



CENTRE POUR L'AGRONOMIE
ET L'AGRO-INDUSTRIE
DE LA PROVINCE DE HAINAUT



**CENTRE POUR L'AGRONOMIE
ET L'AGRO-INDUSTRIE
DE LA PROVINCE DE HAINAUT**



CARAH

Research center associated with the high school HEPHO (Haute Ecole Provinciale du Hainaut Occidental)



- CARAH organization :
 - 3 departments :
 - Agricultural accounting
 - Experimental farm
 - Laboratories



- Agricultural accounting :

BER (Bureau d'Economie Rurale)
(Office of Rural Economy) ensures the
accounting of 1356 farmers.



- Experimental farm :
 - Fields trials
 - Animal husbandry (cows, rabbits, goats, chickens).



- Laboratories :
 - CARAH is accredited ISO 17025
 - The CARAH is approved by the Walloon Region for the analysis of water and toxic waste.



- Six Laboratories :
 - Chemistry laboratory
 - Laboratory of Soil Science
 - Microbiology laboratory
 - Biotechnology laboratory
 - Laboratory of Food Technology
 - Environmental Laboratory



- Chemistry laboratory :
 - Foods for humans and animals
 - Water
 - Fertilizers
 - Organics amendments



- Laboratory of Soil Science :
 - Fumure consulting



- Microbiology laboratory :
 - Foods for humans
 - Water



- Biotechnology laboratory
 - BSE (Bovine spongiform encephalopathy)
 - Nematode into potatoes and beets
 - OGM
 - Plant virus



- Laboratory of Food Technology
 - Laboratory serving the food industry
 - Development of prototypes using artificial intelligence
 - HACCP audit



- Environmental Laboratory

- Analysis of waste for the purpose of recovery (organic micro pollutants and heavy metals)
- Analysis of plants (pesticide residues, mycotoxins)
- Water analyses



- Parameters usually applied for waste analysis are :
 - PHA
 - BTEX
 - PCB
 - Hydrocarbon C10-C40
 - Mineral oils
 - Pesticide screening
 - Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn)



- Samples are coming from:
 - Center of waste recovery
 - Intermunicipal
 - Food industry
 - Brewery
 - Individuals



- Samples are :
 - Dredging mud
 - Sludge treatment plant
 - Samples coming from accidental contamination
 - Samples of private lands



- Problems encountered in the context of these analyses :
 - No information for Mineral oils analyses (What is the difference between mineral oils and C10-C40 hydrocarbon ?)



- Problems encountered in the context of these analyses :
 - What is the interest of screening of pesticides ?
This method gives a probability of presence, this is not a quantification.
What's the acceptance criteria ?



- Problems encountered in the context of these analyses :

- What heavy metals should be analyzed and what the limits ?

Depending on the various official documents, the number of metals to be analyzed and the limits are different.



- Different official documents:
 - AGW du 12/01/1995
 - Projet d'AR (Avis 13-2007 AFSCA)
 - Directive du conseil n° 91/692/CEE du 23/12/1991
 - AGW du 14/06/2001
 - Ministère de la région wallonne :
Assainissement des stations services
(Sanitation service stations)





CENTRE POUR L'AGRONOMIE
ET L'AGRO-INDUSTRIE
DE LA PROVINCE DE HAINAUT

ppm for DM

	A	B	C	D	E	F
As		19			22	
Cd	2	0.8	1 à 3	1	1	20 à 40
Cr	100	35		70	65	
Cr VI						
Cu	50	17	50 à 140	50	50	1000 à 1750
Hg	1	0.55	1 à 1.5	1	1.6	16 à 25
Ni	50	9	30 à 75	10	40	300 à 400
Pb	100	30	50 à 300	50	70	750 à 1200
Zn	200	62	150 à 300	100	150	2500 à 4000

SOL

A = Annexe de l'AGW : Utilisation de boues sur/dans le sol
 B = Assainissement des stations services RW
 C = Directive Européenne sol

DECHET

D= Avis 13-2007 AFSCA "substrats de culture organique"
 E = AGW valorisation de déchets
 F = Directive Européenne déchet



- We find different concept of limits:
 - Reference values
 - Threshold values
 - Intervention values
 - Limit values



- We have lot of questions concerning dioxin :

What about dioxin legislation ?



Conclusion :

Following the lack of uniformity, we have a lot of difficulty to guide and advise the customer as well as to interpret the results.





Carah

COORDONNEES

CARAH asbl

rue Paul Pastur 11
7800 ATH

Tél. 068 26 46 90

www.carah.be

info@carah.be

