Field Locations in Europe



Headquarters: Itingen / Switzerland

Permanent Harlan Stations with Field Principal Investigators:

North East Germany (Dresden)

South Germany (Frankfurt)

North France (Reims)

South France (Avignon)

UK (Birmingham)

Spain (Valencia)

Other countries: Network of external partners with a long-term cooperation,

Italy (North, Sicily), Netherlands, Belgium, Poland, Denmark, Greece

Field Residue trials

- North and south Europe covered
- All European crops possible
- Knowledge of local practices and techniques
- Expertise in house to help define the programs
- Good experience in difficult designs

Multiple treated plots with different test items, change of rate during the study, sowing + applications

Processing studies

Processing Studies (CEC 7035/VI/95- OECD 508)

- Can be combined with field study or separate
- Fruit/vegetable Juice
- All cooking types, including frying
- Canning
- Fruit Drying
- Jam/puree
- Other processing can be organized

Post harvest treatment / special studies

- Can be combined with field/processing
- Example: Apple, potatoes
- In-house or with partners if special equipment is needed
- Unit to unit variability



Soil Dissipation/Accumulation

Soil Dissipation / Accumulation (EU Directive 95/36/EC, SETAC 1995)

- Different types of soil available all over Europe
- Experience in different designs
incorporation after application, sowing of crops, irrigation
- Weather data on site by own weather stations
- Modeling expertise in-house

Rotational crop study

Rotational Crop Studies (CEC 7524/VI/95 rev. 5- OECD 504)

- Suitable sites available (north and south Europe)
- North and south Europe possible
- Use of local Principal Investigator expertise for the best starting times and crop management



Specimen Transport in Europe

- > 60 Tons of specimen delivered in the last 3 years
- Specimen delivery to any destination in EU
- Harlan truck and driver
- Temperature control and alarm system in the truck
- Temperature recorded by data logger

0 sample lost



Residue Analysis

- Residue Analysis:
crops RAC and processed, soil, insects, fish, animal tissues
- Method development and validation: crops, soil, air, water, animal tissues
- Multi-Residue Analysis
- Fast and robust analytical methods
- Well-experienced staff; high and flexible capacity
- State of the Art equipment:
 - 8 HPLC/MS/MS, includes 2 API 5000
 - 1 accurate mass HPLC/MS/MS: Bruker Maxis (UHR-Qq-TOF)
 - Further LC/MS/MS in UK and Spain
 - 12 GC, 35 HPLC, 2 HPLC / Ion Chromatography
 - 2 AAS for metals, plus ICP-MS in UK

Residue Analysis & Field Trials: Highlights

- Field – Specimen Transportation – Analytics
- Multisite Procedure
- Well Experienced Staff; High and Flexible Capacity
- State of the Art Equipment
- Fast and Robust Analytical Methods

Contract Research Services

Harlan Laboratories

Research Models and Services

Further information:

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