



WAGENINGEN EVALUATING PROGRAMS FOR  
ANALYTICAL LABORATORIES

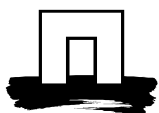


## International Plant-Analytical Exchange



Quarterly Report 2009.1

January - March 2009



WAGENINGEN UNIVERSITY  
ENVIRONMENTAL SCIENCES

# INTRODUCTION

Dear WEPAL-participants,

In this report for the first ringtest in 2009 WEPAL introduces a new method of statistical evaluation. There was no problem with the old statistical method to calculate the consensus value. The calculated mean was (and still is) reliable. The removal of outliers however had too much influence on the calculation of the standard deviation. In a number of datasets the standard deviation is underestimated by the old method. We have tested several other statistical routines which should give a better estimate of the variation of the data. The aim of our study was to find a method which is not influenced by the presence or removal of outliers.

The new statistical model (Cofino NDA) that is chosen to calculate the mean and standard deviation uses probability functions. It calculates a best fit based on the observed values. The model is tested on simulated data sets and datasets of several interlaboratory studies. It is demonstrated that the model is robust and insensitive to outliers. It can cope with asymmetric, strongly tailing and multimodal distributions. A publication describing the procedure in more detail with the results of the tests is in preparation.

This year we will report both new and old statistics. So you can see what the differences are between the two methods. In general you will see that the new NDA mean and old median and mean are similar. The differences between the two methods can be observed in the standard deviation. In the NDA method they are not influenced by the presence or removal of outliers. Marking of outliers (\*\*) and stragglers (\*) is based on the old statistics. All results, including marked values, are used in the new NDA method.

The Z-scores are now calculated with the NDA standard deviation. Because in a number of cases the NDA standard deviation is higher than the 'old' standard deviation the Z-scores will be lower than in the past.

Early May we will move to our new building. Our telephone numbers, email and postal address will remain unchanged. Only our visiting address will change. Please note that if you send your mail by courier you must change the address.

WEPAL has a webpage where you can check if we have received and processed your data. We have also added the number of results. This way you can also see if all your results were processed correctly. Because you can see the status of the results that you sent us yourself it is no longer necessary to ask for a confirmation of receipt. You can also spare yourself and us the extra work for sending and processing extra copies. This information is published on "log received" page of the WEPAL website [www.wepal.nl](http://www.wepal.nl). Please note that we use your client number in this table, not your labnumber (or code number).

The WEPAL programs are organised to help you to improve the quality of your results. When you have ideas or remarks on the programs that can help us to improve them please feel free to contact us. We are always looking forward to hear from you,

Yours sincerely,



Bram Eijgenraam  
Manager WEPAL

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## IMPORTANT INFORMATION

The results of the April - June 2009 period will be processed in the beginning of July 2009. Participants are kindly requested to take care that the results of this series are in Wageningen **before the first of July 2009**. All results, which are received later, will not be reported.

The 2009.3 samples will be mailed at the end of May 2009.

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# GENERAL INFORMATION

## Accreditation

### Accreditation

The Wageningen Evaluating Programmes for Analytical Laboratories organisation is accredited for the organisation of Interlaboratory Studies by the Dutch Accreditation Council RvA since April 26, 2000. The accreditation is based on the ILAC-requirements (Guidelines for the requirements for the competence of providers of proficiency testing schemes, ILAC-G13: 2000). In the following table the scope is given for all WEPAL programs.

**Table 1** *Scope of the WEPAL programs.*  
**IPE, International Plant-analytical Exchange Program**  
 (Parameters in bold are in the scope of the accreditation)

Group	Parameter
Inorganic Chemical Composition	Ag, <b>As, B, Ba, Be, Bi, Br, Ca, Cd, Cl, Co, Cr, Cs, Cu, F, Fe, Ga, Hg, I, K, Li, Mg, Mn, Mo, N - Kjeldahl, N - NH<sub>4</sub>, N - NO<sub>3</sub>, Na, Ni, P, Pb, Pd, Pt, Rb, Rh, S, Sb, Se, Sn, SO<sub>4</sub>, Sr, Ti, V, Zn</b>
Real totals	<b>Al, C - elementary, N - elementary</b> , Si
Acid extractable (So-called totals)	<b>Al</b> , Si
Other determinations	13C, 15N, delta 13C, delta 15N
Nutritional values	ADF-ash-containing, ADF-ash-free, Crude fibre, NDF-ash-containing, NDF-ash-free, Polysaccharides (starch), TDF, TDF-non-soluble, TDF-soluble, <b>Total ash</b> , Total Disaccharides, Total fat, Total monosaccharides

**ISE, International Soil-analytical Exchange Program**  
 (Parameters in bold are in the scope of the accreditation)

Group	Parameter
Real totals	Ag, <b>Al, As, B, Ba, Be, Bi, Br, C - elementary, Ca, Cd, Ce, Co, Cr, Cs, Cu, F, Fe, Ga, Ge, Hg, I, K, La, Li, Mg, Mn, Mo, N - elementary, Na, Nb, Nd, Ni, P, Pb, Pd, Pt, Rb, Rh, S, Sb, Sc, Se, Si, Sn, Sr, Te, Th, Ti, Tl, U, V, W, Y, Zn, Zr</b>
Acid extractable (So-called totals)	Ag, <b>Al, As, B, Ba, Be, Bi, Br, Ca, Cd, Ce, Co, Cr, Cu, F, Fe, Ga, Hg, I, K, La, Li, Mg, Mn, Mo, N, Na, Nb, Nd, Ni, P, Pb, Pt, Rb, S, Sb, Sc, Se, Si, Sn, Sr, Te, Th, Ti, Tl, U, V, Y, Zn, Zr</b>
Aqua Regia (ISO 11466)	Ag, <b>Al, As, B, Ba, Be, Bi, Br, Ca, Cd, Ce, Co, Cr, Cu, F, Fe, Ga, Hg, I, K, La, Li, Mg, Mn, Mo, N, Na, Nb, Nd, Ni, P, Pb, Pt, Rb, S, Sb, Sc, Se, Si, Sn, Sr, Te, Th, Ti, Tl, U, V, Y, Zn, Zr</b>
Extraction with boiling 2M HNO <sub>3</sub>	<b>Cd, Co, Cr, Cu, Hg, Mo, Ni, Pb, Tl, Zn</b>
Extraction with 0.1M NaNO <sub>3</sub>	<b>Cd, Cu, Ni, Pb, Zn</b>
Extraction with 0.01M CaCl <sub>2</sub> 1:10	Al, B, Cd, CN, Co, Cr, Cu, Fe, <b>K, Mg</b> , Mn, <b>N - NH<sub>4</sub>, N - NO<sub>3</sub></b> , N total soluble, Na, Ni, P, Pb, SO <sub>4</sub> , Zn
Extraction with 1M NH <sub>4</sub> NO <sub>3</sub> 1:2.5 (w/v) (DIN 19730)	As, Cd, Cr, Cu, Hg, Ni, Pb, Tl, Zn
Soil characteristics	<b>C - org others (W&amp;B a.o.), EC-SC (ISO 11265), Fraction &lt; 16 µm, Fraction &lt; 2 µm, Fraction &lt; 63 µm, Fraction &gt; 63 µm, Org.matter (L.O.I.), pH - CaCl<sub>2</sub>, pH - H<sub>2</sub>O, pH - KCl, TC=Total C (org.+inorg.), TIC=Tot.Inorg, C(CaCO<sub>3</sub>), TOC=Total Org. C</b>
Other determinations	C <sup>13</sup> , N <sup>15</sup> , B - Hot water, CN - Free, CN - Total, delta 13C, delta 15N, K - HCl, Mg - NaCl, Moisture-content

Group	Parameter
Fluoride (Swiss standard procedure)	F - Total
Digestion with conc. HNO <sub>3</sub> + conc. HCl + H <sub>2</sub> O <sub>2</sub> (UNEP-UN/EC 91075A)	Al, As, B, Ba, Be, Br, Ca, Cd, Co, Cr, Cu, F, Fe, Ga, Hg, I, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Rb, S, Sb, Se, Si, Sn, Sr, Tl, V, Y, Zn, Zr
Pot. CEC using 1M NH <sub>4</sub> -acetate at pH=7	Al, <b>Ca, CEC, K, Mg, Na</b>
Pot. CEC using 1M or 0.1M BaCl <sub>2</sub> -TEA at pH=8.1 (ISO 13536 OR BZE)	Al, Ca, <b>CEC</b> , K, Mg, Na
Pot. CEC using 1M NH <sub>4</sub> Cl (BZE)	Al, Ca, CEC, Fe, H, K, Mg, Mn, Na
Act. CEC using 0.01M BaCl <sub>2</sub> (ISO 11260)	Al, Ca, CEC, Fe, H, K, Mg, Mn, Na
Act. CEC using 0.1M BaCl <sub>2</sub> (UNEP-UN/EC 91065A)	Al, Ca, CEC, Fe, H, K, Mg, Mn, Na
Act. CEC using cobaltihexamine (AFNOR NFX 31 130)	Al, Ca, CEC, Fe, H, K, Mg, Mn, Na
Mehlich-3	Al, As, B, <b>Ca</b> , Cd, Cr, <b>Cu, Fe, K, Mg, Mn, Na, P, Pb, Zn</b>
Extraction with Ca-lactate (VDLUFA)	K, P
Extraction with double lactate (VDLUFA)	<b>K, P</b>
Water soluble 1:10 (w/v) (EN-12457-4)	Br, Cl, F, N - NO <sub>3</sub>
Extraction with 0.01M CaCl <sub>2</sub> + 0.005M DTPA 1:10 (w/v)	Cu, Fe, Mn, Zn
Extraction with 1M KCl 1:10 (w/v)	N - NH <sub>4</sub> , N - NO <sub>3</sub>
Phosphorus and related analysis	Al - Ox, Fe - Ox, P - Ox, P - AL, <b>P - Bray, P - Olsen, Pw</b>
Extraction with 1M HCl (Polish standard)	B, Cu, Fe, Mn, Zn
Water soluble 1:10 (w/v) (NL VPR C85-06)	Br, Cl, F, SO <sub>4</sub>

**SETOC, International Sediment Exchange for Tests on Organic Contaminants**  
(Parameters in bold are in the scope of the accreditation)

Group	Parameter
Polycyclic aromatic hydrocarbons	<b>acenaphtene, acenaphtylene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenz(ah)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphtalene, phenanthrene, pyrene</b>
Polychlorobiphenyls	<b>PCB 028</b> , PCB 031, <b>PCB 052</b> , PCB 077, PCB 081, <b>PCB 101, PCB 105</b> , PCB 114, <b>PCB 118</b> , PCB 123, PCB 126, <b>PCB 128, PCB 138</b> , PCB 149, <b>PCB 153</b> , PCB 156, PCB 157, PCB 167, PCB 169, <b>PCB 180</b> , PCB 189
Organochlorine pesticides	1,2,3 trichlorobenzene, 1,2,3,4 tetrachlorobenzene, 1,2,3,5 tetrachlorobenzene, 1,2,4 trichlorobenzene, 1,2,4,5 tetrachlorobenzene, 1,3,5 trichlorobenzene, aldrin, alpha-endosulfan, alpha-HCH, beta-endosulfan, beta-HCH, chlordane, cis-chlordane, delta-HCH, dieldrin, endosulfan, endosulfan sulfate, endrin, gamma-HCH, heptachlor, heptachlor epoxide, <b>hexachlorobenzene, hexachlorobutadiene</b> , isodrin, <b>o,p`-DDD, o,p`-DDE, o,p`-DDT, p,p`-DDD, p,p`-DDE, p,p`-DDT, pentachlorobenzene</b> , Sum tetrachlorobenzenes, Sum trichlorobenzenes, telodrin, toxaphene, trans-chlordane
Other parameters	<b>AOX</b> , CN - Free, <b>CN - Total</b> , <b>EOX</b> , Inorganic carbon, <b>Mineral oil (GC), Mineral oil (IR), Organic carbon, Particles &lt; 2 µm, Particles &lt; 63 µm, Particles &gt; 63 µm</b>

Group	Parameter
Metals (aqua regia)	<b>As, Ba, Cd, Co, Cr, Cu, Hg, Mo, Ni, Pb, Zn</b>
Dibenzo-P Dioxin	<b>1,2,3,4,6,7,8 Cl<sub>7</sub>DD, 1,2,3,4,7,8 Cl<sub>6</sub>DD, 1,2,3,6,7,8 Cl<sub>6</sub>DD, 1,2,3,7,8 Cl<sub>5</sub>DD, 1,2,3,7,8,9 Cl<sub>6</sub>DD, 2,3,7,8 Cl<sub>4</sub>DD, Cl<sub>8</sub>DD</b>
Dibenzofuran	<b>1,2,3,4,6,7,8 Cl<sub>7</sub>DF, 1,2,3,4,7,8 Cl<sub>6</sub>DF, 1,2,3,4,7,8,9 Cl<sub>7</sub>DF, 1,2,3,6,7,8 Cl<sub>6</sub>DF, 1,2,3,7,8 Cl<sub>5</sub>DF, 1,2,3,7,8,9 Cl<sub>6</sub>DF, 2,3,4,6,7,8 Cl<sub>6</sub>DF, 2,3,4,7,8 Cl<sub>5</sub>DF, 2,3,7,8 Cl<sub>4</sub>DF, Cl<sub>8</sub>DF</b>
Brominated Flame Retarders	BDE 028, BDE 047, BDE 066, BDE 085, BDE 099, BDE 100, BDE 153, BDE 154, BDE 183, BDE 209
Experimental	DEHP, Tributyl Tin (TBT)

### MARSEP, Manure and Refuse Sample Exchange Program

(Parameters in bold are in the scope of the accreditation)

Group	Parameter
Real totals	Ag, Al, As, B, Ba, Be, Bi, Br, C, Ca, Cd, Co, Cr, Cu, F, Fe, Ga, Hg, I, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn
Acid extractable (So-called totals)	Ag, <b>Al, As</b> , B, Ba, Be, Bi, Br, C, <b>Ca, Cd</b> , Cl, <b>Co, Cr, Cu</b> , F, <b>Fe</b> , Ga, <b>Hg</b> , I, <b>K</b> , Li, <b>Mg, Mn, Mo</b> , <b>N</b> , N - NH <sub>4</sub> , N - NO <sub>3</sub> , <b>Na, Ni, P, Pb</b> , S, SO <sub>4</sub> , Sb, Se, Si, Sn, Sr, Ti, Tl, V, <b>Zn</b>
Other determinations	<b>AOX, loss-on-ignition</b>

The selection of parameters included in the scope of accreditation is based on the information that can be given about the homogeneity of the parameters in the samples. This information is based on the relation between the Coefficient of Variation as given in the Annual Reports and the concentration in the different samples used in the WEPAL-programs during the last years. Only in case of a clear and consistent pattern, conclusions can be drawn concerning homogeneity of the material. In the case of a large variation in CV values no distinction can be made between inhomogeneity of the material and the variation in the analytical performance caused by the participating laboratories. These parameters are not (yet) included in the scope of the accreditation.

Some aspects of the proficiency testing scheme may from time to time be subcontracted. When subcontracting occurs it is placed with a competent subcontractor. WEPAL is responsible to the scheme participants for the subcontractor's work.

## Homogeneity of the distributed samples

### Homogeneity tests

WEPAL has developed special equipment for the production of representative subsamples (Houba, 1993) from a bulk material. The proper functioning of this equipment is tested by a homogeneity test in the final subsamples. To perform this test, samples are collected at regular intervals during the preparation of the the samples. The collected samples, with a minimum of 10, are analysed in duplicate measurements under repeatability conditions. A selection of critical parameters is chosen for the tests. The results of the homogeneity tests are published in the annual reports.

### Check of results

Before distribution of the periodic reports to the participants, a final check is made based on the results found by the participants. This check is made for all reported parameters. The Coefficient of Variances and concentrations found in the periodic reports are compared with the patterns as found in the latest Annual Report (part B). The expected pattern is a high CV at a low concentration and a gradually decreasing CV at higher concentrations till a more or less constant level of CV-values is reached (Houba et al., 1986). Deviations from this expected pattern are mentioned in the periodic reports. This might be an indication of inhomogeneity of the material for the certain parameter.

*All data of this period are compared with the general patterns as published in the latest year report. No deviating values were found.*

## ***The quarterly report***

In order to evaluate the accuracy and precision of the analytical procedures used, four proficiency testing programs have been established. At this moment the WEPAL Exchange Programs comprises approximately 600 laboratories in many countries. The participating laboratories receive four air-dried samples every three months and analyse the samples according to their own procedures. The results of the determinations are collected and processed at Wageningen University and published every three months. The participating laboratories are informed of the results in the third week of the next three-month period. Each participant can compare his results with those of all the other members of the exchange program. WEPAL will not comment on results unless asked to do so.

## **Reporting of data**

The analysed components must be reported in oven-dry (105 °C) material. For this purpose the moisture content has to be determined separately and the analytical results have to be recalculated (see the form to report the results). To get reproducible results of these moisture contents we recommend you to dry the material during at least 3 hours at 105 °C and let cool down in a desiccator before weighing.

## **New statistics: normal distribution approximation (NDA)**

Interlaboratory studies like the WEPAL proficiency testing ringtests frequently give rise to datasets that have complex distributions including excessive tailing and multiple modes. Consequently, sophisticated statistical methods are required to obtain meaningful assessments. The strategy that was used until now makes use of an outlier test followed by straightforward statistics. Problem with this strategy is that removal of outliers causes an underestimation of variance of the dataset. Therefore a methodology is needed that does not rely on arbitrary outlier removal or subjective manual interpretations. Ideally the new methodology must provide the characteristics of the highest mode of the dataset.

A new model is chosen to calculate population characteristics (mean and standard deviation) from experimental datasets (Cofino 2000). The model uses an estimate for the probability density function (pdf) of the measurement process and calculates a best fit based on all observed values. The implementation of the model that is used does not require uncertainty estimates for all data points. Instead it uses a normal distribution approximation (NDA) for the pdf of the individual data points. In essence, the pdf's of the individual datapoints are superposed on each other to create a continuous pdf representing the entire distribution (all datapoints).

With the mathematical model coefficients can be obtained by looking for the combination of data points that has the highest probability in the basis set. This maximization amounts to the identification of the first mode of the dataset. The coefficients can be used to calculate the weighted mean and standard deviation. Subsequent calculations give additional modes of the distribution and for each mode the expectation value (mean), the standard deviation and a percentage indicating the fraction of observations encompassed. In this report only mean and standard deviation for the first mode (combination with the highest probability in the dataset) are given.

The model is tested on simulated data sets and datasets of several interlaboratory studies. It is demonstrated that the model is robust and insensitive to outliers. It can cope with asymmetric, strongly tailing and multimodal distributions. Publications describing the procedure in more detail and results of the tests are in preparation.

With the NDA model mean and standard deviation are calculated using all reported data when at least 8 results are left after removal of reported 'lower than' (<) and 0 (= zero) values. No outliers are removed.

**Table 2.** The model summarised

- Each observation is attributed an ' Observation measurement function' (OMF,  $\phi_i$ )
- An OMF is defined as the square root of the probability density function appropriate for the observation. If normal distributions are used:  $\phi_i = \sqrt{N(\mu_i, \sigma_i^2)}$
- The set of  $\phi_i$  's constitutes a basisset in which the population measurement function  $\Psi$  is constructed:  $\Psi_i = \sum c_{ik} \phi_k$
- The coefficients are obtained by finding the combination which renders highest probability density (maximise  $\int \Psi^2 dx$ , x being concentration). Mathematically this amounts to solving the eigenvector-eigenvalue equation  $Sc = \lambda c$ ,  $S_{ij}$  being an overlap integral defined as  $\int \phi_i \phi_j dx$ ,  $0 \leq S_{ij} \leq 1$
- Mean and standard deviation of  $\Psi_i$  are calculated from the first and second moment of the probability density function  $\Psi_i^2$

$$\bar{m}_i = \frac{\int x \Psi_i^2 dx}{\int \Psi_i^2 dx},$$

$$s_i^2 = \frac{\int x^2 \Psi_i^2 dx}{\int \Psi_i^2 dx} - \bar{m}_i^2$$

- The variance calculated by the model represents the sum of the estimates for the within-laboratory and between-laboratory variances, i.e.  $s_i^2 = s_{between\ labs,i}^2 + s_{within\ labs,i}^2$
- When the NDA approximation is used,  $s_i^2$  estimates the between-laboratory variance

## Old statistics: Calculation of median and MAD.

Starting with the first proficiency tests in 2009 a new statistical method was chosen. For reasons of continuity the statistical results of the old method will be reported in 2009. The old statistical method was preferred because strange values had less influence on the estimated central value (location) and the spread of this value (scale). Therefore estimators for location and scale were used which give less weight to observations in the tails (van Montfort, 1996). For each element a median value ( $\mu_1$ ) and a median of absolute deviations (MAD,  $\sigma_1$ ) are calculated using all reported data except the reported '<' and 0 (= zero) values. The median is the middle observation of the sorted array of observations in the case of an odd sample size. Otherwise it is the mean of the two middle observations. Using the median instead of mean, extreme data are of less influence. MAD is the median of the absolute values of the observations minus their median. In case more than 7 data are reported, the values with  $|(x - \mu_1)| / (f * \sigma_1) > 2$  are marked with a double asterisk (\*\*). The factor f, aiming at 5% (singly or doubly) asterisked data in a sample of size n ( $n > 7$ ) from a Gaussian distribution, is approximated by  $(0.7722 + 1.604 / n) * t$ , where t is the 2½ percent point of Student's t with (n - 1) degrees of freedom. A second median ( $\mu_2$ ) and a second MAD ( $\sigma_2$ ) are computed then leaving out the items labelled \*\*; included values with  $|(x - \mu_2)| / (f * \sigma_2) > 2$  are marked with a single asterisk (\*). Finally a third median and MAD are calculated, discarding both \* and \*\*.

In the case of small results which are heavily rounded the MAD often becomes 0 (= zero). This is very unsatisfactory because all results other than the median are marked as outlier. Therefore no results are marked as outlier in cases where MAD = 0. Mean and standard deviation are only calculated when at least 8 results are left after removal of outliers (\*\*) and stragglers (\*).

## Rounding of results

Rounding interval is based on the first decimal value lower than  $sd / 2$  (standard deviation divided by 2). If no standard deviation is available (less than 8 results) the MAD is used. At least three significant digits are shown as a minimum. If no standard deviation and MAD are available rounding is also based on three (most) significant digits. For the statistical results (mean, standard deviation, median and MAD) one extra digit is shown.

Note that larger results are also rounded (e.g. 1809 may be rounded as 1810).



## Z-score

For all analytical data a Z-score is calculated according to the formula:

$$Z\text{-score} = \frac{X - X_{\text{mean}}}{S_d}$$

in which:

X = the reported value

$X_{\text{mean}}$  = the mean of all values calculated with the NDA model

$S_d$  = standard deviation calculated with the NDA model

## METHOD INDICATING CODE (MIC)

In order to evaluate the analytical results for each reported element (see Table 3 for the different element groups), a Method Indicating Code (MIC) is used. Details of the analytical procedures used by the individual participants are indicated by four characters, added at the end of each row with results. The first character indicates the method of extraction or digestion according to the codes explained in Table 4. The last three characters (see Table 5) indicate the method of detection of the element in the extracts or digests. In this way it is possible for all participants to compare the results of their analytical procedures more specifically with the results of other participants. This could be a further valuable tool in judgement of the individual results.

**Table 3** *Used abbreviations in errors and z-scores*

Method	Abbreviation	Digestion/extraction procedure
1	IN	Inorganic Chemical Composition
2	RT	Real totals
3	AE	Acid extractable (So-called totals)
4	OD	Other determinations
6	NUT	Nutritional values
7	VIT	Vitamins
8	AMIN	Amino Acids

**Table 4** *Digestion and extraction techniques*

Code	Technique
AA	Dry ashing without HF and uptake in HCl
AB	Dry ashing without HF and uptake in HNO <sub>3</sub>
AC	Dry ashing with HF and uptake in HCl
AD	Dry ashing with HF and uptake in HNO <sub>3</sub>
AE	Dry ashing without HF and uptake in H <sub>2</sub> SO <sub>4</sub>
B	Melt
CA	Schoeniger combustion and uptake in HCl
CB	Schoeniger combustion and uptake in HNO <sub>3</sub>
DA	Wet digestion without HF and final medium H <sub>2</sub> SO <sub>4</sub>
DB	Wet digestion without HF and final medium HNO <sub>3</sub>
DC	Wet digestion without HF and final medium HClO <sub>4</sub>
DD	Wet digestion with HF and final medium H <sub>2</sub> SO <sub>4</sub>
DE	Wet digestion with HF and final medium HNO <sub>3</sub>
DF	Wet digestion with HF and final medium HClO <sub>4</sub>
DG	Wet digestion in closed pressurized system and final medium HNO <sub>3</sub>
DH	Wet digestion in closed pressurized system and final medium HCl
EA	Microwave digestion in closed system with HF and final medium H <sub>2</sub> SO <sub>4</sub>
EB	Microwave digestion in closed system with HF and final medium HNO <sub>3</sub> /HCl
EC	Microwave digestion in closed system with HF and final medium HClO <sub>4</sub>
ED	Microwave digestion in closed system without HF and final medium H <sub>2</sub> SO <sub>4</sub>
EE	Microwave digestion in closed system without HF and final medium HNO <sub>3</sub> /HCl
EF	Microwave digestion in closed system without HF and final medium HClO <sub>4</sub>
EG	Microwave digestion in open system with HF and final medium H <sub>2</sub> SO <sub>4</sub>
EH	Microwave digestion in open system with HF and final medium HNO <sub>3</sub> /HCl

Code	Technique
EI	Microwave digestion in open system with HF and final medium HClO <sub>4</sub>
EJ	Microwave digestion in open system without HF and final medium H <sub>2</sub> SO <sub>4</sub>
EK	Microwave digestion in open system without HF and final medium HNO <sub>3</sub> /HCl
EL	Microwave digestion in open system without HF and final medium HClO <sub>4</sub>
FA	Extraction with water
FB	Extraction with acid(s)
FC	Solubilizers
G	Others
H	Dry combustion (Elementary analysis)

**Table 5** *Methods of detection*

Code	Method
AA	AAS-Flame without background correction using air-acetylene
AB	AAS-Flame with deuterium background correction using air-acetylene
AC	AAS-Flame with zeeman background correction using air-acetylene
AD	AAS-Flame with pulsed hollow cathode lamp backgr. corr. using air-acetylene
AE	As AA using N <sub>2</sub> O-acetylene
AF	As AB using N <sub>2</sub> O-acetylene
AG	As AC using N <sub>2</sub> O-acetylene
AH	AS AD using N <sub>2</sub> O-acetylene
BA	AAS-ETA without background correction / without chemical modifier
BB	AAS-ETA with deuterium background corr. /without chemical modifier
BC	AAS-ETA with zeeman background correction /without chemical modifier
BD	AAS-ETA with pulsed hollow cathode lamp backgr. corr./without chem. mod.
BE	AAS-ETA without background correction/with chemical modifier
BF	AAS-ETA with deuterium background correction/with chemical modifier
BG	AAS-ETA with zeeman background correction/with chemical modifier
BH	AAS-ETA with pulsed hollow cathode lamp background cor./with chem. modifier
CA	Flame emission
CB	ICP-AES (different wavelengths possible;indicate the used wavelength)
CC	Other excitation source
D	ICP-MS
E	Spectrophotometry
F	Hydride Technique (similar techniques using analyte volatilization;specify)
G	Cold Vapour Technique
H	Ion Selective Electrode
IA	Direct voltammetry
IB	Stripping voltammetry
J	Chromatography
JA	Gas chromatography
JB	Liquid chromatography
JE	Ion chromatography
KA	X-ray fluorescence with material melted
KB	X-ray fluorescence with material pressed
L	Neutron activation analysis
M	Near infrared
O	Titrimetric
P	Gravimetric
Q	Turbidimetric / or Nephelometric
Z	Others (specify)

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## MATERIALS ANALYSED

Table 6 Materials analysed in this period.

Sample	Sample ID	Type	Country
1	124	Lucerne / Medicago sativum	Oosterbeek / Netherlands
2	164	Chrysanthemum / Chrysanthemum.l	Naaldwijk / Netherlands
3	166	Cherry Laurel / Prunes laurocerasus	Heelsum / Netherlands
4	135	Rice (polished) / Oryza sativa l.	Philippines

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## Used abbreviations and symbols

**Table 7** *Used abbreviations and symbols*

Where	Abbreviation	Explanation
General Information	CV	coefficient of variation
General Information	MIC	method indicating code
General Information	MAD	median absolute deviation
General Information	Sd	standard deviation
General Information	f	f factor
General Information	$\mu_1$	first median
General Information	$\mu_2$	second median leaving out **
General Information	$\mu_3$	third median leaving out * and **
General Information	$\sigma_1$	first MAD
General Information	$\sigma_2$	second MAD leaving out **
General Information	$\sigma_3$	third MAD leaving out * and **
General Information	<	value smaller than
General Information	*	straggler
General Information	**	outlier
Results	median "result" (0)	no median available
Results	median "result" (1)	first median (all results)
Results	median "result" (2)	second median leaving out **
Results	median "result" (3)	third median leaving out * and **
Results	-	no result was submitted
Results	x	zero (0) was submitted as result, not taken into account
Results	-	statistical values: not calculated
Z-scores	#	less than 8 values, no mean and Sd calculated
Z-scores	<	a smaller than value was reported
Z-scores	-	no result (or zero) was submitted
Errors	C	Correction participant
Errors	D	Results received after deadline (before publication date)
Errors	E	Error WEPAL
Errors	M	Modified results
Errors	N	New results
Errors	R	Results removed

# Analysis IPE 2009.1

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Ag (µg/kg)</b>						
LABTIUM	(47)	60.40	43.60	52.80	42.2	G D
RIOGLAB	(264)	7.60	6.40	7.60	5.0 <	
VICTORY	(597)	8.72	4.80	3.69	1.9	
Median		8.720 (1)	6.400 (1)	7.600 (1)	22.06 (1)	
MAD		1.120	1.600	3.910	20.15	
N		3	3	3	2	
<b>As (µg/kg)</b>						
IACM LTD	(15)	399	300	57.7	75.9	EE D
HKPC-EMD	(16)	500 <	500 <	500.0 <	500.0 <	G D
LABTIUM	(47)	630 **	200 **	410.0 **	80.0	G D
ANDREA	(66)	477 *	309	78.0 *	84.3	EE D
HAMELN	(68)	466 *	340	63.0	89.0	DG D
FEJER	(70)	1000 <	1000 <	1000.0 <	1000.0 <	DG CB
ANALGIR	(74)	407	313	55.0	69.0	AA F
HLVA	(84)	433	309	57.3	88.7	G F
DGCCRF	(87)	1212 **	853 **	222.0 <	79.0 <	EE BG
GR.FERRADE	(102)	484 *	341	110.0 <	164.5 **	DB CB
WROCLAW	(104)	401	307	58.2	70.2	AB F
POVLT	(115)	417	286	52.6	87.0	EE F
JASZ	(128)	1000 <	1000 <	1000.0 <	1000.0 <	
VAS	(141)	500 <	500 <	500.0 <	500.0 <	
KAOS	(157)	402	307	66.2	96.0	DC F
IRRI	(158)	906 **	531 **	1219.0 **	646.0 **	DB CB
SKRA	(176)	410	310	60.0	70.0	
JYUIER	(185)	486 *	348	73.8 *	112.0	EE D
LABRES	(195)	420	310	58.0	72.0	EK F
SKLODPOL	(213)	400	260 *	55.0	70.0	G F
MALWA	(216)	409	311	52.0	72.0	
ADE	(239)	720 **	235 **	95.0 **	115.0	
ABMCE	(250)	413	370 **	60.0	140.0 *	EE D
IRQ-1992-S	(251)	468 *	293	150.0 <	150.0 <	EE F
RIOGLAB	(264)	394	295	53.1	78.1	EE D
TECHHK	(270)	427	322	59.0	68.0	EE D
WELLAB	(714)	413	327	50.0 <	103.0	
SPASL	(855)	2349 **	3195 **	2512.5 **	1297.5 **	EE CB
CAL-SAC	(973)	390	400 **	280.0 **	420.0 **	DG F
NDA mean		415.9	311.5	58.41	82.72	
NDA st dev		30.2	24.4	8.23	22.60	
NDA N		25	25	21	23	
Old statistics						
Median		409.0 (3)	310.0 (3)	57.85 (3)	79.05 (3)	
MAD		8.0	10.0	2.50	9.05	
Mean		409.0	313.5	57.65	83.34	
St Dev		12.0	17.3	3.99	14.88	
N		15	17	14	18	
<b>B (mg/kg)</b>						
ISKCLASKCE	(2)	36.0	29.8	18.5	2.05	
AGRILAB	(4)	30.4 *	23.6 **	16.0	3.35	
OOSTERBEEK	(7)	39.1 *	33.2	20.2	3.07	G CB
PUSLITTAN	(14)	33.2	36.8 **	15.2	6.23 **	
SEREMBAN	(19)	34.0	28.0	18.0	1.80	AA E
MARDI	(26)	36.4	31.9	21.9 **	1.20	DB CB
KUCHING	(27)	34.0	26.0	16.0	6.00 **	FB CB
LRSCONTROL	(28)	34.5	29.2	17.7	1.62	AA CB
ANALGEO	(29)	36.0	32.0	19.0	5.00 <	DG D
FELDA	(30)	32.9	27.8	17.0	1.70	AA E
OVA JORK	(35)	38.5	31.6	19.6	3.00	AA E
FORTEST	(44)	33.7	27.0	16.1	0.80	EE CB
NDA mean		34.54	29.56	17.97	2.558	(cont.)
NDA st dev		2.31	2.64	1.73	1.038	
NDA N		82	82	82	74	

## IPE 2009.1 - Inorganic Chemical Composition

Sample	124	164	166	135	MIC
<b>B (mg/kg)</b> (cont.)					
LABTIUM (47)	37.2	18.2 **	27.8 **	2.54	G D
RELAB (49)	32.7	27.1	16.2	2.40	EE CB
SIRI (53)	30.0 *	19.0 **	18.0	1.25	AA E
AAAGROUP (56)	34.4	28.7	18.2	3.72	AA AA
AMIS-AGRO (58)	35.4	30.2	18.2	3.20	AC CB
0055HIK (59)	38.6	30.6	18.5	2.48	EE CB
BLRSLAL (62)	35.1	29.0	19.3	14.30 **	AE E
AARESEARCH (63)	34.5	29.8	18.4	2.43	AE E
AQAWEP (64)	28.5 **	27.6	16.0	4.80 <	EE CB
ANDREA (66)	33.7	27.1	17.3	2.34	EE D
CORBANA (67)	34.8	30.0	18.6	2.80	EE CB
HAMELN (68)	35.0	29.8	18.9	3.44	DG CB
FEJER (70)	35.3	30.1	18.9	3.05	DG CB
ANALGIR (74)	34.5	30.4	18.8	4.01	AA E
DFAL (76)	34.7	30.9	12.8 **	0.28 **	AE E
HILL (78)	34.7	30.3	18.7	2.67	EE CB
RUAKURA (79)	33.1	29.8	17.2	3.10	DC CB
METLAPARKA (81)	36.2	31.1	18.8	2.99	G CB
HLVA (84)	34.6	30.9	19.7	3.03	G CB
ELAEIS.P (85)	30.2 *	26.0	14.8 *	1.79	AE E
CIAT (90)	37.8	33.1	20.6	3.89	AE E
SPSSBKCH (91)	35.2	29.1	18.6	2.46	AA E
GR.FERRADE (102)	30.8	25.7	14.5 *	2.34	AD CB
974BRET (107)	26.6 **	31.4	18.0	2.14	G E
HWASL94 (112)	35.8	30.7	17.8	-	
POVLT (115)	34.7	28.8	16.7	1.70 <	EE CB
LAPANDAY (118)	36.2	30.9	18.5	1.92	AA E
AALI (122)	29.6 **	32.0	21.7 *	1.50	DC E
JASZ (128)	35.6	28.9	18.0	2.92	EE CB
GGM (129)	59.0 **	36.0 **	22.7 **	5.00 <	EE D
XGCALAFIGA (133)	33.2	27.4	15.4	1.00	EE CB
WELE-136 (136)	39.2 *	31.6	18.0	3.31	G CB
BUNASOLS (139)	185.2 **	131.2 **	97.7 **	48.88 **	
VAS (141)	33.9	28.6	17.5	3.22	DG CB
IRRI (158)	40.0 **	34.0	21.0	3.30	CA CB
ANALRESLAB (159)	31.8	27.5	17.0	2.53	EE CB
JV (160)	36.5	32.5	21.0	4.00	AA AA
IRNASE (164)	32.0	27.0	16.3	2.45	AE E
SYNERS (166)	28.3 **	28.4	16.1	4.21	AA CB
Platina222 (170)	36.2	29.6	18.6	2.60	AA E
BVO95MBPD (171)	35.9	31.8	18.7	3.64	EE CB
JYUIER (185)	33.0	27.1	16.8	2.47	EE CB
IPULAB (186)	34.9	30.7	19.2	3.81	G CB
PERTH (187)	35.1	30.1	18.3	2.60	DC CB
GDAGRO (188)	34.7	28.8	17.8	2.40	
SAINTE-FOY (190)	200.0 <	200.0 <	200.0 <	200.00 <	DA CB
SCHRG (191)	23.7 **	26.6	17.3	6.38 **	AA E
LQA-ATP (198)	32.8	29.6	15.6	2.00	AE E
FFEEBW (201)	32.5	27.4	16.8	1.93	DG CB
LAIMBURG (202)	34.7	29.6	18.1	3.80	EE/CB
QLDNR&M (204)	34.9	30.3	18.0	2.20	DB CB
DANRLAB (206)	34.2	28.7	17.3	1.60	EE CB
SKLODPOL (213)	33.4	29.0	18.1	2.50	AA E
DATE (218)	40.6 **	35.2 *	21.6 *	0.23 **	G CB
ALMP1011 (219)	32.2	27.7	16.8	1.88	AB CB
GUYLAB (231)	32.1	30.2	19.9	8.08 **	AE E
ADE (239)	33.6	27.9	17.9	2.70	AA CB
LASUTEVEA (241)	33.8	26.7	15.3	1.89	
SMART (246)	32.9	29.1	18.4	1.97	AE E
REYEPS (249)	37.0	31.3	19.2	3.20	DG CB
ABMCE (250)	35.6	30.2	16.8	5.00 <	EE D
ERSAFVGSCA (265)	18.5 **	8.7 **	28.7 **	26.90 **	E
NDA mean	34.54	29.56	17.97	2.558	(cont.)
NDA st dev	2.31	2.64	1.73	1.038	
NDA N	82	82	82	74	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>B (mg/kg)</b> (cont.)						
LAF	(273)	40.0 **	35.0 *	23.0 **	5.00 **	G CB
WELLAB	(714)	50.0 <	50.0 <	50.0 <	50.00 <	EDCB
SPASL	(855)	44.6 **	35.4 *	24.1 **	8.81 **	EE CB
CUP Analab	(870)	38.9 *	35.2 *	23.0 **	4.70 *	AA E
IOPRI	(880)	38.1	31.9	17.7	0.27 **	
LSF	(895)	30.0 *	26.1	14.6 *	0.95	
RF-R&D	(905)	31.5	25.0	20.3	-	DC CB
CAL-SAC	(973)	35.5	29.6	18.0	3.30	DG CB
LS-MRC	(978)	34.7	29.2	16.6	-	AA E
FERTILAB	(979)	44.1 **	42.9 **	20.3	1.70	AE E
NDA mean		34.54	29.56	17.97	2.558	
NDA st dev		2.31	2.64	1.73	1.038	
NDA N		82	82	82	74	
	Old statistics					
Median		34.70 (3)	29.60 (3)	18.00 (3)	2.500 (3)	
MAD		1.10	1.30	0.85	0.600	
Mean		34.62	29.40	17.96	2.560	
St Dev		1.69	1.97	1.38	0.823	
N		62	70	68	61	
<b>Ba (mg/kg)</b>						
ANALGEO	(29)	11.30	3.76 *	15.4	0.120	DG D
LABTIUM	(47)	9.91	15.30 **	3.2 **	1.000 <	G CB
ANDREA	(66)	10.14	3.02	13.0	0.055	EE D
HAMELN	(68)	8.60	2.80	13.4	1.000 <	DG CB
FEJER	(70)	9.80	3.24	14.2	0.230	DG CB
WELE-136	(136)	8.44	3.11	12.6	0.067	DC CB
IRNASE	(164)	9.03	3.15	14.8	1.000 <	EE CB
IPULAB	(186)	9.38	3.02	14.0	1.000 <	G CB
DATE	(218)	10.32	4.03 *	19.6 **	1.070	G CB
RIOGLAB	(264)	9.84	3.40	14.4	0.096	EE D
VICTORY	(597)	9.92	4.77 **	11.0	0.270	
WELLAB	(714)	10.00 <	10.00 <	13.5	10.000 <	EDCB
NDA mean		9.714	3.167	13.79	-	
NDA st dev		0.699	0.325	1.26	-	
NDA N		11	11	12	7	
	Old statistics					
Median		9.840 (3)	3.110 (3)	13.73 (3)	0.1200 (1)	
MAD		0.460	0.092	0.71	0.0650	
Mean		9.698	-	13.62	-	
St Dev		0.813	-	1.24	-	
N		11	7	10	7	
<b>Be (µg/kg)</b>						
ANALGEO	(29)	50.0	50.00 <	50.00 <	50.00 <	DG D
LABTIUM	(47)	40.0 <	40.00 <	40.00 <	40.00 <	G D
HAMELN	(68)	44.0	10.00 <	10.00 <	10.00 <	DG D
WELE-136	(136)	26.4	5.40	1.70	0.80	DC CB
JYUIER	(185)	50.0 <	50.00 <	50.00 <	50.00 <	EE D
ABMCE	(250)	30.0	20.00	20.00 <	20.00 <	EE D
RIOGLAB	(264)	36.9	8.10	3.80	3.00 <	EE D
VICTORY	(597)	28.5	6.30	1.00 <	1.89	
Median		33.45 (1)	7.200 (1)	2.750 (1)	1.345 (1)	
MAD		6.00	1.350	1.050	0.545	
N		6	4	2	2	
<b>Bi (µg/kg)</b>						
LABTIUM	(47)	100.0 <	100.00 <	100.00 <	100.00 <	G D
HAMELN	(68)	19.0	10.00 <	10.00 <	10.00 <	DG D
Median		16.00 (1)	3.500 (1)	6.300 (1)	1.690 (1)	
MAD		5.37	0.630	1.240	-	
N		4	3	3	1	



## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Bi (µg/kg)</b> (cont.)						
DGCCRFB	(87)	41.0	256.00	77.00	16.00 <	
RIOGLAB	(264)	13.0	3.50	6.30	3.00 <	
VICTORY	(597)	8.3	2.87	5.06	1.69	
Median		16.00 (1)	3.500 (1)	6.300 (1)	1.690 (1)	
MAD		5.37	0.630	1.240	-	
N		4	3	3	1	
<b>Br (mg/kg)</b>						
LAIMBURG	(202)	117.0	132.0	67.0	7.00	
LUARE	(269)	12.7	26.6	2.0 <	2.00 <	G KB
TLR	(900)	13.9	26.3	5.0 <	5.00 <	
Median		13.89 (1)	26.60 (1)	67.00 (1)	7.000 (1)	
MAD		1.19	0.32	-	-	
N		3	3	1	1	
<b>Ca (g/kg)</b>						
ISKCLASKCE	(2)	23.3	11.3	15.1	-	G CB
AGRILAB	(4)	23.1	11.7	16.7	0.0700	
UMADAKAR	(6)	17.3 **	10.0 **	11.4 **	0.0450	AA AA
OOSTERBEEK	(7)	24.5	11.9	16.7	0.1120 <	G CB
CIRADFLHOR	(12)	26.5 **	11.3	15.6	1.3000 **	AA AA
PUSLITTAN	(14)	0.9 **	0.5 **	0.6 **	0.0020	DC AA
SEREMBAN	(19)	23.7	11.4	15.0	0.1000	AB AA
MARDI	(26)	23.6	11.4	16.1	0.1000	DB CB
KUCHING	(27)	22.7	11.2	14.9	1.0000 <	AA CB
LRSCONTROL	(28)	23.0	11.7	16.2	0.0550	AA CB
FELDA	(30)	22.9	11.1	14.4	0.4500 **	AB AA
WAGENINGEN	(32)	21.9	11.5	16.5	0.1000	G CB
OVA JORK	(35)	21.0	11.0	15.0	0.1000 <	AA AD
MHLUME	(36)	27.1 **	11.4	17.5 *	0.2000 **	DA AC
FORTEST	(44)	23.7	11.7	16.0	0.0882	EE CB
REDUIT	(45)	22.3	10.1 **	14.0	1.0900 **	DB AB
LABTIUM	(47)	22.3	15.2 **	11.0 **	0.0700	G CB
ESCH	(48)	22.6	10.9	15.4	0.2500 <	AA AA
RELAB	(49)	22.6	10.3	15.3	0.4000 <	EE CB
PIEST-RIPP	(51)	22.3	10.8	15.0	0.0300	EE CB
SIRI	(53)	19.6 **	9.1 **	12.6 **	0.3800 **	DA CA
AAAGROUP	(56)	23.1	12.2	16.3	0.1200	AA AA
AMIS-AGRO	(58)	22.9	11.2	15.8	0.0800	AC CB
0055HIK	(59)	23.7	11.7	16.2	0.1250 <	EE CB
BLRSLAL	(62)	22.5	11.1	16.6	0.6800 <	AA AA
AARESEARCH	(63)	22.2	11.2	14.9	0.1400 *	AB AA
AQAWEP	(64)	22.5	14.0 **	18.7 **	0.2480 <	EE CB
CORBANA	(67)	22.1	11.2	15.4	0.0500	EE CB
HAMELN	(68)	22.2	11.0	15.6	0.1400 *	DG CB
FEJER	(70)	22.4	11.1	15.7	0.0710	DG CB
ANALGIR	(74)	23.9	11.7	16.2	0.0560 <	DA AA
ELML	(75)	24.2	12.0	16.8	0.0570	AB CB
DFAL	(76)	22.4	17.4 **	17.2	0.3700 **	AA AA
HILL	(78)	23.4	11.6	16.2	0.0600	EE CB
RUAKURA	(79)	22.9	11.9	15.7	0.1000 <	DC CB
METLAPARKA	(81)	23.7	11.4	15.1	0.0400	G CB
HLVA	(84)	22.1	11.4	15.7	0.0390	G CB
ELAEIS.P	(85)	22.3	11.2	15.7	0.1000	G AA
CIAT	(90)	0.8 **	0.4 **	0.5 **	0.0012	DC AA
SPSSBKCH	(91)	23.3	11.8	16.2	0.1300 *	AB AA
BELFAST	(97)	22.8	11.8	15.9	0.0890	DG CB
GR.FERRADE	(102)	24.5	12.2	16.6	-	AD CB
EKOM	(103)	22.9	11.4	15.9	2.1500 <	
WROCLAW	(104)	22.5	11.1	15.2	0.6000 <	
NDA mean		22.84	11.36	15.64	0.06847	(cont.)
NDA st dev		1.09	0.57	0.91	0.04700	
NDA N		122	124	124	87	

## IPE 2009.1 - Inorganic Chemical Composition

Sample	124	164	166	135	MIC
<b>Ca (g/kg)</b> (cont.)					
LAROL (105)	22.1	11.3	15.7	0.1500 <	
974BRET (107)	24.3	12.0	16.0	0.0500	AA AA
HWASL94 (112)	22.0	11.0	14.9	-	
POVLT (115)	22.3	10.4	14.6	1.0000 <	EE CB
LAPANDAY (118)	19.7 **	10.7	15.3	0.1100	DG AA
MSIRI (121)	22.4	10.2 *	12.3 **	0.0270	DC AA
AALI (122)	23.8	11.2	15.6	0.2200 **	DC AA
GEOBOTINST (123)	22.2	10.9	14.9	0.0698	AA AA
JASZ (128)	23.0	11.2	15.8	0.0600	EE CB
GGM (129)	25.3 **	10.6	16.3	0.5000 <	EE D
SASEXFAS (130)	21.0	12.0	13.0 **	0.4000 **	
XGCALAFIGA (133)	22.0	11.2	15.4	0.0480	EE CB
LUNUWILA (135)	23.7	12.2	18.7 **	0.2760 **	AA AA
WELE-136 (136)	22.7	10.8	14.7	0.0298	DC CB
BUNASOLS (139)	10.0 **	11.3	7.7 **	0.0600	
VAS (141)	23.2	11.4	15.6	0.0900	DG CB
GPM-GROUP (143)	22.7	11.3	17.3	0.0600	
NELTROPIKA (145)	20.8 *	10.4	14.7	0.1000	DB BE
P-2000R (149)	24.0	35.0 **	10.4 **	1.8000 **	DA CA
KAOS (157)	23.8	12.1	16.1	0.0500	DB CB
IRRI (158)	21.9	10.8	15.3	0.0400	DB CB
ANALRESLAB (159)	22.3	10.9	15.3	0.1000 <	EE CB
JV (160)	16.7 **	10.4	11.6 **	0.1000	DA AA
IRNASE (164)	20.2 **	9.8 **	13.4 **	1.0000 <	EE CB
SYNERS (166)	518.3 **	305.8 **	398.1 **	3.2160 **	AA CC
130 (169)	-	10.9	12.9 **	-	
Platina222 (170)	23.6	11.3	15.7	0.4000 **	AA AA
BVO95MBPD (171)	24.3	11.6	15.9	0.2000 <	EE CB
SKRA (176)	17.8 <	11.3	15.5	0.8000 <	
SPNDTKLABP (177)	23.0	11.0	15.0	0.0400	AB AE
CHKS (184)	23.0	12.0	16.5	1.2000 <	
JYUIER (185)	23.6	11.6	16.2	0.0410	EE CB
IPULAB (186)	22.1	11.2	15.6	0.0750 <	G CB
PERTH (187)	23.6	11.6	16.0	0.1000 <	DC CB
SAINTE-FOY (190)	23.6	11.6	16.2	0.0700	DA CB
SCHRG (191)	20.9 *	11.1	14.0	0.5300 <	FB CA
LABRES (195)	22.8	12.2	16.0	0.4400 <	G CA
SPAL (196)	73.6 **	41.7 **	54.3 **	1.6000 **	DA AB
LQA-ATP (198)	23.1	11.1	16.1	0.0500	AA AA
GLOBI (200)	22.7	11.4	15.1	0.0950	
FFEEBW (201)	21.4	11.2	15.1	0.0430	DG CB
LAIMBURG (202)	24.4	11.7	17.1	0.0700	EE CB
SEEDLING (203)	21.5	11.5	15.7	0.0730	DA AA
QLDNR&M (204)	22.3	11.7	15.0	0.1000	DB CB
OSCHR-OL (205)	22.9	11.8	16.0	0.8000 **	
DANRLAB (206)	23.1	11.1	15.3	0.1000 <	EE CB
SKLODPOL (213)	22.6	12.0	15.5	0.5000 <	G CA
MALWA (216)	22.2	11.8	17.5 *	0.7800 **	FB Z
DATE (218)	23.8	11.6	16.4	0.1500 *	G CB
ALMP1011 (219)	20.4 **	10.3	14.1	0.0100 <	AB CB
NEINUT (230)	23.9	11.5	16.7	0.0513	DC AA
GUYLAB (231)	22.5	11.9	14.9	0.0750	G AA
KERICHO (236)	22.5	11.4	15.2	0.0500	AA CA
ADE (239)	23.2	10.3	16.0	0.1400 *	AA CB
LASUTEVEA (241)	22.5	11.2	14.9	0.0610	
SMART (246)	21.5	11.0	14.0	0.2110 **	AB AA
REYEPS (249)	24.4	11.5	16.1	0.0400	DG CB
ABMCE (250)	22.3	13.4 **	17.1	0.6000 <	EE CB
ZJKRK (257)	22.5	12.2	16.0	0.5000 <	
FADIAF (261)	20845.0 **	10243.0 **	14212.0 **	-	DC AA
SLAF (263)	23.1	11.5	15.9	0.0400	DG CB
RIOGLAB (264)	22.6	11.2	15.1	0.0410	
NDA mean	22.84	11.36	15.64	0.06847	(cont.)
NDA st dev	1.09	0.57	0.91	0.04700	
NDA N	122	124	124	87	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Ca (g/kg) (cont.)</b>						
ERSAFVGS CA	(265)	24.7 *	11.6	16.0	0.3000 **	DC AA
LUARE	(269)	23.1	11.9	15.1	0.2000 <	G KB
TECHHK	(270)	22.3	10.9	14.4	0.0600	
LAF	(273)	2.5 **	1.2 **	1.7 **	0.0100	G CB
MELIPLANT	(274)	21.5	10.6	14.7	0.0880	EE CB
IUNG PUL	(275)	20.6 *	11.4	13.8 *	0.0600	DA AE
WELLAB	(714)	21.2	10.9	14.5	0.1000 <	EDCB
FOODCHEM	(847)	25.0 *	14.2 **	19.1 **	0.0350	DB AA
AFBI	(851)	23.2	11.3	14.6	0.0100	G KB
SPASL	(855)	25.2 **	11.7	16.9	0.0580	EE CB
CUP Analab	(870)	23.1	11.2	15.8	0.1500 *	AA AA
IOPRI	(880)	20.9 *	14.1 **	0.3 **	14.1900 **	
LSF	(895)	21.6	10.9	14.4	0.1500 *	
RF-R&D	(905)	23.8	11.9	17.3	0.1030	DC CB
SABIC R&T	(927)	24.1	11.4	15.5	0.0570	
CAL-SAC	(973)	23.5	11.8	15.6	0.1000	DG CB
LS-MRC	(978)	25.7 **	13.1 **	16.6	-	AB AA
FERTILAB	(979)	23.4	12.1	16.6	0.1980 **	DC AD
NDA mean		22.84	11.36	15.64	0.06847	
NDA st dev		1.09	0.57	0.91	0.04700	
NDA N		122	124	124	87	
	Old statistics					
Median		22.84 (3)	11.40 (3)	15.70 (3)	0.06000 (3)	
MAD		0.54	0.30	0.50	0.02000	
Mean		22.87	11.36	15.64	0.06202	
St Dev		0.81	0.46	0.77	0.02776	
N		98	105	101	61	
<b>Cd (µg/kg)</b>						
IACM LTD	(15)	50.2	301	73.5	50.00 <	EE  D
HKPC-EMD	(16)	400.0 <	400 <	400.0 <	400.00 <	G D
ANALGEO	(29)	50.0	310	70.0	50.00 <	DG D
WAGENINGEN	(32)	51.1	331	90.0 *	9.11	G D
LABTIUM	(47)	307.0 **	283	76.5	10.60	G D
AQAWEP	(64)	105.2 **	352 **	192.1 **	43.21 **	EE BF
ANDREA	(66)	49.9	284	69.5	4.30 *	EE D
HAMELN	(68)	55.0 *	317	84.0	17.00 **	DG D
FEJER	(70)	51.4	301	79.2	50.00 <	DG CB
ANALGIR	(74)	51.0	307	73.0	20.00 <	AA BF
HLVA	(84)	52.4	327	79.7	7.74	G D
ALFA	(95)	50.0 <	293	74.0	50.00 <	G AB
GR.FERRADE	(102)	30.0 <	256 *	57.3 **	30.00 <	AD CB
WROCLAW	(104)	51.4	305	75.5	9.20	AB AB
POVLT	(115)	67.0 <	293	89.0 *	67.00 <	EE CB
JASZ	(128)	200.0 <	310	200.0 <	200.00 <	DB CB
ICUPROF	(134)	50.6	297	67.5	8.52	DG D
WELE-136	(136)	49.1	307	74.3	9.20	DC D
VAS	(141)	200.0 <	320	200.0 <	200.00 <	DG CB
KGZMB-P	(150)	70.0 **	390 **	100.0 **	10.00 <	G BC
KAOS	(157)	78.0 **	386 **	97.5 **	75.00 <	DB CB
IRRI	(158)	31.0 **	281	31.0 **	-	DB CB
SKRA	(176)	60.0 <	310	75.0	60.00 <	AA AB
CHKS	(184)	114.0 <	290	114.0 <	114.00 <	CB AB
JYUIER	(185)	50.6	327	80.6	50.00 <	EE D
SCHRG	(191)	131.0 **	273	147.0 **	57.00 **	DB BB
LABRES	(195)	60.0 <	305	74.0	60.00 <	G AB
GLOBI	(200)	50.0	300	80.0	15.00 *	G AB
FFEEBW	(201)	48.0	285	67.2	11.60	
QLDNR&M	(204)	57.0 *	318	76.0	7.00	DB D
OSCHR-OL	(205)	40.0 *	300	75.0	50.00 <	G AB
SKLODPOL	(213)	54.0	300	70.0	-	G BG
NDA mean		49.90	301.7	74.92	9.120	(cont.)
NDA st dev		5.12	21.4	7.04	2.712	
NDA N		33	45	39	22	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Cd (µg/kg) (cont.)</b>						
MALWA (216)		100.0 <	290	100.0 <	100.00 <	G AB
ADE (239)		40.0 *	240 **	70.0	10.00	
REYEPS (249)		46.0	285	71.0	6.00	DG BG
ABMCE (250)		60.0 *	370 **	80.0	10.00	EE D
IRQ-1992-S (251)		46.8	288	75.5	9.83	EE BC
ZJKRK (257)		100.0 <	300	100.0 <	100.00 <	
FADIAF (261)		21.0 **	150 **	34.0 **	-	EE BC
SLAF (263)		50.0 <	192 **	50.0 <	50.00 <	DG CB
RIOGLAB (264)		48.6	298	71.2	9.18	EE D
LUARE (269)		500.0 <	500 <	500.0 <	500.00 <	G KB
TECHHK (270)		50.0	31 **	72.0	6.00	EE D
IUNGPUL (275)		46.3	312	84.0	12.00	
VICTORY (597)		43.2 *	251 **	71.1	8.68	
WELLAB (714)		50.0 <	322	76.2	50.00 <	
SPASL (855)		79.4 **	350 **	95.3 **	21.28 **	EE CB
NDA mean		49.90	301.7	74.92	9.120	
NDA st dev		5.12	21.4	7.04	2.712	
NDA N		33	45	39	22	
	Old statistics					
Median		50.00 (3)	300.5 (3)	74.30 (3)	9.190 (3)	
MAD		1.10	10.0	3.20	0.810	
Mean		49.86	302.1	74.67	9.041	
St Dev		2.04	14.5	4.52	1.732	
N		19	34	29	16	
<b>Cl (as Cl) (g/kg)</b>						
OOSTERBEEK (7)		5.57	4.94	0.524 <	0.562 <	FA E
CIRADFLHOR (12)		6.04	5.43 *	0.940 **	1.260 **	
LRSCONTROL (28)		5.43	4.89	0.219	0.122	FB H
WAGENINGEN (32)		5.84	5.00	0.470	0.200	FA Z
RELAB (49)		5.80	5.00	0.600	0.500 *	FA JE
AMIS-AGRO (58)		5.32	4.68	0.210	0.270	FB O
BLRSLAL (62)		5.30	4.81	0.350 <	0.370 <	FA O
AARESEARCH (63)		5.16	4.77	2.900 **	0.280	FB O
HAMELN (68)		4.75	4.40	0.290	0.230	G Z
HILL (78)		5.14	4.60	0.157	0.170	FB O
HLVA (84)		5.22	4.71	0.180	0.238	
ELAEIS.P (85)		5.40	4.60	-	-	
GR.FERRADE (102)		5.42	4.85	0.350	0.290	FA JE
POVLT (115)		5.88	4.66	1.900 <	1.900 <	FA JE
LAPANDAY (118)		5.89	5.53 **	1.100 **	1.470 **	G E
AALI (122)		9.45 **	7.82 **	3.260 **	1.500 **	FA E
ICUPROF (134)		5.23	4.62	0.440	0.160	FA O
BUNASOLS (139)		4.41 **	3.31 **	0.370	0.290	
ANALRESLAB (159)		4.80	4.50	0.200	0.200	FB O
JV (160)		5.40	5.00	0.500	0.400	FB O
SYNERS (166)		110.02 **	129.77 **	47.957 **	22.568 **	DB O
PERTH (187)		5.44	4.90	0.220	0.270	FB O
QLDNR&M (204)		5.80	4.90	0.200	0.200	FA E
DANRLAB (206)		5.11	4.48	0.180	0.180	FB O
SMART (246)		5.14	4.62	0.318	0.200	FA E
LUARE (269)		5.27	4.86	0.300 <	0.300 <	G KB
IOPRI (880)		4.25 **	4.15 **	0.650 *	0.500 *	
NDA mean		5.374	4.761	0.3176	0.2351	
NDA st dev		0.386	0.268	0.2200	0.1082	
NDA N		27	27	22	22	
	Old statistics					
Median		5.400 (3)	4.770 (3)	0.2550 (3)	0.2150 (3)	
MAD		0.240	0.150	0.0750	0.0500	
Mean		5.407	4.752	0.3065	0.2313	
St Dev		0.342	0.182	0.1356	0.0674	
N		23	21	16	16	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Co (µg/kg)</b>						
OOSTERBEEK	(7)	241	93	101	45.0 <	G  D
ANALGEO	(29)	290	110	110	50.0 <	DG  D
WAGENINGEN	(32)	321	107	113	16.9	G  D
LABTIUM	(47)	117 **	113	138	50.0 <	G  D
ANDREA	(66)	321	110	128	14.3	EE  D
HAMELN	(68)	337	134	151	28.0 *	DG  D
FEJER	(70)	288	200 <	200 <	200.0 <	DG CB
HILL	(78)	242	101	108	16.7	EE  D
RUAKURA	(79)	143 *	38 **	32 **	9.0	DC CB
HLVA	(84)	342	106	110	30.0 <	G  D
GR.FERRADE	(102)	500 <	500 <	500 <	500.0 <	AD CB
JASZ	(128)	400 <	400 <	400 <	400.0 <	DB CB
GGM	(129)	205	87	98	80.0 <	EE  D
ICUPROF	(134)	295	130	222 **	23.3	DG  D
WELE-136	(136)	231	103	111	15.5	DC  D
VAS	(141)	260	250 <	250 <	250.0 <	DG CB
IRRI	(158)	344	94	156	21.0	DB CB
ANALRESLAB	(159)	265	120	113	15.0	EE CB
JYUIER	(185)	297	120	137	50.0 <	EE  D
FFEEBW	(201)	301	178 **	144	58.8 **	
QLDNR&M	(204)	298	130	145	20.0	DB  D
ADE	(239)	210	125	100	35.0 **	AA CB
ABMCE	(250)	300	120	110	20.0 <	EE  D
SLAF	(263)	344	149	85	50.0 <	DG CA
RIOGLAB	(264)	284	114	118	17.2	EE  D
TECHHK	(270)	322	133	128	16.0	EE  D
VICTORY	(597)	429 *	125	116	29.3 **	
SPASL	(855)	157 *	-	77	-	EE CB
CAL-SAC	(973)	210	90	80	20.0 <	DG CB
NDA mean		282.4	114.2	115.5	17.39	
NDA st dev		67.5	17.6	22.5	4.40	
NDA N		27	24	25	15	
Old statistics						
Median		295.4 (3)	113.5 (3)	113.0 (3)	16.70 (3)	
MAD		30.4	11.5	15.0	1.70	
Mean		284.7	114.2	116.3	16.81	
St Dev		44.3	16.0	21.8	3.78	
N		23	22	23	11	
<b>Cr (µg/kg)</b>						
WAGENINGEN	(32)	890	756	312	-	G  D
LABTIUM	(47)	700 **	240 **	480	200	G  D
ANDREA	(66)	868	690	428	161	EE  D
HAMELN	(68)	845	643	273	100 <	DG  D
FEJER	(70)	880	870	500 <	500 <	DG CB
ANALGIR	(74)	950	910	490	190	AA AA
HLVA	(84)	900	599	252	100 <	G  D
ALFA	(95)	1000 <	1000 <	1000 <	1000 <	G  AA
GR.FERRADE	(102)	922	757	400 <	400 <	AD CB
EKOM	(103)	878	980	420 <	420 <	AA AA
WROCLAW	(104)	894	1010	445	170	AB AA
JASZ	(128)	1500 <	1500 <	1500 <	1500 <	DB CB
ICUPROF	(134)	1054 **	1183	630 *	350	DG  D
WELE-136	(136)	703 **	631	238	11	DC  D
VAS	(141)	1000 <	1000 <	1000 <	1000 <	DG CB
IRRI	(158)	625 **	563	375	-	DB CB
SKRA	(176)	900	890	500 <	500 <	AA AB
CHKS	(184)	1000 <	1000 <	1000 <	1000 <	CB AA
JYUIER	(185)	1000 *	797	593	79	EE  D
LABRES	(195)	900	880	540 <	540 <	G  AA
GLOBI	(200)	900	950	450	150	
NDA mean		893.0	842.1	406.7	152.7	(cont.)
NDA st dev		54.4	155.0	92.9	110.6	
NDA N		32	32	25	17	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Cr (µg/kg)</b> (cont.)						
FFEEBW	(201)	1011 *	984	390	250 <	
SKLODPOL	(213)	870	880	430	290 <	G AB
MALWA	(216)	900	1050	500 <	500 <	G AA
ADE	(239)	610 **	510 **	240	250	
REYEPS	(249)	1496 **	1120	458	187	DG BC
ABMCE	(250)	890	870	430	200 <	EE D
IRQ-1992-S	(251)	825	815	400	-	EE BC
ZJKRK	(257)	900	950	500 <	500 <	
SLAF	(263)	981	940	342	50	DG CB
RIOGLAB	(264)	872	715	302	30	EE D
TECHHK	(270)	927	843	460	178	EE D
IUNGPUL	(275)	847	754	438	87	
VICTORY	(597)	1072 **	686	866 **	607 **	
WELLAB	(714)	850	867	506	275	
SPASL	(855)	696 **	848	352	123	EE CB
TLR	(900)	5000 <	5000 <	5000 <	5000 <	
NDA mean		893.0	842.1	406.7	152.7	
NDA st dev		54.4	155.0	92.9	110.6	
NDA N		32	32	25	17	
	Old statistics					
Median		892.0 (3)	868.5 (3)	427.8 (3)	165.6 (3)	
MAD		17.0	111.5	52.8	60.8	
Mean		890.4	847.7	394.9	155.6	
St Dev		35.2	150.7	93.3	91.4	
N		22	30	23	16	
<b>Cs (µg/kg)</b>						
RIOGLAB	(264)	38.2	37.7	16.6	9.09	EE D
VICTORY	(597)	36.8	32.4	14.2	8.24	
Median		37.50 (1)	35.05 (1)	15.40 (1)	8.665 (1)	
MAD		0.70	2.65	1.20	0.425	
N		2	2	2	2	
<b>Cu (mg/kg)</b>						
ISKCLASKCE	(2)	4.30	9.78 **	8.08 **	4.12 **	
AGRILAB	(4)	4.21	7.20	5.27 *	2.41	
OOSTERBEEK	(7)	4.55	8.47	7.25	3.33	G CB
PUSLITTAN	(14)	6.99 **	10.28 **	9.14 **	4.33 **	DC AC
MARDI	(26)	4.92	8.83 *	7.59	2.68	DB CB
KUCHING	(27)	4.00	7.00	5.00 **	4.00 *	AA CB
LRSCONTROL	(28)	4.15	7.50	6.24	2.75	EE CB
ANALGEO	(29)	4.46	7.92	6.52	2.91	DG D
FELDA	(30)	4.80	8.00	6.87	4.64 **	AA AA
WAGENINGEN	(32)	4.00	8.00	7.00	3.00	G D
OVA JORK	(35)	4.30	7.20	6.60	2.00 *	AA AD
FORTEST	(44)	4.10	7.50	6.30	2.30	EE CB
REDUIT	(45)	3.96	18.90 **	16.00 **	1.32 **	DB AB
LABTIUM	(47)	4.08	6.40 **	7.45	2.97	G CB
RELAB	(49)	4.00	6.00 **	5.00 **	2.00 *	EE CB
PIEST-RIPP	(51)	5.20 *	8.92 *	6.56	2.97	EE CB
SIRI	(53)	5.00	8.00	7.00	2.00 *	DA AA
AAAGROUP	(56)	4.43	7.75	6.87	2.55	AA AA
REHURKAVO	(57)	4.23	7.74	6.63	3.81 *	EE AB
AMIS-AGRO	(58)	4.50	8.00	7.10	3.20	AC CB
0055HIK	(59)	3.56	7.00	5.77	2.69	EE CB
BLRSLAL	(62)	4.40	7.80	5.68	2.96	AA AA
AARESEARCH	(63)	4.20	7.80	6.47	2.49	AA AA
ANDREA	(66)	3.89	6.55 *	5.78	2.37	EE D
CORBANA	(67)	4.16	7.78	6.68	3.25	EE CB
HAMELN	(68)	4.11	7.53	6.69	3.32	DG CB
NDA mean		4.261	7.700	6.568	2.934	(cont.)
NDA st dev		0.426	0.580	0.649	0.532	
NDA N		113	114	114	111	

## IPE 2009.1 - Inorganic Chemical Composition

Sample	124	164	166	135	MIC
<b>Cu (mg/kg)</b> (cont.)					
FEJER (70)	4.25	7.65	6.43	2.91	DG CB
ANALGIR (74)	4.48	7.74	6.76	2.92	AA AA
ELML (75)	3.88	7.94	6.50	1.87 *	AB CB
DFAL (76)	4.00	5.63 **	4.38 **	1.25 **	AA AA
HILL (78)	4.00	7.30	6.70	3.30	EE CB
RUAKURA (79)	4.30	8.20	6.50	3.20	DC CB
METLAPARKA (81)	5.19 *	8.52	7.19	3.41	G CB
HLVA (84)	4.14	7.61	6.76	3.20	G D
ELAEIS.P (85)	4.59	7.86	7.04	2.89	DA AA
CIAT (90)	1.20 **	5.98 **	4.71 **	0.76 **	DC AB
SPSSBKCH (91)	5.71 **	9.18 **	7.88 *	2.42	AB AA
ALFA (95)	4.40	7.20	4.39 **	2.92	G AA
GR.FERRADE (102)	4.28	7.67	7.03	3.73	AD CB
EKOM (103)	4.24	7.67	6.42	2.68	AA AB
WROCLAW (104)	4.30	7.50	6.10	2.84	AB AA
974BRET (107)	5.00	8.45	7.12	2.66	AA AA
HWASL94 (112)	4.10	7.84	6.48	-	
POVLT (115)	4.33	8.01	6.48	2.66	EE CB
LAPANDAY (118)	5.00	5.00 **	6.00	3.00	DG AA
AALI (122)	3.70	6.70 *	5.60	2.50	DC AA
JASZ (128)	4.22	7.75	6.57	3.01	EE CB
GGM (129)	3.79	7.00	6.50	2.50	EE D
SASEXFAS (130)	5.09 *	8.61	7.83 *	3.52	
ICUPROF (134)	3.38 *	6.63 *	5.95	2.97	DG D
LUNUWILA (135)	4.18	8.09	7.01	3.09	AA AA
WELE-136 (136)	4.08	7.64	6.61	2.96	DC CB
BUNASOLS (139)	5.18 *	8.68 *	9.25 **	8.49 **	
VAS (141)	4.36	7.71	6.80	3.02	DG CB
GPM-GROUP (143)	4.50	7.70	5.60	3.10	
NELTROPIKA (145)	5.60 **	8.70 *	7.80 *	3.80	DB AA
P-2000R (149)	4.27	8.12	6.71	2.81	DB AA
IRRI (158)	3.47 *	7.47	6.16	2.81	DB CB
ANALRESLAB (159)	3.90	7.20	6.20	2.65	EE CB
JV (160)	3.66	6.70 *	5.20 *	0.30 **	AA AA
IRNASE (164)	3.91	7.01	5.64	1.78 *	EE CB
SYNERS (166)	4.48	7.64	6.44	3.82 *	AA CB
130 (169)	4.00	7.63	6.23	2.20	G AD
Platina222 (170)	5.30 **	7.85	6.90	1.75 **	AA AA
BVO95MBPD (171)	3.85	7.30	6.85	4.07 *	EE CB
SKRA (176)	4.30	7.72	6.59	2.91	AA AB
SPNDTKLABP (177)	0.01 **	0.01 **	0.01 **	0.00 **	AB AA
CHKS (184)	4.19	7.68	6.23	2.72	CB AA
JYUIER (185)	4.17	8.11	6.66	2.96	EE CB
IPULAB (186)	3.97	8.03	6.58	3.13	G CB
PERTH (187)	4.50	7.88	7.01	3.43	DC CB
SAINTE-FOY (190)	20.00 <	20.00 <	20.00 <	20.00 <	DA CB
SCHRG (191)	5.80 **	8.45	6.30	2.50	DB AA
LABRES (195)	4.40	7.68	6.50	2.80	G AA
LQA-ATP (198)	4.70	6.80	7.10	2.50	AA AA
GLOBI (200)	4.00	7.20	6.40	2.90	G AA
FFEEBW (201)	4.55	7.86	7.17	3.59	
LAIMBURG (202)	5.50 **	9.30 **	8.40 **	5.10 **	EE CB
QLDNR&M (204)	4.60	8.70 *	7.10	3.30	DB CB
OSCHR-OL (205)	4.40	7.60	6.40	2.90	G AB
DANRLAB (206)	4.66	8.33	7.52	3.32	EE AA
SKLODPOL (213)	3.99	7.63	6.20	2.89	G AB
MALWA (216)	4.20	7.40	6.20	2.60	G AA
DATE (218)	4.84	8.21	7.48	3.44	G CB
ALMP1011 (219)	0.10 <	4.84 **	3.52 **	0.10 <	AB CB
NEINUT (230)	4.21	7.68	6.68	3.21	DC AA
KERICHO (236)	4.43	7.36	6.50	2.83	AA AA
ADE (239)	4.88	7.92	7.21	3.52	AA CB
NDA mean	4.261	7.700	6.568	2.934	(cont.)
NDA st dev	0.426	0.580	0.649	0.532	
NDA N	113	114	114	111	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Cu (mg/kg)</b> (cont.)						
LASUTEVEA	(241)	4.74	7.59	5.76	2.85	
SMART	(246)	5.99 **	7.73	6.39	2.15	AB AA
REYEPS	(249)	3.87	6.81	5.78	2.90	DG BC
ABMCE	(250)	4.30	8.48	5.40 *	3.26	EE D
IRQ-1992-S	(251)	4.09	7.76	5.47 *	2.97	EE BC
ZJKRK	(257)	4.20	7.40	6.30	2.80	
FADIAF	(261)	4.42	8.41	7.18	3.09	DC AB
SLAF	(263)	3.96	7.44	6.51	2.91	DG CB
RIOGLAB	(264)	3.62	6.85	5.72	2.86	EE D
ERSAFVGSCA	(265)	4.73	10.20 **	7.39	3.79	DC AA
LUARE	(269)	4.33	8.05	7.00	3.33	G KB
TECHHK	(270)	4.30	7.79	6.47	2.92	EE D
LAF	(273)	6.70 **	10.30 **	9.00 **	5.70 **	G CB
MELIPLANT	(274)	4.26	7.38	6.25	3.25	EE CB
IUNGPUL	(275)	4.14	7.68	6.65	2.63	EE CB
VICTORY	(597)	4.49	6.92	6.76	8.14 **	
WELLAB	(714)	10.00 <	10.00 <	10.00 <	10.00 <	EDCB
LABFOR	(846)	7.22 **	10.45 **	10.12 **	6.37 **	
FOODCHEM	(847)	4.30	7.80	6.00	3.00	DB AA
SPASL	(855)	4.01	7.62	6.59	3.48	EE CB
CUP Analab	(870)	4.91	9.49 **	7.27	4.18 **	AA AA
IOPRI	(880)	7.00 **	6.00 **	4.00 **	5.00 **	
LSF	(895)	2.95 **	6.68 *	5.28 *	1.85 *	
RF-R&D	(905)	4.08	7.66	7.14	2.96	DC CB
SABIC R&T	(927)	8.80 **	9.10 **	9.40 **	7.80 **	
CAL-SAC	(973)	3.82	7.58	6.08	2.71	DG CB
LS-MRC	(978)	4.66	8.16	6.70	-	AA AA
FERTILAB	(979)	4.02	7.00	6.25	2.38	DF AD
NDA mean		4.261	7.700	6.568	2.934	
NDA st dev		0.426	0.580	0.649	0.532	
NDA N		113	114	114	111	
	Old statistics					
Median		4.240 (3)	7.690 (3)	6.575 (3)	2.920 (3)	
MAD		0.230	0.240	0.325	0.240	
Mean		4.266	7.694	6.582	2.947	
St Dev		0.321	0.415	0.474	0.357	
N		93	86	90	84	
<b>F (mg/kg)</b>						
TLR	(900)	18.3	16.9	5.00 <	5.00 <	
Median		18.28 (1)	16.92 (1)	- (0)	- (0)	
MAD		-	-	-	-	
N		1	1	-	-	
<b>Fe (mg/kg)</b>						
ISKCLASKCE	(2)	232	212	54.5 **	-	
AGRILAB	(4)	232	237	70.0	9.00	
OOSTERBEEK	(7)	257 **	249	81.1	7.87 <	G CB
CIRADFLHOR	(12)	231	199	71.7	13.19 *	AA AA
PUSLITTAN	(14)	231	236	79.3	7.91	DC AC
MARDI	(26)	243	228	62.0 *	34.00 **	DB CB
KUCHING	(27)	211	203	67.0	8.00	AA CB
LRSCONTROL	(28)	260 **	235	77.8	6.16	EE CB
FELDA	(30)	211	210	72.3	14.20 *	AA AA
WAGENINGEN	(32)	243	242	82.0	3.00 *	G CB
OVA JORK	(35)	205	207	70.0	10.10	AA AD
FORTEST	(44)	217	217	73.2	6.40	EE CB
REDUIT	(45)	224	223	46.7 **	9.40	DB AB
LABTIUM	(47)	209	70 **	203.0 **	20.00 <	G CB
RELAB	(49)	201	726 **	66.3	8.20	EE CB
NDA mean		221.6	222.4	74.89	8.118	(cont.)
NDA st dev		16.9	21.5	6.84	3.061	
NDA N		113	113	113	100	



## IPE 2009.1 - Inorganic Chemical Composition

Sample	124	164	166	135	MIC
<b>Fe (mg/kg)</b> (cont.)					
PIEST-RIPP (51)	179 **	184	86.5 *	6.91	EE CB
SIRI (53)	200	200	85.0	5.00	DA AA
AAAGROUP (56)	213	216	77.0	13.10 *	AA AA
REHURKAVO (57)	228	233	73.4	-	EE AA
AMIS-AGRO (58)	225	228	84.0	11.00	AC CB
0055HIK (59)	252 *	211	75.6	8.14	EE CB
BLRSLAL (62)	230	234	66.1	9.68	AA AA
AARESEARCH (63)	221	224	77.5	9.18	AA AA
AQAWEP (64)	226	303 **	127.9 **	28.68 **	EE CB
CORBANA (67)	207	217	74.6	7.47	EE CB
HAMELN (68)	219	226	75.5	6.66	DG CB
FEJER (70)	223	224	75.1	8.89	DG CB
ANALGIR (74)	219	236	75.9	7.80	AA AA
ELML (75)	200	214	73.8	6.16	AB CB
HILL (78)	200	201	71.3	7.70	EE CB
RUAKURA (79)	236	255	80.0	9.00	DC CB
METLAPARKA (81)	200	216	67.7	5.88	G CB
HLVA (84)	251	246	76.9	6.08	G CB
ELAEIS.P (85)	153 **	162 **	69.0	34.00 **	G AA
CIAT (90)	195	209	71.6	6.31	DC AB
SPSSBKCH (91)	267 **	304 **	104.0 **	14.20 *	AB AA
ALFA (95)	226	210	62.6 *	8.48	G AA
GR.FERRADE (102)	247	245	79.4	11.60	AD CB
EKOM (103)	218	222	76.3	8.54	AA AB
WROCLAW (104)	221	220	77.2	8.50	AB AA
974BRET (107)	229	228	74.4	8.54	AA AA
HWASL94 (112)	232	243	73.5	-	
POVLT (115)	244	238	77.0	8.08	EE CB
LAPANDAY (118)	230	226	74.0	12.00	DG AA
AALI (122)	268 **	296 **	119.3 **	19.90 **	DC AA
JASZ (128)	219	228	74.0	9.26	EE CB
GGM (129)	225	195	75.1	20.00 <	EE D
SASEXFAS (130)	215	230	102.0 **	23.70 **	
XGCALAFIGA (133)	215	204	76.6	7.76	EE CB
LUNUWILA (135)	190	224	95.2 **	27.21 **	AA AA
WELE-136 (136)	229	244	78.0	6.00	DC CB
BUNASOLS (139)	49 **	101 **	48.6 **	6.59	
VAS (141)	221	230	76.6	9.20	DG CB
GPM-GROUP (143)	226	223	66.0	10.30	
NELTROIKA (145)	223	223	85.0	12.60	DB AA
P-2000R (149)	224	221	74.5	7.62	DB AA
KAOS (157)	267 **	274 **	84.2	5.81	DB CB
IRRI (158)	248	220	74.8	5.98	DB CB
ANALRESLAB (159)	213	225	73.6	5.13	EE CB
JV (160)	160 **	161 **	63.0 *	13.00	AA AA
IRNASE (164)	183 **	173 **	64.1 *	5.75	EE CB
SYNERS (166)	143 **	130 **	57.4 **	12.88	AA CB
130 (169)	191	202	88.0 *	7.50	G AD
Platina222 (170)	197	202	71.0	21.00 **	AA AA
BVO95MBPD (171)	218	202	75.5	15.40 *	EE CB
SKRA (176)	226	231	77.2	8.70	AA AB
SPNDTKLABP (177)	182 **	170 **	54.5 **	11.70	AB AA
CHKS (184)	229	218	72.6	9.16	CB AB
JYUIER (185)	219	192	67.3	8.33	EE CB
IPULAB (186)	225	215	77.1	15.00 <	G CB
PERTH (187)	253 *	252	87.7 *	9.10	DC CB
SAINTE-FOY (190)	259 **	258	101.0 **	100.00 <	DA CB
SCHRG (191)	216	209	61.2 *	12.00	DB AB
LABRES (195)	230	224	76.6	8.50	G AA
SPAL (196)	199	245	82.7	36.70 **	DA AB
LQA-ATP (198)	210	197	79.0	9.00	AA AA
GLOBI (200)	217	230	75.0	8.50	G AA
NDA mean	221.6	222.4	74.89	8.118	(cont.)
NDA st dev	16.9	21.5	6.84	3.061	
NDA N	113	113	113	100	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Fe (mg/kg)</b> (cont.)						
FFEEBW	(201)	228	240	73.0	4.87	DG CB
LAIMBURG	(202)	266 **	254	86.3 *	12.10	EE CB
QLDNR&M	(204)	242	195	71.8	3.60	DB CB
OSCHR-OL	(205)	229	208	77.0	9.00	G AB
DANRLAB	(206)	205	218	73.5	6.20	EE AA
SKLODPOL	(213)	230	226	62.5 *	8.63	G AB
MALWA	(216)	213	225	71.6	10.00 <	G AA
DATE	(218)	217	251	98.4 **	20.53 **	G CB
ALMP1011	(219)	134 **	119 **	47.0 **	0.10 <	AB CB
NEINUT	(230)	240	238	80.5	9.13	DC AB
GUYLAB	(231)	214	245	76.3	3.81	G AA
KERICHO	(236)	200	198	74.9	7.36	AA AA
ADE	(239)	237	239	88.0 *	19.00 **	AA CB
LASUTEVEA	(241)	234	245	78.0	5.80	
SMART	(246)	207	201	76.0	6.30	AA AA
REYEPS	(249)	246	237	76.3	9.00	DG CB
ABMCE	(250)	227	219	68.8	6.00 <	EE D
ZJKRK	(257)	210	220	80.0	8.80	
FADIAF	(261)	199	203	70.4	5.13	DC AB
SLAF	(263)	254 *	255	85.0	7.36	DG CB
RIOGLAB	(264)	221	222	74.5	7.03	EE D
ERSAFVGSCA	(265)	302 **	720 **	150.0 **	159.80 **	DC AA
LUARE	(269)	220	223	66.8	7.00 <	G KB
TECHHK	(270)	242	241	84.0	6.60	
LAF	(273)	242	244	82.0	12.00	G CB
IUNGPUL	(275)	224	231	75.6	7.66	EE CB
LABFOR	(846)	200	241	80.2	44.03 **	
FOODCHEM	(847)	206	203	70.5	6.30	DB AA
SPASL	(855)	201	211	69.3	5.82	EE CB
CUP Analab	(870)	221	204	74.0	14.57 *	AA AA
IOPRI	(880)	166 **	129 **	22.0 **	23.00 **	
LSF	(895)	211	216	67.0	5.00	
RF-R&D	(905)	216	210	84.2	7.97	DC CB
SABIC R&T	(927)	218	207	64.8	6.90	
CAL-SAC	(973)	231	223	74.6	13.08 <	DG CB
FERTILAB	(979)	178 **	190	72.1	8.27	DF AD
NDA mean		221.6	222.4	74.89	8.118	
NDA st dev		16.9	21.5	6.84	3.061	
NDA N		113	113	113	100	
	Old statistics					
Median		221.0 (3)	223.0 (3)	75.05 (3)	8.040 (3)	
MAD		9.0	13.2	2.85	1.190	
Mean		220.5	222.8	75.09	8.047	
St Dev		14.1	17.0	4.88	2.108	
N		92	98	86	80	
<b>Ga (µg/kg)</b>						
LABTIUM	(47)	240	11.0	33.0	10.0 <	
VICTORY	(597)	419	148.0	36.5	89.3	
Median		329.5 (1)	79.50 (1)	34.75 (1)	89.30 (1)	
MAD		89.5	68.50	1.75	-	
N		2	2	2	1	
<b>Hg (µg/kg)</b>						
IACM LTD	(15)	50.00 <	-	50.0 <	50.00 <	EE D
HKPC-EMD	(16)	100.00 <	100.0 <	100.0 <	100.00 <	G D
LRSCONTROL	(28)	9.36	10.2	29.6	1.85	H E
ANALGEO	(29)	8.00	9.0 *	28.0	2.00	G G
LABTIUM	(47)	12.00 **	14.0 **	24.0 **	6.00 <	FB G
REHURKAVO	(57)	8.09	9.3	29.4	2.33	EE G
NDA mean		8.416	10.23	29.38	2.167	(cont.)
NDA st dev		0.645	0.73	1.22	0.403	
NDA N		26	25	28	22	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Hg (µg/kg)</b> (cont.)						
0055HIK	(59)	125.00 <	125.0 <	125.0 <	125.00 <	EE  G
AQAWEP	(64)	8.80	10.1	29.2	2.43	B  Z
HAMELN	(68)	8.00	8.5 **	27.0 *	1.50	DG  G
FEJER	(70)	500.00 <	500.0 <	500.0 <	500.00 <	DG CB
ANALGIR	(74)	8.37	9.8	29.5	2.46	G  Z
HLVA	(84)	8.70	10.6	30.1	1.60	G  G
DGCCRF	(87)	30.00 <	33.0 <	33.0 **	7.00 <	DB G
GR.FERRADE	(102)	8.53	10.2	30.5	10.00 <	H  E
EKOM	(103)	8.64	10.2	29.3	2.58	
WROCLAW	(104)	8.50	10.4	29.2	2.25	G  Z
LAROL	(105)	8.37	10.3	30.1	2.50	
POVLT	(115)	9.58 *	11.1	29.0	8.70 <	EE  G
VAS	(141)	500.00 <	500.0 <	500.0 <	500.00 <	
KAOS	(157)	15.00 <	15.0 <	28.9	15.00 <	DF  G
130	(169)	7.20 *	10.5	25.8 **	-	
SKRA	(176)	8.37	10.5	29.8	2.33	
UMEG-GB3	(180)	7.36 *	9.3	28.8	2.22	H  G
CHKS	(184)	8.25	9.6	28.2	1.90	G  Z
JYUIER	(185)	14.60 **	10.0 <	10.0 <	10.00 <	G  D
LABRES	(195)	8.50	11.1	30.0	27.00 **	G Z
OSCHR-OL	(205)	8.50	11.0	30.0	2.30	
SKLODPOL	(213)	8.00	10.0	31.0	2.00	G  Z
ADE	(239)	40.00 **	20.0 **	20.0 **	10.00 **	
IRQ-1992-S	(251)	20.00 <	20.0 <	27.3	24.00 **	EE  G
ZJKRK	(257)	9.20	10.6	31.4	2.30	
FADIAF	(261)	6.44 **	8.2 **	24.9 **	1.52	H  G
TECHHK	(270)	10.00 *	13.0 **	28.0	5.00 **	EE D
IUNGPUL	(275)	8.23	10.5	29.8	2.14	
WELLAB	(714)	50.00 <	50.0 <	50.0 <	50.00 <	
CAL-SAC	(973)	100.00 <	100.0 <	100.0 <	100.00 <	DG  G
NDA mean		8.416	10.23	29.38	2.167	
NDA st dev		0.645	0.73	1.22	0.403	
NDA N		26	25	28	22	
	Old statistics					
Median		8.435 (3)	10.30 (3)	29.45 (3)	2.235 (3)	
MAD		0.205	0.30	0.55	0.230	
Mean		8.467	10.28	29.42	2.123	
St Dev		0.381	0.53	0.98	0.335	
N		18	19	22	18	
<b>I (µg/kg)</b>						
OOSTERBEEK	(7)	612	123	123	112.4 <	G  D
REHURKAVO	(57)	252	116	147	28.8	
HILL	(78)	260	137	155	50.0 <	G D
WELE-136	(136)	593	333	374	31.0	DC D
ANALRESLAB	(159)	410	247	158	26.0	G  E
Median		410.0 (1)	137.0 (1)	155.0 (1)	28.80 (1)	
MAD		158.0	21.0	8.0	2.20	
N		5	5	5	3	
<b>K (g/kg)</b>						
ISKCLASKCE	(2)	25.3	42.4	10.4	-	G  CB
AGRILAB	(4)	26.7	44.3	11.9	0.900	
UMADAKAR	(6)	25.9	40.8	11.0	1.110	AA AA
OOSTERBEEK	(7)	28.3	45.2	12.1	1.027	G CB
CIRADFLHOR	(12)	26.4	41.3	11.2	1.470 **	AA CA
PUSLITTAN	(14)	0.6 **	1.1 **	0.3 **	0.016 **	DC CA
SEREMBAN	(19)	26.2	43.1	11.2	0.890	AB CA
MARDI	(26)	27.1	44.2	11.6	1.000	DB CB
KUCHING	(27)	26.0	43.0	10.5	0.900	AA CB
NDA mean		26.08	42.84	11.21	0.9287	(cont.)
NDA st dev		1.23	2.00	0.58	0.1009	
NDA N		126	126	126	110	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>K (g/kg)</b> (cont.)						
LRSCONTROL (28)		26.1	42.4	10.8	0.869	AA CB
FELDA (30)		25.3	41.6	10.7	0.920	AB CA
WAGENINGEN (32)		26.2	44.1	11.5	0.900	G CB
OVA JORK (35)	*	23.7	41.5	10.4	0.680	AA CA
MHLUME (36)		25.1	40.1	10.7	0.800	DA AC
FORTEST (44)		25.1	42.0	11.3	0.938	EE CB
REDUIT (45)		26.3	41.0	11.0	1.380	DB Z
LABTIUM (47)		24.5	10.6	39.2	1.030	G CB
ESCH (48)		26.6	42.3	11.5	0.860	AA AA
RELAB (49)		25.6	38.3	11.0	0.900	EE CB
PIEST-RIPP (51)		24.9	41.7	10.4	11.000	EE CB
SIRI (53)		26.2	42.3	10.4	0.800	DA CA
AAAGROUP (56)		26.5	42.1	11.4	1.040	AA AA
AMIS-AGRO (58)		26.6	43.4	11.6	0.840	AC CB
0055HIK (59)	*	23.9	38.7	10.0	0.760	EE CB
BLRSLAL (62)		26.1	42.1	10.4	0.900	AA CA
AARESEARCH (63)		26.0	43.3	11.1	0.930	AB CA
AQAWEP (64)	*	26.1	39.1	11.4	0.938	EE CB
CORBANA (67)		25.8	42.7	11.2	0.890	EE CB
HAMELN (68)		26.6	42.9	11.6	0.990	DG CB
FEJER (70)		25.9	42.9	11.2	0.940	DG CB
ANALGIR (74)		26.4	44.9	11.0	0.900	DA AA
ELML (75)		27.4	44.8	11.8	1.050	AB CB
DFAL (76)		24.5	35.5	10.4	0.840	AA AA
HILL (78)		26.0	42.5	11.1	0.950	EE CB
RUAKURA (79)		26.7	42.8	10.9	1.000	DC CB
METLAPARKA (81)		27.2	43.2	11.8	0.929	G CB
HLVA (84)		26.3	43.8	11.5	0.894	G CB
ELAEIS.P (85)		27.3	44.4	11.3	1.000	DA AA
CIAT (90)	**	1.1	1.7	0.4	0.030	DC CA
SPSSBKCH (91)		26.8	45.3	11.4	0.980	AB Z
BELFAST (97)		26.9	45.1	11.3	0.820	DG CB
GR.FERRADE (102)		27.0	47.0	11.5	93.000	AD CB
EKOM (103)		25.9	42.3	11.0	3.320	<
WROCLAW (104)		26.2	42.8	11.1	1.000	<
LAROL (105)		26.0	42.5	11.1	0.900	<
974BRET (107)		27.7	45.1	12.0	1.010	AA AA
HWASL94 (112)		27.6	44.5	11.6	-	
POVLT (115)		25.2	43.2	11.3	0.760	EE CB
LAPANDAY (118)		24.4	45.0	10.8	0.860	DG AA
MSIRI (121)		25.6	41.2	10.9	0.995	DA CA
AALI (122)		26.8	31.1	11.1	0.920	DC AA
GEOBOTINST (123)		25.0	42.4	10.6	0.899	AA AA
JASZ (128)		26.5	43.5	11.4	0.920	EE CB
GGM (129)		24.2	42.6	11.0	2.000	< EE D
SASEXFAS (130)		25.7	42.3	11.8	1.100	
XGCALAFIGA (133)		26.4	43.6	11.3	0.960	EE CB
LUNUWILA (135)		25.6	42.5	10.9	0.631	AA AA
WELE-136 (136)	**	23.0	38.8	11.9	0.806	DC CB
BUNASOLS (139)	**	12.4	21.5	6.8	11.710	**
VAS (141)		25.8	41.8	11.3	0.950	DG CB
GPM-GROUP (143)		26.5	42.5	10.0	1.080	*
NELTROPIKA (145)		27.2	45.2	11.4	0.900	DB BE
P-2000R (149)		24.9	45.2	11.1	1.100	DA CA
KAOS (157)		28.1	45.5	12.3	1.100	DB CB
IRRI (158)		24.6	41.2	10.8	0.900	DB BC
ANALRESLAB (159)	**	23.1	39.1	9.6	1.000	EE CB
JV (160)	*	24.0	39.6	11.5	0.950	DA CA
IRNASE (164)		24.6	39.4	10.5	1.000	< EE CB
SYNERS (166)	**	644.6	1168.3	302.8	23.764	** AA CB
130 (169)		24.3	41.0	13.1	0.990	**
Platina222 (170)		26.3	44.4	11.9	1.040	AA CA
NDA mean		26.08	42.84	11.21	0.9287	(cont.)
NDA st dev		1.23	2.00	0.58	0.1009	
NDA N		126	126	126	110	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>K (g/kg)</b> (cont.)						
BVO95MBPD (171)		24.5	38.3 **	10.5	0.790	EE CB
IRS (173)		27.4	45.4	11.7	0.950	AA CA
SKRA (176)		25.7	41.5	11.6	3.200 <	
SPNDTKLABP (177)		28.2	41.6	11.8	1.030	AB CA
CHKS (184)		26.2	43.0	11.0	1.250 <	
JYUIER (185)		26.5	42.6	11.2	0.961	EE CB
IPULAB (186)		25.4	42.3	11.4	0.930	G CB
PERTH (187)		28.0	45.1	11.8	1.020	DC CB
GDAGRO (188)		26.7	42.9	11.6	0.900	
SAINTE-FOY (190)		27.5	44.4	11.6	0.990	DA CB
SCHRG (191)		25.4	43.0	11.0	1.000 <	FB CA
LABRES (195)		26.2	42.0	11.5	0.950	G CA
SPAL (196)		27.4	45.1	11.9	0.800	DA CA
LQA-ATP (198)		26.9	44.7	11.9	0.990	AA CA
GLOBI (200)		26.2	43.8	11.0	0.913	
FFEEBW (201)		24.8	39.8 *	11.0	0.902	DG AA
LAIMBURG (202)		26.6	42.4	11.4	0.910	EE CB
SEEDLING (203)		26.1	42.8	11.5	0.949	DA CA
QLDNR&M (204)		26.3	45.9 *	11.0	0.970	DB CB
OSCHR-OL (205)		25.0	41.6	11.7	0.900	
DANRLAB (206)		25.2	40.0	10.9	0.900	FB CA
C.S.S. (209)		22.9 **	39.7 *	10.4	0.632 **	AA AA
SKLODPOL (213)		24.8	42.4	11.6	0.950	G CA
MALWA (216)		25.1	43.1	10.6	1.000 <	FB Z
DATE (218)		28.2	44.1	12.8 **	0.470 **	G CB
ALMP1011 (219)		23.1 **	39.0 *	10.2 *	0.860	AB CB
NEINUT (230)		26.4	46.3 *	12.0	0.950	DC AA
GUYLAB (231)		26.7	43.8	13.0 **	1.800 **	G CA
KERICHO (236)		27.0	43.5	10.7	1.030	AA CA
ADE (239)		28.7 *	42.8	11.9	0.690 **	AA CB
LASUTEVEA (241)		26.3	45.0	11.0	0.980	
SMART (246)		25.6	36.9 **	12.2 *	-	AB AA
REYEPS (249)		27.1	43.0	10.9	0.890	DG CB
ABMCE (250)		26.2	42.3	10.6	3.000 <	EE CB
ZJKRK (257)		25.4	41.7	11.4	1.000 <	
FADIAF (261)		26463.0 **	42970.0 **	9686.0 **	766.000 **	DC AA
SLAF (263)		26.6	43.4	11.4	0.800	DG CB
RIOGLAB (264)		26.4	43.2	11.3	0.848	
ERSAFVGSACA (265)		31.8 **	516.8 **	150.0 **	10.100 **	DC CA
LUARE (269)		26.4	42.9	11.1	3.500 <	G KB
TECHHK (270)		24.8	43.3	11.0	0.880	
LAF (273)		2.8 **	4.5 **	1.2 **	0.120 **	G CB
MELIPLANT (274)		25.4	43.7	10.5	0.750	EE CB
IUNGUL (275)		26.6	42.6	11.4	0.650 **	DA CA
WELLAB (714)		27.4	45.9 *	10.7	0.820	
AFBI (851)		29.1 **	41.9	12.0	0.720 *	G KB
SPASL (855)		27.7	45.5	11.7	1.048	EE CB
CUP Analab (870)		25.0	42.1	10.9	1.011	AA CA
IOPRI (880)		50.6 **	81.3 **	0.6 **	10.610 **	
LSF (895)		21.9 **	37.0 **	9.0 **	0.590 **	
RF-R&D (905)		27.2	37.4 **	12.5 **	1.018	DC CB
SABIC R&T (927)		25.9	43.1	11.2	0.886	
CAL-SAC (973)		25.2	39.4 *	10.5	0.900	DG CB
LS-MRC (978)		24.7	52.1 **	1.2 **	1.430 **	AB AA
FERTILAB (979)		22.9 **	38.2 **	9.7 **	1.518 **	FA AD
NDA mean		26.08	42.84	11.21	0.9287	(cont.)
NDA st dev		1.23	2.00	0.58	0.1009	
NDA N		126	126	126	110	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>K (g/kg) (cont.)</b>						
NDA mean		26.08	42.84	11.21	0.9287	
NDA st dev		1.23	2.00	0.58	0.1009	
NDA N		126	126	126	110	
	Old statistics					
Median		26.20 (3)	42.90 (3)	11.20 (3)	0.9300 (3)	
MAD		0.60	0.80	0.30	0.0600	
Mean		26.14	43.06	11.21	0.9328	
St Dev		0.96	1.30	0.45	0.0831	
N		107	94	104	87	
<b>Li (µg/kg)</b>						
ANALGEO	(29)	600	400	300.0 <	300.0 <	DG  D
LABTIUM	(47)	515	341	100.0 <	100.0 <	G  D
HAMELN	(68)	575	399	100.0 <	100.0 <	DG  D
RIOGLAB	(264)	571	410	48.8	6.3	EE D
VICTORY	(597)	596	334	50.7	17.0	
Median		575.0 (1)	399.0 (1)	49.75 (1)	11.65 (1)	
MAD		21.0	11.0	0.95	5.35	
N		5	5	2	2	
<b>Mg (g/kg)</b>						
ISKCLASKCE	(2)	1.60	2.60	2.20	0.400	G  CB
AGRILAB	(4)	1.69	2.86	2.48	0.390	
UMADAKAR	(6)	1.70	2.65	2.24	0.349	AA AA
OOSTERBEEK	(7)	1.78	2.88	2.52	0.394	G CB
CIRADFLHOR	(12)	1.90 **	3.17 **	2.69 **	0.430	AA AB
PUSLITTAN	(14)	0.04 **	0.07 **	0.06 **	0.008 **	DC AA
SEREMBAN	(19)	1.65	2.74	2.39	0.350	AB AA
MARDI	(26)	1.71	2.82	2.49	0.370	DB CB
KUCHING	(27)	1.60	2.70	2.30	0.300 *	AA CB
LRSCONTROL	(28)	1.63	2.73	2.41	0.389	AA CB
FELDA	(30)	1.60	2.83	2.43	0.340	AB AA
WAGENINGEN	(32)	1.65	2.86	2.43	0.383	G CB
OVA JORK	(35)	1.60	2.80	2.40	0.390	AA AD
MHLUME	(36)	1.50	2.50	2.20	0.400	DA AC
FORTEST	(44)	1.59	2.74	2.30	0.350	EE CB
REDUIT	(45)	14.90 **	2.87	2.27	0.917 **	DB AB
LABTIUM	(47)	1.40 **	2.12 **	2.39	0.340	G  CB
RELAB	(49)	1.60	2.50	2.30	0.400	EE CB
PIEST-RIPP	(51)	1.60	2.58	2.26	0.370	EE CB
SIRI	(53)	1.62	2.81	2.34	0.410	DA AA
AAAGROUP	(56)	1.64	2.73	2.35	0.400	AA AA
AMIS-AGRO	(58)	1.68	2.66	2.37	0.400	AC CB
0055HIK	(59)	1.71	2.80	2.52	0.400	EE CB
BLRSLAL	(62)	1.62	2.72	2.50	0.380 <	AA AA
AARESEARCH	(63)	1.63	2.62	2.36	0.350	AB AA
AQAWEP	(64)	1.62	3.36 **	2.75 **	0.408	EE CB
CORBANA	(67)	1.64	2.77	2.42	0.360	EE CB
HAMELN	(68)	1.55	2.57	2.31	0.380	DG CB
FEJER	(70)	1.61	2.71	2.36	0.370	DG CB
ANALGIR	(74)	1.72	2.87	2.43	0.400	DA AA
ELML	(75)	1.67	2.81	2.43	0.392	AB CB
DFAL	(76)	1.66	3.40 **	2.45	0.320	AA AA
HILL	(78)	1.50	2.62	2.27	0.360	EE CB
RUAKURA	(79)	1.60	3.00	2.30	0.400	DC CB
METLAPARKA	(81)	1.53	2.57	2.20	0.363	G CB
HLVA	(84)	1.59	2.76	2.32	0.335	G  CB
ELAEIS.P	(85)	1.60	2.60	2.40	0.500 **	DA AA
CIAT	(90)	0.03 **	0.05 **	0.05 **	0.007 **	DC AA
SPSSBKCH	(91)	1.58	2.72	2.30	0.360	AB AA
BELFAST	(97)	1.58	2.79	2.31	0.350	DG CB
NDA mean		1.633	2.722	2.350	0.3712	(cont.)
NDA st dev		0.087	0.171	0.125	0.0420	
NDA N		124	124	124	114	

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Sample	124	164	166	135	MIC
<b>Mg (g/kg)</b> (cont.)					
GR.FERRADE (102)	1.63	2.74	2.37	0.360	AD CB
EKOM (103)	1.64	2.89	2.33	0.370	
WROCLAW (104)	1.70	2.80	2.20	0.380	
LAROL (105)	1.60	2.80	2.35	0.300 *	
974BRET (107)	1.70	2.82	2.40	0.370	AA AB
HWASL94 (112)	1.60	2.68	2.27	-	
POVLT (115)	1.52	2.60	2.20	0.320	EE CB
LAPANDAY (118)	1.29 **	2.37 *	2.05 **	0.220 **	DG AA
MSIRI (121)	1.59	2.56	2.28	0.240 **	DC AA
AALI (122)	1.59	2.69	2.26	0.400	DC AA
GEOBOTINST (123)	1.58	2.53	2.31	14.920 **	AA AA
JASZ (128)	1.64	2.76	2.38	0.370	EE CB
GGM (129)	1.65	2.65	2.34	0.370	EE  D
SASEXFAS (130)	1.60	2.60	2.30	0.300 *	
XGCALAFIGA (133)	1.62	2.70	2.34	0.370	EE CB
LUNUWILA (135)	1.46 *	2.38 *	2.20	0.339	AA AA
WELE-136 (136)	1.56	2.59	2.23	0.365	DC CB
BUNASOLS (139)	1.76	3.27 **	2.65 **	0.380	
VAS (141)	1.56	2.60	2.25	0.380	DG CB
GPM-GROUP (143)	1.67	2.75	2.36	0.390	
NELTROPIKA (145)	1.71	2.75	2.45	0.370	DB BE
P-2000R (149)	1.46 *	2.72	2.15	0.390	DA AA
KAOS (157)	1.77	2.94	2.51	0.420	DB CB
IRRI (158)	1.52	2.64	2.28	0.370	DB CB
ANALRESLAB (159)	1.46 *	2.47	2.15	0.280 *	EE CB
JV (160)	1.35 **	1.85 **	1.55 **	0.400	DA AA
IRNASE (164)	1.39 **	2.37 *	2.09 *	0.250 **	EE CB
SYNERS (166)	64.68 **	111.26 **	96.47 **	13.165 **	AA CB
130 (169)	1.70	3.00	2.50	0.400	
Platina222 (170)	1.80 *	2.68	2.28	0.430	AA AA
BVO95MBPD (171)	1.68	2.77	2.42	0.370	EE CB
SKRA (176)	1.60	2.70	2.30	0.600 <	
SPNDTKLABP (177)	1.41 **	2.46	2.19	0.360	AB AA
CHKS (184)	1.65	2.82	2.50	0.500 <	
JYUIER (185)	1.64	2.66	2.34	0.383	EE CB
IPULAB (186)	1.57	2.68	2.35	0.360	G CB
PERTH (187)	1.75	2.82	2.49	0.400	DC CB
GDAGRO (188)	1.60	2.73	2.34	0.700 <	
SAINTE-FOY (190)	1.69	2.79	2.45	0.390	DA CB
SCHRG (191)	1.75	2.92	2.53	0.300 *	FB AA
LABRES (195)	1.70	2.80	2.40	0.400	G AA
SPAL (196)	1.70	2.80	2.10 *	0.400	DA AB
LQA-ATP (198)	1.83 **	2.96	2.40	0.370	AA AA
GLOBI (200)	1.65	2.71	2.29	0.360	
FFEEBW (201)	1.48 *	2.52	2.17	0.340	DG CB
LAIMBURG (202)	1.77	2.91	2.63 **	0.460 *	EE CB
SEEDLING (203)	1.63	2.90	2.42	0.466 **	DA AA
QLDNR&M (204)	1.65	2.82	2.34	0.390	DB CB
OSCHR-OL (205)	1.60	2.90	2.40	0.400	
DANRLAB (206)	1.70	2.80	2.30	0.300 *	EE CB
SKLODPOL (213)	1.50	2.60	2.30	0.400	G AA
MALWA (216)	1.64	2.72	2.65 **	0.500 <	FB AA
DATE (218)	1.77	2.93	2.49	0.310	G CB
ALMP1011 (219)	1.31 **	2.27 **	1.98 **	0.230 **	AB CB
NEINUT (230)	1.65	2.88	2.65 **	0.421	DC AB
GUYLAB (231)	1.68	2.67	2.54	0.299 *	G  AA
KERICHO (236)	1.65	2.76	2.35	0.370	AA AA
ADE (239)	1.45 *	2.32 **	2.21	0.370	AA CB
LASUTEVEA (241)	1.70	2.87	2.42	0.370	
SMART (246)	1.52	2.52	2.10 *	0.350	AB AA
REYEPS (249)	1.64	2.77	2.48	0.350	DG CB
ABMCE (250)	1.60	2.60	2.60 *	0.500 <	EE CB
NDA mean	1.633	2.722	2.350	0.3712	(cont.)
NDA st dev	0.087	0.171	0.125	0.0420	
NDA N	124	124	124	114	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Mg (g/kg) (cont.)</b>						
ZJKRK (257)		1.70	2.70	2.50	0.500 <	
FADIAF (261)		1462.00 **	2425.00 **	2124.00 **	320.000 **	DC AA
SLAF (263)		1.61	2.70	2.36	0.320	DG CB
RIOGLAB (264)		1.75	2.91	2.45	0.378	
ERSAFVGSCA (265)		1.58	2.54	2.30	0.330	DC AA
LUARE (269)		1.96 **	3.25 **	2.36	0.600 <	G KB
TECHHK (270)		1.44 **	2.57	2.22	0.350	
LAF (273)		0.18 **	0.31 **	0.27 **	0.040 **	G CB
MELIPLANT (274)		1.61	2.52	2.34	0.330	EE CB
IUNGPUL (275)		1.67	2.71	2.44	0.350	DA AA
WELLAB (714)		1.59	2.66	2.27	0.400	
FOODCHEM (847)		1.07 **	2.04 **	1.59 **	0.280 *	DB AA
AFBI (851)		1.74	2.56	2.00 **	1.090 **	G KB
SPASL (855)		1.67	2.82	2.40	0.390	EE CB
CUP Analab (870)		1.57	2.61	2.31	0.356	AA AA
IOPRI (880)		2.21 **	3.12 **	0.34 **	2.610 **	
LSF (895)		1.57	2.68	2.20	0.330	
RF-R&D (905)		1.70	2.91	2.49	0.341	DC CB
SABIC R&T (927)		1.67	2.76	2.37	0.340	
CAL-SAC (973)		1.70	2.60	2.20	0.400	DG CB
LS-MRC (978)		1.76	2.60	2.35	-	AB AA
FERTILAB (979)		1.95 **	3.25 **	2.83 **	0.423	DF AD
NDA mean		1.633	2.722	2.350	0.3712	
NDA st dev		0.087	0.171	0.125	0.0420	
NDA N		124	124	124	114	
	Old statistics					
Median		1.640 (3)	2.725 (3)	2.350 (3)	0.3700 (3)	
MAD		0.040	0.095	0.070	0.0200	
Mean		1.640	2.725	2.349	0.3739	
St Dev		0.066	0.126	0.097	0.0270	
N		99	104	102	90	
<b>Mn (mg/kg)</b>						
ISKCLASKCE (2)		39.5	43.3	99	9.57	
AGRILAB (4)		40.8	45.0	104	9.25	
OOSTERBEEK (7)		43.6 *	47.5	106	10.15	G CB
CIRADFLHOR (12)		48.0 **	50.1 *	93 *	4.16 **	AA AB
PUSLITTAN (14)		47.0 **	50.6 *	110 *	9.68	DC AC
SEREMBAN (19)		39.0	43.0	102	9.00	AA AA
MARDI (26)		42.0	47.0	106	9.00	DB CB
KUCHING (27)		38.0	42.0	100	5.00 **	AA CB
LRSCONTROL (28)		44.7 **	45.4	106	9.59	AA CB
ANALGEO (29)		42.6	48.7	110 *	9.70	DG D
FELDA (30)		39.2	42.5	104	8.72	AA AA
WAGENINGEN (32)		40.0	45.0	103	9.00	G CB
OVA JORK (35)		34.3 **	38.6 *	92 *	6.40 **	AA AD
FORTEST (44)		36.9	37.7 **	89 **	3.00 **	EE CB
REDUIT (45)		30.8 **	40.6	91 *	2.22 **	DB AB
LABTIUM (47)		40.2	101.0 **	44 **	9.00	G CB
RELAB (49)		34.9 **	38.3 *	98	12.10 **	EE CB
PIEST-RIPP (51)		40.2	44.2	100	9.02	EE CB
SIRI (53)		42.0	49.0	102	5.00 **	DA AA
AAAGROUP (56)		40.7	44.4	103	9.51	AA AA
REHURKAVO (57)		37.0	46.2	95	7.96	EE AB
AMIS-AGRO (58)		41.2	44.7	105	9.80	AC CB
0055HIK (59)		42.3	46.7	9 **	103.10 **	EE CB
BLRSLAL (62)		40.2	44.7	103	9.14	AA AA
AARESEARCH (63)		40.1	44.0	101	8.53	AB AA
AQAWEP (64)		40.0	61.9 **	129 **	15.78 **	EE CB
ANDREA (66)		39.0	39.5	117 **	7.63	EE D
CORBANA (67)		40.5	45.8	106	9.22	EE CB
NDA mean		39.76	44.14	100.8	8.957	(cont.)
NDA st dev		1.90	3.07	5.0	1.017	
NDA N		118	118	118	112	



## IPE 2009.1 - Inorganic Chemical Composition

Sample	124	164	166	135	MIC
<b>Mn (mg/kg)</b> (cont.)					
HAMELN (68)	37.9	44.7	104	10.30	DG CB
FEJER (70)	40.3	44.9	105	9.33	DG CB
ANALGIR (74)	39.0	44.9	103	8.60	AA AA
ELML (75)	42.7	44.8	110 *	9.71	AB CB
DFAL (76)	38.8	42.2	56 **	6.25 **	AA AA
HILL (78)	38.3	42.3	99	9.00	EE CB
RUAKURA (79)	39.0	47.0	105	10.00	DC CB
METLAPARKA (81)	39.5	43.7	98	9.09	G CB
HLVA (84)	38.8	44.8	97	8.48	G  CB
ELAEIS.P (85)	39.7	45.5	100	8.80	DA AA
CIAT (90)	37.6	41.7	97	7.73	DC AB
SPSSBKCH (91)	39.7	47.0	101	9.79	AB AA
ALFA (95)	40.7	47.3	103	8.40	G  AA
GR.FERRADE (102)	39.7	44.5	101	9.25	AD CB
EKOM (103)	38.9	43.6	101	8.62	AA AB
WROCLAW (104)	40.0	42.0	100	8.49	AB AA
974BRET (107)	42.4	47.3	101	9.48	AA AA
HWASL94 (112)	40.2	45.2	101	-	
POVLT (115)	41.0	45.8	100	8.02	EE CB
LAPANDAY (118)	34.0 **	42.0	98	8.00	DG AA
AALI (122)	88.1 **	95.6 **	193 **	34.80 **	DC AA
JASZ (128)	40.5	44.4	104	9.23	EE CB
GGM (129)	40.6	41.5	100	10.14	EE  D
SASEXFAS (130)	42.5	46.0	106	8.31	
XGCALAFIGA (133)	38.4	41.9	97	8.87	EE CB
LUNUWILA (135)	35.9 *	41.3	97	7.73	AA AA
WELE-136 (136)	40.0	40.8	99	9.43	DC CB
BUNASOLS (139)	32.5 **	42.7	86 **	15.00 **	
VAS (141)	39.2	43.8	100	8.97	DG CB
GPM-GROUP (143)	40.0	44.8	101	9.20	
NELTROPIKA (145)	41.0	45.0	101	7.40 *	DB AA
P-2000R (149)	40.0	46.6	104	7.20 *	DB AA
IRRI (158)	40.4	44.0	102	9.02	DB CB
ANALRESLAB (159)	38.4	42.2	100	8.40	EE CB
JV (160)	30.3 **	35.3 **	79 **	7.90	AA AA
IRNASE (164)	37.3	42.2	95	9.12	EE CB
SYNERS (166)	38.0	40.1	105	7.33 *	AA CB
130 (169)	40.1	42.9	89 **	7.55	G AD
Platina222 (170)	38.0	41.0	99	9.80	AA AA
BVO95MBPD (171)	36.9	40.3	93	8.63	EE CB
SKRA (176)	40.4	44.1	103	9.20	AA AB
SPNDTKLABP (177)	33.0 **	37.0 **	84 **	7.24 *	AB AA
CHKS (184)	39.5	41.2	101	8.75	CB AB
JYUIER (185)	41.1	44.4	102	9.45	EE CB
IPULAB (186)	41.0	45.9	101	12.47 **	G CB
PERTH (187)	43.7 *	48.3	113 **	10.40	DC CB
SAINTE-FOY (190)	41.0	43.0	108	20.00 <	DA CB
SCHRG (191)	39.5	45.9	100	8.80	DB AA
LABRES (195)	39.5	44.0	100	8.80	G AA
SPAL (196)	33.9 **	47.2	105	3.21 **	DA AB
LQA-ATP (198)	43.2 *	45.3	96	10.80 *	AA AA
GLOBI (200)	39.5	45.3	99	8.90	G  AA
FFEEBW (201)	40.0	46.3	100	10.00 <	DG CB
LAIMBURG (202)	46.2 **	51.1 **	114 **	11.60 **	EE CB
SEEDLING (203)	41.1	46.0	102	13.75 **	DA AA
QLDNR&M (204)	37.2	41.6	98	9.24	DB CB
OSCHR-OL (205)	39.0	44.0	106	9.00	G  AB
DANRLAB (206)	43.8 **	48.6	112 **	9.90	EE AA
SKLODPOL (213)	38.0	42.0	97	8.89	G AB
MALWA (216)	39.2	44.1	102	10.00 <	G  AA
DATE (218)	43.2 *	47.3	114 **	8.94	G CB
ALMP1011 (219)	34.3 **	35.3 **	86 **	4.93 **	AB CB
NDA mean	39.76	44.14	100.8	8.957	(cont.)
NDA st dev	1.90	3.07	5.0	1.017	
NDA N	118	118	118	112	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Mn (mg/kg)</b> (cont.)						
NEINUT	(230)	39.1	41.5	97	9.16	DC AB
GUYLAB	(231)	39.7	45.5	101	9.57	G AA
KERICHO	(236)	40.4	42.8	95	8.50	AA AA
ADE	(239)	37.2	38.1 *	99	9.72	AA CB
LASUTEVEA	(241)	41.1	44.0	102	7.96	
SMART	(246)	46.2 **	51.2 **	114 **	24.20 **	AB AA
REYEPS	(249)	39.6	43.3	99	9.27	DG CB
ABMCE	(250)	40.0	44.4	106	6.66 **	EE D
ZJKRK	(257)	38.7	45.6	99	8.90	
FADIAF	(261)	35.6 **	40.5	93 *	8.40	DC AA
SLAF	(263)	41.0	46.5	105	9.00	DG CB
RIOGLAB	(264)	40.0	44.6	99	9.20	EE D
ERSAFVGSACA	(265)	37.6	45.7	104	10.10	DC AA
LUARE	(269)	38.3	40.2	92 *	7.15 *	G KB
LAF	(273)	44.7 **	49.7 *	115 **	11.30 **	G CB
IUNGPUL	(275)	40.3	45.4	102	9.23	EE CB
VICTORY	(597)	29.9 **	32.3 **	81 **	12.30 **	
WELLAB	(714)	37.2	41.1	93	10.00 <	EDCB
FOODCHEM	(847)	32.6 **	36.5 **	83 **	7.50	DB AA
SPASL	(855)	38.6	44.0	101	9.75	EE CB
CUP Analab	(870)	41.5	44.4	102	7.56	AA AA
IOPRI	(880)	34.0 **	38.0 *	7 **	82.00 **	
LSF	(895)	32.6 **	38.5 *	92 *	6.25 **	
RF-R&D	(905)	40.2	44.5	104	8.91	DC CB
SABIC R&T	(927)	39.4	38.9 *	90 *	6.40 **	
CAL-SAC	(973)	38.9	43.3	95	9.99	DG CB
LS-MRC	(978)	40.2	45.3	100	-	AA AA
FERTILAB	(979)	43.7 *	47.1	89 **	7.25 *	DF AD
NDA mean		39.76	44.14	100.8	8.957	
NDA st dev		1.90	3.07	5.0	1.017	
NDA N		118	118	118	112	
	Old statistics					
Median		39.85 (3)	44.40 (3)	101.0 (3)	9.000 (3)	
MAD		0.85	1.48	2.0	0.450	
Mean		39.69	44.25	100.9	9.010	
St Dev		1.37	2.16	3.2	0.684	
N		90	98	86	81	
<b>Mo (µg/kg)</b>						
OOSTERBEEK	(7)	294	2940	397 **	737 *	G D
ANALGEO	(29)	380	2740	540	930	DG D
LABTIUM	(47)	3120 **	2970	635 *	962	G D
RELAB	(49)	559	2310	536	702 **	
ANDREA	(66)	449	2530	546	787	EE D
HAMELN	(68)	421	3000	591	990	DG D
FEJER	(70)	349	2700	527	955	DG CB
HILL	(78)	351	2790	527	876	EE D
RUAKURA	(79)	418	3330	625 *	860	DC CB
HLVA	(84)	365	2790	521	883	G D
GR.FERRADE	(102)	600 <	2790	600 <	938	AD CB
JASZ	(128)	600 <	2620	600 <	950	DB CB
GGM	(129)	288	2120 **	490	761	EE D
ICUPROF	(134)	358	2610	535	908	DG D
WELE-136	(136)	379	2770	508	921	DC D
VAS	(141)	1000 <	1000 <	1000 <	1000 <	DG CB
IRRI	(158)	188	2500	313 **	792	DB CB
ANALRESLAB	(159)	335	2610	482	875	EE CB
SYNERS	(166)	261	1960 **	492	531 **	AA CB
JYUIER	(185)	367	2830	484	930	EE D
IPULAB	(186)	1500 <	3050	1500 <	1500 <	G CB
FFEEBW	(201)	324	2480	476	918	
NDA mean		361.1	2748	523.2	900.0	(cont.)
NDA st dev		82.8	254	51.7	81.1	
NDA N		26	29	26	28	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Mo (µg/kg)</b> (cont.)						
QLDNR&M (204)		470	2840	590	980	DB D
ALMP1011 (219)		0 <	0 <	0 <	0 <	AB CB
ADE (239)		290	2280	510	840	AA CB
ABMCE (250)		350	2860	440	840	EE D
RIOGLAB (264)		385	2970	528	917	EE D
IUNGPUL (275)		354	2820	500	850	
VICTORY (597)		445	2880	567	872	
SPASL (855)		273	2570	543	1046	EE CB
CAL-SAC (973)		520	290 **	710 **	990	DG CB
NDA mean		361.1	2748	523.2	900.0	
NDA st dev		82.8	254	51.7	81.1	
NDA N		26	29	26	28	
	Old statistics					
Median		357.6 (3)	2790 (3)	527.0 (3)	917.0 (3)	
MAD		60.4	175	19.0	45.0	
Mean		366.9	2753	520.6	902.8	
St Dev		82.5	234	37.3	69.2	
N		25	26	21	25	
<b>N - Kjeldahl (as N) (g/kg)</b>						
AGRILAB (4)		27.0	12.8 **	12.2	14.0	
UMADAKAR (6)		22.0 **	23.2	10.0 **	11.7	FB E
OOSTERBEEK (7)		27.7	25.8	12.8	14.0	DA O
PUSLITTAN (14)		0.3 **	0.3 **	0.1 **	0.2 **	DA Z
SEREMBAN (19)		27.7	26.8	12.3	13.6	DA E
MARDI (26)		29.3 **	26.7	12.3	12.8	DA Z
FELDA (30)		29.0 **	29.5 **	14.3 **	14.8	DA E
OVA JORK (35)		27.3	24.5	13.0	14.2	G O
MHLUME (36)		25.2	22.5	11.3	12.0	DA O
REDUIT (45)		30.6 **	28.0	12.5	15.4	DA E
SIRI (53)		25.9	23.1	11.4	12.6	DA O
AAAGROUP (56)		26.5	26.0	12.6	14.3	AA AA
0055HIK (59)		26.3	20.1 **	11.7	13.3	DA O
BLRSLAL (62)		28.0	26.1	12.3	13.5	DA O
AARESEARCH (63)		26.7	26.1	12.6	13.6	DA O
FEJER (70)		26.6	25.1	12.6	13.4	DA E
ANALGIR (74)		27.1	22.6	12.1	14.0	DA O
ELML (75)		27.3	25.5	13.0	14.6	G O
DFAL (76)		27.0	23.0	13.3	14.3	DA O
RUAKURA (79)		26.4	24.4	11.6	12.9	DA E
ELAEIS.P (85)		24.1 **	26.2	12.8	12.5	
CIAT (90)		0.3 **	0.4 **	0.2 **	0.2 **	DA O
SPSSBKCH (91)		26.2	25.1	12.8	14.2	DA O
ALFA (95)		26.6	28.0	14.7 **	14.3	
EKOM (103)		26.0	24.4	12.9	13.1	
WROCLAW (104)		26.0	25.5	12.6	13.5	
LAROL (105)		26.6	25.3	12.0	13.2	
POVLT (115)		25.2	23.0	11.8	12.8	DA O
LAPANDAY (118)		27.6	23.8	13.0	14.1	DA O
MSIRI (121)		26.5	27.6	12.4	12.7	DA E
AALI (122)		30.1 **	27.7	15.2 **	11.7	DA Z
GEOBOTINST (123)		27.2	26.3	13.2	14.2	DA E
GGM (129)		23.9 **	22.0	11.6	11.9	DA E
SASEXFAS (130)		25.5	28.3	10.5 **	12.1	
LUNUWILA (135)		26.1	24.1	11.3	12.5	DA E
BUNASOLS (139)		30.4 **	33.1 **	15.8 **	16.3 **	
GPM-GROUP (143)		26.9	25.1	11.7	13.3	
NELTROPIKA (145)		25.9	24.9	10.7 **	11.4	
P-2000R (149)		25.6	24.9	12.2	12.6	DA O
KGZMB-P (150)		26.7	25.1	12.4	13.1	DA O
IRRI (158)		24.5 **	25.8	11.4	12.6	DA E
NDA mean		26.46	25.26	12.35	13.46	(cont.)
NDA st dev		0.88	1.89	0.67	1.11	
NDA N		85	85	85	85	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>N - Kjeldahl (as N) (g/kg)</b> (cont.)						
JV	(160)	24.0 **	26.7	12.7	12.3	
IRNASE	(164)	27.0	25.0	11.7	14.4	DA E
130	(169)	24.4 **	24.5	12.2	12.4	
Platina222	(170)	26.5	22.9	12.3	13.3	DA O
BVO95MBPD	(171)	26.8	25.2	12.3	13.6	DA O
SKRA	(176)	26.3	25.2	12.6	14.0	
SPNDTKLABP	(177)	26.4	2.9 **	14.6 **	17.2 **	DA O
CHKS	(184)	26.9	24.0	12.2	13.1	
IPULAB	(186)	25.9	26.7	11.9	13.3	DA E
PERTH	(187)	27.2	28.6	13.2	14.5	DA E
GDAGRO	(188)	26.2	26.5	12.5	13.3	
SAINTE-FOY	(190)	26.9	23.2	12.2	13.7	DA E
SCHRG	(191)	25.2	27.7	14.9 **	14.0	FB Z
LABRES	(195)	26.5	25.0	12.6	14.0	G Z
SPAL	(196)	31.1 **	31.5 **	14.2 **	15.7 *	
LQA-ATP	(198)	27.1	25.9	12.5	14.2	DA E
GLOBI	(200)	26.4	23.6	12.4	13.6	
SEEDLING	(203)	26.8	24.7	12.9	14.2	DA E
OSCHR-OL	(205)	25.5	24.5	11.5	12.9	
C.S.S.	(209)	25.8	24.5	10.9 *	10.5 **	DA E
SKLODPOL	(213)	25.9	21.3 *	12.7	12.6	G O
MALWA	(216)	25.8	23.0	11.8	13.2	FB Z
DATE	(218)	26.2	21.8	12.6	13.3	DA O
ALMP1011	(219)	24.0 **	23.2	11.8	12.7	DA E
NEINUT	(230)	27.5	27.3	12.6	14.1	DA O
GUYLAB	(231)	28.1 *	26.0	13.2	14.2	G E
KERICHO	(236)	27.1	25.3	12.7	14.4	DA O
ADE	(239)	24.7 *	27.1	1.1 **	1.2 **	H Z
SMART	(246)	26.8	26.1	12.1	13.4	DA E
ABMCE	(250)	26.5	25.3	11.7	14.4	DA O
ZJKRK	(257)	26.5	24.0	12.4	13.2	
RIOGLAB	(264)	25.1	23.8	12.0	11.9	
ERSAFVGSCA	(265)	26.2	24.9	13.3	13.2	DA O
LAF	(273)	3.1 **	3.6 **	1.4 **	1.5 **	DA O
IUNGPUL	(275)	27.3	25.4	12.9	14.6	DA E
FOODCHEM	(847)	25.6	26.1	12.2	12.7	DB O
IOPRI	(880)	26.4	22.2	11.9	11.0 *	
LSF	(895)	28.6 **	31.2 **	13.6 *	14.5	
RF-R&D	(905)	26.2	25.9	12.2	14.7	DA E
SABIC R&T	(927)	26.9	26.7	12.7	14.0	
1945	(956)	25.9	26.3	12.1	13.4	
CAL-SAC	(973)	26.5	25.4	12.2	13.4	DA O
LS-MRC	(978)	25.2	27.9	12.7	13.4	DA O
FERTILAB	(979)	26.7	26.3	11.9	13.2	DA O
NDA mean		26.46	25.26	12.35	13.46	
NDA st dev		0.88	1.89	0.67	1.11	
NDA N		85	85	85	85	
Old statistics						
Median		26.50 (3)	25.25 (3)	12.33 (3)	13.40 (3)	
MAD		0.48	1.05	0.37	0.68	
Mean		26.47	25.23	12.33	13.42	
St Dev		0.67	1.62	0.51	0.85	
N		66	74	69	76	
<b>N - NH4 (as N) (mg/kg)</b>						
HLVA	(84)	224	1150	62.7	10.0 <	
DANRLAB	(206)	52	154	10.0 <	10.0 <	FB Z
Median		138.0 (1)	652.0 (1)	62.70 (1)	- (0)	
MAD		86.0	498.0	-	-	
N		2	2	1	-	

## IPE 2009.1 - Inorganic Chemical Composition

Sample	124	164	166	135	MIC
<b>N - NO3 (as N) (mg/kg)</b>					
OOSTERBEEK (7)	214	10100	47.6 <	50.8 <	FA  E
REHURKAVO (57)	375 **	9990	182.0	123.0	FA JE
ELML (75)	237	10110	51.3	7.5	FA JB
HILL (78)	256 *	9450	100.0 <	100.0 <	FB E
HLVA (84)	188	9840	11.5	10.0 <	
GR.FERRADE (102)	269 *	10280	0.2 <	0.3 <	FA JE
POVLT (115)	198	8210 **	45.0 <	45.0 <	G  E
ANALRESLAB (159)	180	8140 **	31.0	15.0	FA E
JV (160)	192	150 **	34.0	11.0	
IPULAB (186)	202	9910	12.0 <	12.0 <	G  E
QLDNR&M (204)	416 **	10800 *	227.0	354.0	FA  E
DANRLAB (206)	195	8510 *	26.0	10.0 <	FB  Z
NDA mean	207.1	9934	-	-	
NDA st dev	33.8	628	-	-	
NDA N	12	12	7	5	
Old statistics					
Median	196.5 (3)	9988 (3)	34.00 (1)	15.00 (1)	
MAD	7.0	126	17.30	7.46	
Mean	200.7	-	-	-	
St Dev	17.7	-	-	-	
N	8	7	7	5	
<b>Na (mg/kg)</b>					
AGRILAB (4)	220	313	57.5	31.3	
UMADAKAR (6)	732 **	594 **	408.0 **	70.0 *	AA AA
OOSTERBEEK (7)	194	275	105.5 <	112.4 <	G CB
PUSLITTAN (14)	4874 **	7886 **	993.2 **	20.2	DC CA
LRSCONTROL (28)	179	261	23.7	3.0	EE CB
WAGENINGEN (32)	288 **	321	45.0	22.0	G CB
OVA JORK (35)	250 *	340	80.0 *	40.0	AA CA
LABTIUM (47)	174	29 **	244.0 **	20.0 <	G CB
RELAB (49)	158	208	24.1	0.1	EE CB
AMIS-AGRO (58)	220	300	50.0	30.0	AC CB
0055HIK (59)	125 <	264	125.0 <	125.0 <	EE CB
AQAWEP (64)	206	274	48.3	35.7 <	EE CB
HAMELN (68)	181	253	34.8	10.0 <	DG CB
FEJER (70)	201	280	44.2	30.3	DG CB
ANALGIR (74)	537 <	532 <	529.0 <	560.0 <	DA AA
ELML (75)	201	285	51.7	15.2	AB CB
HILL (78)	161	238	28.4	5.9	EE CB
RUAKURA (79)	253 *	312	200.0 <	200.0 <	DC CB
HLVA (84)	214	348 *	26.6	15.0 <	G CB
CIAT (90)	3862 **	5633 **	818.4 **	179.1 **	DC CA
GR.FERRADE (102)	253 *	368 *	96.2 *	27.9	AD CB
EKOM (103)	742 <	742 <	742.0 <	742.0 <	
WROCLAW (104)	200	300	100.0 <	100.0 <	
LAROL (105)	193	275	45.0 <	45.0 <	
HWASL94 (112)	199	267	47.2	-	
POVLT (115)	176	255	67.0 <	67.0 <	EE CB
LAPANDAY (118)	130 *	180 **	45.0	27.0	DB AA
JASZ (128)	194	269	37.1	20.0 <	EE CB
GGM (129)	500 <	500 <	500.0 <	500.0 <	DA  D
LUNUWILA (135)	23 **	250	157.3 **	83.5 **	AA AA
WELE-136 (136)	189	261	31.3	8.1	DC CB
BUNASOLS (139)	9 **	63 **	69.3	57.1	
VAS (141)	192	265	45.2	30.4	DG CB
GPM-GROUP (143)	200	13 **	41.0	33.0	
NELTROPIKA (145)	313 **	404 **	137.0 **	95.8 **	
P-2000R (149)	142 *	191 *	63.8	15.6	DA CA
KAOS (157)	200	285	-	-	DB CB
IRRI (158)	170	240	30.0	4.0	DB CB
NDA mean	194.2	275.0	41.63	21.00	(cont.)
NDA st dev	32.5	43.2	23.25	20.65	
NDA N	76	78	61	52	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Na (mg/kg) (cont.)</b>						
ANALRESLAB (159)		194	282	35.0	9.0	EE CB
JV (160)		1600 **	2100 **	900.0 **	250.0 **	DA CA
IRNASE (164)		257 *	371 *	115.7 **	66.9 *	EE CB
SYNERS (166)		11 **	11 **	1.5 *	-	AA CB
Platina222 (170)		179	259	39.0	11.0	AA CA
IRS (173)		336 **	509 **	320.0 **	33.4	AA CA
SKRA (176)		180	280	120.0 <	120.0 <	
SPNDTKLABP (177)		0 **	0 **	0.1 *	0.0	AB CA
JYUIER (185)		191	272	32.5	30.0 <	EE CB
IPULAB (186)		174	254	75.0 <	75.0 <	G CB
PERTH (187)		219	325	100.0 <	100.0 <	DC CB
SAINTE-FOY (190)		200 <	276	200.0 <	200.0 <	DA CB
SCHRG (191)		195	283	47.0	25.0	FB CA
LABRES (195)		200	280	120.0 <	120.0 <	G CA
SPAL (196)		900 **	1200 **	100.0 *	10.0	DA CA
GLOBI (200)		207	286	51.9	29.7	
FFEEBW (201)		165	224	33.1	6.2	DG CB
LAIMBURG (202)		169	248	76.6 *	21.8	EE CB
QLDNR&M (204)		170	260	20.0	20.0	DB CB
OSCHR-OL (205)		190	300	40.0	30.0	
DANRLAB (206)		191	279	36.0	8.0	EE CA
SKLODPOL (213)		217	263	100.0 <	100.0 <	G CA
MALWA (216)		230	290	100.0 <	100.0 <	FB Z
DATE (218)		212	415 **	122.8 **	43.8	G CB
ALMP1011 (219)		290 **	410 **	170.0 **	180.0 **	AB CB
NEINUT (230)		148	213	33.1	17.0	DC AA
KERICHO (236)		194	523 **	41.0	14.3	
ADE (239)		307 **	325	132.0 **	25.3	AA CB
SMART (246)		228	311	80.9 *	51.0	AB AA
REYEPS (249)		186	250	39.4	7.4	DG CB
ABMCE (250)		800 <	800 <	800.0 <	800.0 <	EE CB
ZJKRK (257)		222	290	100.0 <	100.0 <	
FADIAF (261)		164	230	30.0	-	DC AA
SLAF (263)		169	252	38.0	17.0	DG CB
RIOGLAB (264)		195	296	40.4	5.3	
ERSAFVGSCA (265)		676 **	627 **	1099.5 **	10.1	DC CA
LUARE (269)		900 <	900 <	900.0 <	900.0 <	G KB
TECHHK (270)		158	219	30.0	6.5	
MELIPLANT (274)		271 **	363 *	125.6 **	44.3	EE CB
WELLAB (714)		239	399 **	100.0 <	100.0 <	EDCB
SPASL (855)		184	265	31.2	8.9	EE CB
LSF (895)		188	262	52.4	39.6	
RF-R&D (905)		207	259	57.5	28.5	DC CB
CAL-SAC (973)		200	300	10.0 <	10.0 <	DG CB
FERTILAB (979)		2436 **	2741 **	2399.3 **	2310.4 **	FA AD
NDA mean		194.2	275.0	41.63	21.00	
NDA st dev		32.5	43.2	23.25	20.65	
NDA N		76	78	61	52	
	Old statistics					
Median		193.5 (3)	273.1 (3)	39.40 (3)	20.12 (3)	
MAD		13.5	16.9	7.80	10.70	
Mean		192.2	272.7	40.30	21.01	
St Dev		20.2	28.6	11.18	14.19	
N		53	54	39	44	
<b>Ni (µg/kg)</b>						
ANALGEO (29)		1400 **	900	1200 *	500 <	DG D
WAGENINGEN (32)		1150	874	1400 **	-	G D
LABTIUM (47)		1020	969 **	1340 **	312	G D
ANDREA (66)		1250 *	682	960	34	EE D
HAMELN (68)		1200 *	749	970	100 <	DG D
NDA mean		1057	750.9	998	165.4	(cont.)
NDA st dev		82	90.3	102	155.5	
NDA N		37	34	36	17	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Ni (µg/kg) (cont.)</b>						
FEJER	(70)	1040	1000 <	1010	1000 <	DG CB
ANALGIR	(74)	1100	770	1020	190	AA BB
HLVA	(84)	1040	763	1060	300 <	G  D
ALFA	(95)	1050	1000 <	1000 <	1000 <	G  AB
GR.FERRADE	(102)	1340 **	695	870	400 <	AD CB
WROCLAW	(104)	1060	740	1020	235	AB AB
POVLT	(115)	880 **	620	890	240 <	EE CB
JASZ	(128)	1500 <	1500 <	1500 <	1500 <	
WELE-136	(136)	1270 *	994 **	1050	12	DC D
VAS	(141)	1000	1000 <	1020	1000 <	
IRRI	(158)	1000	688	810 *	42	DB CB
IRNASE	(164)	920	513 **	650 **	300 <	EE CB
130	(169)	1100	720	1010	-	G AA
SKRA	(176)	1060	750	1020	310 <	AA AB
CHKS	(184)	1100 <	1100 <	1100 <	1100 <	CB AB
JYUIER	(185)	1090	843	1050	50 <	EE  D
SCHRG	(191)	1600 **	510 **	1220 *	460	DB BB
LABRES	(195)	1050	740	1020	300 <	G  AA
GLOBI	(200)	1040	780	950	210	G  AB
FFEEBW	(201)	1010	649	900	100 <	
OSCHR-OL	(205)	1050	750	1000	230	G  AB
SKLODPOL	(213)	1080	800	900	500 <	G AB
MALWA	(216)	1020	735	900	500 <	G AA
ADE	(239)	1000	810	1050	490	
REYEPS	(249)	1530 **	1120 **	1160	274	DG BC
ABMCE	(250)	1120	640	820 *	400 <	EE  D
IRQ-1992-S	(251)	1000	750	800 *	-	EE BC
ZJKRK	(257)	1000	700	1100	500 <	
SLAF	(263)	1440 **	1063 **	1170	70	DG CB
RIOGLAB	(264)	1080	812	940	80	EE D
TECHHK	(270)	1110	734	990	46	EE D
IUNGPUL	(275)	1090	720	1000	125	
VICTORY	(597)	1620 **	974 **	1290 **	124	
SPASL	(855)	1080	836	1040	248	EE CB
NDA mean		1057	750.9	998	165.4	
NDA st dev		82	90.3	102	155.5	
NDA N		37	34	36	17	
Old statistics						
Median		1050 (3)	749.0 (3)	1010 (3)	190.0 (3)	
MAD		36	49.0	40	110.3	
Mean		1050	750.0	1003	187.1	
St Dev		49	68.2	75	142.8	
N		27	27	27	17	
<b>P (as P) (g/kg)</b>						
ISKCLASKCE	(2)	2.50	4.20	2.50	1.40	G  CB
AGRILAB	(4)	2.25	4.30	2.40	1.31	
UMADAKAR	(6)	2.34	4.07	2.48	1.29	AA  E
OOSTERBEEK	(7)	2.57 **	4.41 **	2.64	1.36	G CB
CIRADFLHOR	(12)	2.31	4.02	2.36	1.16 *	AA E
PUSLITTAN	(14)	0.07 **	0.11 **	0.08 **	0.04 **	DC E
SEREMBAN	(19)	2.36	4.17	2.48	1.26	AB E
MARDI	(26)	2.33	4.08	2.45	1.21	DB CB
KUCHING	(27)	2.31	3.98	2.33	1.19	AA CB
LRSCONTROL	(28)	2.32	4.07	2.44	1.28	AA CB
FELDA	(30)	3.34 **	4.62 **	3.24 **	1.97 **	AB E
WAGENINGEN	(32)	2.40	4.09	2.51	1.32	G CB
OVA JORK	(35)	2.20	4.00	2.40	1.10 **	AA E
MHLUME	(36)	1.90 **	3.00 **	2.00 **	1.00 **	DA  E
FORTEST	(44)	2.35	4.10	2.40	1.24	EE CB
REDUIT	(45)	2.41	4.12	2.47	1.34	DB E
NDA mean		2.326	4.037	2.423	1.299	(cont.)
NDA st dev		0.102	0.179	0.116	0.086	
NDA N		121	121	120	119	

## IPE 2009.1 - Inorganic Chemical Composition

Sample	124	164	166	135	MIC
<b>P (as P) (g/kg)</b> (cont.)					
LABTIUM (47)	2.27	2.38 **	3.91 **	1.24	G CB
ESCH (48)	2.10 **	3.70 *	2.10 **	0.10 **	AA E
RELAB (49)	2.30	3.80	2.40	1.40	EE CB
PIEST-RIPP (51)	2.17	3.60 **	2.13 **	1.08 **	EE CB
SIRI (53)	2.22	3.57 **	2.09 **	1.09 **	DA Z
AAAGROUP (56)	2.27	3.94	2.40	1.29	AA AA
AMIS-AGRO (58)	2.38	4.10	2.44	1.31	AC CB
0055HIK (59)	2.39	4.00	2.47	1.32	EE CB
BLRSLAL (62)	2.32	4.00	2.38	1.34	AA E
AARESEARCH (63)	2.33	3.88	2.36	1.27	AB E
AQAWEP (64)	2.17	4.27	2.47	1.31	EE CB
CORBANA (67)	2.33	4.08	2.48	1.23	EE CB
HAMELN (68)	2.35	4.06	2.52	1.34	DG CB
FEJER (70)	2.37	3.98	2.51	1.37	DG CB
ANALGIR (74)	2.36	4.08	2.50	1.37	DA E
ELML (75)	2.32	4.10	2.42	1.28	AB CB
DFAL (76)	2.26	3.99	2.35	0.90 **	AA E
HILL (78)	2.30	4.13	2.46	1.30	EE CB
RUAKURA (79)	2.40	4.40 **	2.50	1.30	DC CB
METLAPARKA (81)	2.33	4.10	2.41	1.31	G CB
HLVA (84)	2.22	4.03	2.38	1.24	G CB
ELAEIS.P (85)	2.22	3.86	2.46	1.38	DA E
CIAT (90)	0.07 **	0.13 **	0.08 **	0.04 **	DA E
SPSSBKCH (91)	2.32	4.01	2.44	1.30	AB E
BELFAST (97)	2.41	4.26	2.52	1.32	DG CB
GR.FERRADE (102)	2.31	4.12	2.44	1.26	AD CB
EKOM (103)	2.31	3.92	2.35	1.30	
WROCLAW (104)	2.34	3.95	2.19 *	1.30	
LAROL (105)	2.30	3.90	2.40	1.30	
974BRET (107)	2.58 **	4.35 *	2.66 *	1.44 *	AA E
HWASL94 (112)	2.32	4.00	2.36	-	
POVLT (115)	2.25	4.10	2.30	1.24	EE CB
LAPANDAY (118)	2.51 *	3.29 **	2.33	1.29	DB E
MSIRI (121)	2.40	4.06	2.53	1.39	DA E
AALI (122)	2.12 *	4.54 **	2.52	1.49 **	DC AA
GEOBOTINST (123)	2.31	3.90	2.30	1.30	DA E
JASZ (128)	2.30	4.06	2.43	1.32	EE CB
GGM (129)	2.35	3.89	2.44	1.34	DA E
SASEXFAS (130)	2.40	4.10	2.30	1.20	
XGCALAFIGA (133)	2.30	4.02	2.38	1.21	EE CB
LUNUWILA (135)	2.42	4.17	2.59	1.31	AA E
WELE-136 (136)	2.29	3.94	2.32	1.21	DC CB
BUNASOLS (139)	2.10 **	3.81	2.19 *	1.52 **	
VAS (141)	2.26	3.92	2.39	1.25	DG CB
GPM-GROUP (143)	2.34	4.01	2.29	1.30	
NELTROPIKA (145)	2.37	4.21	2.52	1.39	DB Z
P-2000R (149)	2.39	3.80	2.38	1.21	DA E
KAOS (157)	2.46	4.32	2.58	1.50 **	DB CB
IRRI (158)	2.24	3.85	2.33	1.24	DB CB
ANALRESLAB (159)	2.29	4.00	2.42	1.28	EE CB
JV (160)	3.07 **	3.58 **	2.29	1.18	DA E
IRNASE (164)	2.03 **	3.47 **	2.11 **	1.14 *	EE CB
SYNERS (166)	70.96 **	128.76 **	76.96 **	37.42 **	AA CB
130 (169)	2.20	4.00	2.30	1.30	
Platina222 (170)	2.28	3.90	2.41	1.33	AA E
BVO95MBPD (171)	2.46	4.17	2.50	1.34	EE CB
SKRA (176)	2.30	4.00	2.40	1.30	
CHKS (184)	2.40	4.05	2.30	1.35	
JYUIER (185)	2.24	3.66 *	2.26	1.22	EE CB
IPULAB (186)	2.37	4.23	2.58	1.34	G CB
PERTH (187)	2.52 *	4.39 *	2.65 *	1.36	DC CB
GDAGRO (188)	2.27	3.96	2.38	1.30	
NDA mean	2.326	4.037	2.423	1.299	(cont.)
NDA st dev	0.102	0.179	0.116	0.086	
NDA N	121	121	120	119	



## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>P (as P) (g/kg)</b> (cont.)						
SAINTE-FOY	(190)	2.45	4.17	2.54	1.43 *	DA CB
SCHRG	(191)	2.18	3.66 *	2.23	1.31	FB E
LABRES	(195)	2.33	4.04	2.41	1.34	G E
SPAL	(196)	2.40	4.20	2.50	1.40	DA E
LQA-ATP	(198)	2.69 **	4.30	2.78 **	1.38	AA E
GLOBI	(200)	2.28	4.01	2.35	1.31	
FFEEBW	(201)	2.28	3.99	2.43	1.28	DG CB
LAIMBURG	(202)	2.46	4.21	2.55	1.35	EE CB
SEEDLING	(203)	2.29	4.02	2.45	1.38	DA E
QLDNR&M	(204)	2.29	4.09	2.42	1.41	DB CB
OSCHR-OL	(205)	2.30	3.80	-	-	
DANRLAB	(206)	2.40	4.10	2.50	1.30	EE CB
C.S.S.	(209)	2.11 *	3.87	2.34	1.25	DA E
SKLODPOL	(213)	2.05 **	3.90	2.10 **	1.15 *	G E
MALWA	(216)	2.36	4.00	2.27	1.30	FB E
DATE	(218)	2.37	4.12	2.56	1.31	G CB
ALMP1011	(219)	2.04 **	3.66 *	2.18 *	0.96 **	AB CB
NEINUT	(230)	2.33	4.11	2.43	1.33	DC E
GUYLAB	(231)	2.24	3.98	2.38	1.36	G E
KERICHO	(236)	2.41	4.09	2.46	1.29	AA E
ADE	(239)	2.05 **	3.65 *	2.40	1.28	AA CB
LASUTEVEA	(241)	2.31	3.98	2.44	1.33	
SMART	(246)	2.23	3.78	2.26	1.08 **	AB E
REYEPS	(249)	2.35	4.15	2.45	1.27	DG CB
ABMCE	(250)	2.40	4.20	2.60	1.40	EE CB
ZJKRK	(257)	2.40	4.18	2.53	1.33	
SLAF	(263)	2.34	4.07	2.49	1.18	DG CB
ERSAFVGSCA	(265)	2.21	3.68 *	2.39	1.17 *	DC E
LUARE	(269)	2.45	4.10	2.41	1.16 *	G KB
LAF	(273)	0.24 **	0.42 **	0.26 **	0.13 **	G CB
MELIPLANT	(274)	2.33	3.71 *	2.42	1.12 *	EE CB
IUNGPUL	(275)	2.38	4.20	2.46	1.27	DA E
FOODCHEM	(847)	2.12 *	3.71 *	2.00 **	0.88 **	DB E
AFBI	(851)	2.48	3.77	2.32	2.04 **	G KB
SPASL	(855)	2.51 *	4.26	2.65 *	1.49 **	EE CB
CUP Analab	(870)	2.27	3.77	2.31	1.23	AA E
IOPRI	(880)	2.20	3.57 **	1.23 **	2.11 **	
LSF	(895)	2.21	3.92	2.28	1.18	
RF-R&D	(905)	2.44	4.40 **	2.59	1.22	DC CB
SABIC R&T	(927)	2.46	4.15	2.62	1.38	
CAL-SAC	(973)	2.50	4.20	2.50	1.30	DG CB
LS-MRC	(978)	2.30	4.12	2.46	1.63 **	AB AA
FERTILAB	(979)	2.35	4.00	2.44	1.32	DF E
NDA mean		2.326	4.037	2.423	1.299	
NDA st dev		0.102	0.179	0.116	0.086	
NDA N		121	121	120	119	
Old statistics						
Median		2.326 (3)	4.055 (3)	2.430 (3)	1.300 (3)	
MAD		0.053	0.075	0.070	0.040	
Mean		2.329	4.043	2.427	1.301	
St Dev		0.076	0.129	0.089	0.057	
N		99	94	99	90	
<b>Pb (µg/kg)</b>						
IACM LTD	(15)	877	1400	730	50.0 <	EE D
HKPC-EMD	(16)	1000 <	1410	1000 <	1000.0 <	G D
ANALGEO	(29)	950	1430	780	50.0	DG D
WAGENINGEN	(32)	665 **	1090 **	677 *	108.0	G D
LABTIUM	(47)	1790 **	1460	1050 **	222.0 **	G D
0055HIK	(59)	2500 <	2500 <	2500 <	2500.0 <	EE CB
ANDREA	(66)	853	1330	657 **	5.7	EE D
NDA mean		856.7	1368	749.8	63.50	(cont.)
NDA st dev		61.3	89	40.7	58.87	
NDA N		42	46	41	25	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Pb (µg/kg) (cont.)</b>						
HAMELN	(68)	915	1360	772	48.0	DG D
FEJER	(70)	1000 <	1350	1000 <	1000.0 <	DG CB
ANALGIR	(74)	860	1440	780	60.0	AA BF
HLVA	(84)	912	1500	744	28.9	G D
DGCCRF	(87)	404 **	740 **	49 **	55.0 <	EE BG
ALFA	(95)	840	1350	778	500.0 <	G AB
GR.FERRADE	(102)	782	1470	748	200.0 <	AD CB
WROCLAW	(104)	869	1330	750	81.2	AB AB
POVLT	(115)	756	1250	749	267.0 <	EE CB
JASZ	(128)	1500 <	1500 <	1500 <	1500.0 <	DB CB
ICUPROF	(134)	741 *	1180 *	665 *	23.2	DG D
WELE-136	(136)	815	1300	686 *	46.1	DC D
VAS	(141)	1000 <	1280	1000 <	1000.0 <	DG CB
KAOS	(157)	904	1450	-	750.0 <	DB CB
IRRI	(158)	1156 **	1340	1031 **	-	DB CB
130	(169)	890	1450	760	77.0	G AA
SKRA	(176)	860	1390	740	70.0 <	AA AB
CHKS	(184)	890 <	1430	890 <	890.0 <	CB AA
JYUIER	(185)	849	1350	750	50.0 <	EE D
SCHRG	(191)	1420 **	1500	820 *	200.0 <	DB BB
LABRES	(195)	870	1400	750	350.0 <	G AA
GLOBI	(200)	900	1350	750	70.0	G AB
FFEEBW	(201)	778	1310	767	200.0 <	
QLDNR&M	(204)	850	1310	670 *	310.0 **	DB D
OSCHR-OL	(205)	900	1300	750	70.0	G AB
SKLODPOL	(213)	884	1390	758	-	G BG
MALWA	(216)	820	1360	780	500.0 <	G AA
ADE	(239)	495 **	1020 **	500 **	140.0	
REYEPS	(249)	849	1330	829 *	226.0 **	DG BG
ABMCE	(250)	900	1860 **	760	300.0 <	EE D
IRQ-1992-S	(251)	887	1240	723	60.0	EE CB
ZJKRK	(257)	850	1350	750	200.0 <	
FADIAF	(261)	725 *	1270	611 **	13.0	EE BG
SLAF	(263)	825	1390	812 *	204.0 *	DG CB
RIOGLAB	(264)	879	1350	701	32.3	EE D
LUARE	(269)	3000 <	3000 <	3000 <	3000.0 <	G KB
TECHHK	(270)	871	1420	733	26.0	EE D
IUNG PUL	(275)	849	1340	756	64.5	
VICTORY	(597)	672 **	970 **	664 *	123.0	
WELLAB	(714)	845	1460	753	210.0 *	
SPASL	(855)	771	1870 **	909 **	368.3 **	EE CB
CAL-SAC	(973)	330 **	730 **	200 **	150.0 <	DG CB
NDA mean		856.7	1368	749.8	63.50	
NDA st dev		61.3	89	40.7	58.87	
NDA N		42	46	41	25	
	Old statistics					
Median		860.0 (3)	1357 (3)	750.0 (3)	60.00 (3)	
MAD		25.5	49	10.0	21.20	
Mean		858.1	1372	752.5	59.31	
St Dev		44.5	66	18.7	36.11	
N		32	38	25	19	
<b>Rb (µg/kg)</b>						
ANALGEO	(29)	1870	5480	11500	1800	DG D
LABTIUM	(47)	1640	10550	5000	1710	
RIOGLAB	(264)	1810	5340	11100	1830	EE D
LUARE	(269)	2180	6550	12600	1680	G KB
VICTORY	(597)	2460	5820	8900	2500	
Median		1870 (1)	5819 (1)	11060 (1)	1800 (1)	
MAD		230	482	1540	90	
N		5	5	5	5	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>S (as S) (g/kg)</b>						
AGRILAB (4)		2.89	1.90 *	0.690	1.05	
OOSTERBEEK (7)		3.31 **	1.89 *	0.831	1.14	G CB
PUSLITTAN (14)		0.04 **	0.02 **	0.013 **	0.01 **	DC E
MARDI (26)		3.04	1.80	0.830	1.07	DB CB
LRSCONTROL (28)		2.26 **	1.13 **	0.633 *	1.15	H Z
WAGENINGEN (32)		2.86	1.66	0.720	1.03	G CB
FORTEST (44)		3.02	1.81	0.834	1.12	EE CB
LABTIUM (47)		2.91	0.74 **	1.670 **	1.01	G CB
RELAB (49)		2.80	1.50 *	0.800	0.90 *	EE CB
PIEST-RIPP (51)		2.86	1.61	0.750	1.01	EE CB
AMIS-AGRO (58)		2.87	1.63	0.740	1.06	AA Q
AQAWEP (64)		2.89	2.82 **	0.816	1.09	B Z
CORBANA (67)		2.94	1.71	0.830	0.98	EE CB
HAMELN (68)		2.86	1.64	0.740	1.07	DG CB
FEJER (70)		2.96	1.71	0.781	1.08	DG CB
ANALGIR (74)		2.88	1.70	0.810	1.11	EE CB
HILL (78)		2.88	1.69	0.750	1.04	EE CB
RUAKURA (79)		3.00	1.80	0.800	1.10	DC CB
METLAPARKA (81)		2.95	1.75	0.764	1.04	G CB
HLVA (84)		3.00	1.68	0.769	0.99	G CB
ELAEIS.P (85)		2.60 **	1.50 *	0.700	0.80 **	
CIAT (90)		0.09 **	0.05 **	0.019 **	0.03 **	DC Q
BELFAST (97)		2.95	1.76	0.785	1.09	DG CB
GR.FERRADE (102)		2.98	1.70	0.760	1.08	DB CB
HWASL94 (112)		2.95	1.71	0.740	-	
LAPANDAY (118)		2.69	1.58	0.630 *	0.59 **	DB E
MSIRI (121)		2.85	1.35 **	0.453 **	0.68 **	DC Q
AALI (122)		3.39 **	2.26 **	0.880	1.44 **	DC AA
JASZ (128)		2.92	1.70	0.770	1.07	EE CB
GGM (129)		2.90	1.80	0.800	1.62 **	EE D
SASEXFAS (130)		2.20 **	1.30 **	0.900 *	0.90 *	
XGCALAFIGA (133)		2.84	1.64	0.720	1.00	EE CB
WELE-136 (136)		3.05	1.81	0.825	1.18	G CB
BUNASOLS (139)		4.79 **	3.19 **	2.190 **	3.67 **	
VAS (141)		3.02	1.75	0.800	1.10	DG CB
NELTROPIKA (145)		2.69	1.48 *	0.590 *	0.68 **	
KAOS (157)		3.10	1.79	0.830	1.21 *	DB CB
IRRI (158)		2.91	1.63	0.730	0.96	DB CB
ANALRESLAB (159)		2.63 **	1.51 *	0.670	0.92 *	EE CB
IRNASE (164)		2.32 **	1.34 **	0.640 *	0.77 **	EE CB
SYNERS (166)		80.22 **	41.83 **	19.293 **	24.52 **	AA CB
JYUIER (185)		2.85	1.55	0.681	0.99	EE CB
IPULAB (186)		2.94	1.72	0.770	1.09	G CB
PERTH (187)		3.06	1.73	0.760	1.07	DC CB
FFEEBW (201)		2.78	1.61	0.730	1.01	DG CB
LAIMBURG (202)		3.07	1.75	0.810	1.10	EE CB
QLDNR&M (204)		2.69	1.56	0.690	1.10	DB CB
DANRLAB (206)		2.91	1.70	0.770	1.11	EE CB
DATE (218)		3.12	1.88 *	0.900 *	1.12	G CB
ALMP1011 (219)		2.85	1.66	0.680	0.93 *	DB CB
NEINUT (230)		3.00	1.74	0.786	1.08	DC E
GUYLAB (231)		3.04	1.66	0.560 **	0.57 **	DB E
ADE (239)		2.81	1.61	0.640 *	1.03	AA CB
REYEPS (249)		3.06	1.74	0.770	1.09	DG CB
ABMCE (250)		2.95	1.72	0.640 *	1.03	EE CB
SLAF (263)		3.02	1.75	0.790	0.99	DG CB
RIOGLAB (264)		2.94	1.69	0.888	0.96	EE D
LUARE (269)		3.08	1.76	0.800	1.00	G KB
LAF (273)		0.30 **	0.18 **	0.080 **	0.11 **	G CB
MELIPLANT (274)		2.94	1.73	0.700	1.03	EE CB
IUNGPUL (275)		3.12	1.85	0.850	1.15	G Z
AFBI (851)		3.32 **	1.71	0.790	1.10	G KB
NDA mean		2.934	1.704	0.7658	1.058	(cont.)
NDA st dev		0.128	0.125	0.0818	0.084	
NDA N		68	68	68	67	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>S (as S) (g/kg)</b> (cont.)						
SPASL	(855)	2.96	1.71	0.790	1.14	EE CB
CUP Analab	(870)	2.88	1.74	0.730	1.08	AA  Q
LSF	(895)	2.84	1.66	0.790	0.95	
CAL-SAC	(973)	3.40 **	1.90 *	1.000 **	1.10	DG CB
OPBLab	(975)	4.86 **	3.14 **	2.330 **	2.29 **	H  Z
FERTILAB	(979)	0.96 **	0.53 **	0.120 **	0.29 **	DF  Q
NDA mean		2.934	1.704	0.7658	1.058	
NDA st dev		0.128	0.125	0.0818	0.084	
NDA N		68	68	68	67	
	Old statistics					
Median		2.940 (3)	1.710 (3)	0.7700 (3)	1.070 (3)	
MAD		0.080	0.045	0.0300	0.040	
Mean		2.930	1.705	0.7722	1.063	
St Dev		0.104	0.069	0.0516	0.056	
N		52	46	49	47	
<b>Sb (µg/kg)</b>						
ANALGEO	(29)	50.0 <	50.0 <	60.0	50.0 <	DG  D
LABTIUM	(47)	44.0	51.0	72.0	20.0 <	G  D
HAMELN	(68)	37.0	38.0	63.0	10.0	DG  D
JYUIER	(185)	50.0 <	50.0 <	63.4	50.0 <	EE  D
RIOGLAB	(264)	27.3	34.3	49.7	2.0 <	
TECHHK	(270)	30.0	40.0	54.0	3.0	EE D
VICTORY	(597)	45.6	46.6	57.5	98.5	
WELLAB	(714)	50.0 <	50.0 <	50.0 <	50.0 <	
Median		37.00 (1)	40.00 (1)	60.00 (1)	10.00 (1)	
MAD		7.00	5.70	3.40	7.00	
N		5	5	7	3	
<b>Se (µg/kg)</b>						
OOSTERBEEK	(7)	143	16.1	18.6	20.8	G AH
LABTIUM	(47)	160 *	150.0 **	300.0 **	180.0 **	
FEJER	(70)	1000 <	1000.0 <	1000.0 <	1000.0 <	DG CB
HILL	(78)	117	22.0	24.0	25.1	EE D
RUAKURA	(79)	110	15.0	20.0	25.0	DC  F
HLVA	(84)	116	18.7	24.5	29.3	G  BG
GR.FERRADE	(102)	100 <	100.0 <	100.0 <	100.0 <	DB BG
JASZ	(128)	1000 <	1000.0 <	1000.0 <	1000.0 <	
GGM	(129)	110	50.0 <	50.0 <	50.0 <	EE  D
VAS	(141)	500 <	500.0 <	500.0 <	500.0 <	
KAOS	(157)	89	35.0 <	35.0 <	35.0 <	DC  F
IRRI	(158)	625 **	125.0 **	813.0 **	208.0 **	DB CB
ANALRESLAB	(159)	112	15.0	22.0	23.0	DC F
JYUIER	(185)	126	50.0 <	50.0 <	50.0 <	EE  D
ADE	(239)	43 **	10.0	12.0	27.0	EE  F
RIOGLAB	(264)	126	23.3	30.4	22.5	EE D
VICTORY	(597)	85	97.4 **	52.5 **	38.5 *	
CAL-SAC	(973)	150	30.0 <	30.0 <	30.0	DG  F
NDA mean		118.4	17.18	21.90	25.72	
NDA st dev		25.8	6.92	7.82	5.43	
NDA N		14	10	10	11	
	Old statistics					
Median		116.0 (3)	16.11 (2)	22.00 (2)	25.05 (3)	
MAD		10.0	2.59	2.50	2.30	
Mean		116.7	-	-	25.34	
St Dev		19.6	-	-	3.27	
N		11	7	7	8	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Sn (µg/kg)</b>						
ANALGEO	(29)	500.0 <	3500	7400.0	9300	DG D
WAGENINGEN	(32)	57.5	81	49.2	255	G D
RIOGLAB	(264)	60.3	92	50.9	-	
TECHHK	(270)	81.0	117	70.0	24	EE D
VICTORY	(597)	153.0	151	79.2	43	
WELLAB	(714)	50.0 <	50 <	50.0 <	50 <	
Median		70.65 (1)	117.0 (1)	70.00 (1)	148.9 (1)	
MAD		11.75	34.0	19.10	115.5	
N		4	5	5	4	
<b>SO4 (as SO4) (g/kg)</b>						
FORTEST	(44)	2.69	1.52	0.339	0.0743	FA JE
HILL	(78)	1.31	0.70	0.155	0.0460	FB CB
HLVA	(84)	6.99	1.72	0.393	0.0900	
GR.FERRADE	(102)	3.69	2.18	0.620	-	FA JE
Median		3.190 (1)	1.618 (1)	0.3660 (1)	0.07426 (1)	
MAD		1.190	0.332	0.1190	0.01574	
N		4	4	4	3	
<b>Sr (mg/kg)</b>						
ANALGEO	(29)	58.6	30.8	37.4	0.200	DG D
LABTIUM	(47)	59.8	39.2 **	31.3	1.000 <	G CB
0055HIK	(59)	51.2	27.0	34.5	2.500 <	EE CB
HAMELN	(68)	49.6	26.5	33.7	1.000 <	DG CB
FEJER	(70)	54.4	30.4	36.9	0.500 <	DG CB
HLVA	(84)	58.6	31.1	36.5	2.000 <	G D
WELE-136	(136)	51.5	28.4	34.0	0.104	DC CB
IRRI	(158)	51.1	27.8	34.6	0.130	DB CB
IRNASE	(164)	58.0	32.7	37.6	2.000 <	EE CB
JYUIER	(185)	53.4	31.1	39.4	1.000 <	EE CB
DATE	(218)	53.9	32.4	34.2	0.740	G CB
RIOGLAB	(264)	54.9	30.0	35.0	0.165	EE D
LUARE	(269)	59.9	32.4	38.9	4.000 <	G KB
VICTORY	(597)	37.7 **	16.6 **	23.5 **	0.180	
SPASL	(855)	53.5	28.7	35.5	0.130	EE CB
NDA mean		54.72	30.09	35.62	-	
NDA st dev		4.11	2.78	2.24	-	
NDA N		15	15	15	7	
	Old statistics					
Median		54.16 (3)	30.40 (3)	35.26 (3)	0.1650 (1)	
MAD		3.01	2.00	1.41	0.0350	
Mean		54.89	29.95	35.68	-	
St Dev		3.50	2.09	2.22	-	
N		14	13	14	7	
<b>Ti (mg/kg)</b>						
LABTIUM	(47)	5.28	1.00 <	1.91	1.00 <	G CB
JYUIER	(185)	14.40	6.55	3.11	1.23	EE D
Median		9.840 (1)	6.550 (1)	2.510 (1)	1.230 (1)	
MAD		4.560	-	0.600	-	
N		2	1	2	1	
<b>V (µg/kg)</b>						
ANALGEO	(29)	1000 *	500	500 <	500.0 <	DG D
LABTIUM	(47)	356 **	335	136	100.0 <	G D
ANDREA	(66)	832	392	132	37.4	EE D
HAMELN	(68)	771 *	391	110	10.0 <	DG D
FEJER	(70)	830	500 <	500 <	500.0 <	DG CB
NDA mean		821.0	401.3	121.0	-	(cont.)
NDA st dev		69.5	44.5	23.2	-	
NDA N		13	10	9	3	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>V (µg/kg) (cont.)</b>						
HLVA	(84)	841	404	141	100.0 <	G D
WELE-136	(136)	682 *	370	97	52.0	DC CB
IRRI	(158)	125 **	-	-	-	DB CB
JYUIER	(185)	823	403	119	50.0 <	EE D
ABMCE	(250)	840	490	100	70.0 <	EE D
RIOGLAB	(264)	821	427	111	5.0 <	EE D
VICTORY	(597)	1244 **	561 **	142	303.0	
TLR	(900)	18 **	1000 <	1000 <	1000.0 <	
NDA mean		821.0	401.3	121.0	-	
NDA st dev		69.5	44.5	23.2	-	
NDA N		13	10	9	3	
Old statistics						
Median		831.0 (3)	403.0 (3)	119.0 (3)	52.00 (1)	
MAD		8.5	24.0	17.0	14.60	
Mean		-	412.4	120.8	-	
St Dev		-	53.3	17.4	-	
N		6	9	9	3	
<b>Zn (mg/kg)</b>						
AGRILAB	(4)	20.6	54.4	30.8	14.3	
OOSTERBEEK	(7)	20.6	63.6	33.2	15.3	G CB
CIRADFLHOR	(12)	22.1 *	59.3	29.9	11.3 **	AA AA
PUSLITTAN	(14)	46.6 **	73.1 **	36.7 **	17.3 **	DC AC
MARDI	(26)	18.0 *	61.8	30.7	12.9	DB CB
KUCHING	(27)	24.0 **	65.0 *	33.0	18.0 **	AA CB
LRSCONTROL	(28)	18.8	59.7	31.2	14.9	AA CB
ANALGEO	(29)	21.0	58.0	30.0	14.0	DG D
FELDA	(30)	21.4	62.2	34.5 *	16.3 *	AA AA
WAGENINGEN	(32)	20.0	63.0	34.0	16.0	G CB
OVA JORK	(35)	18.0 *	57.3	29.8	12.6	AA AD
FORTEST	(44)	19.3	59.9	29.5	13.8	EE CB
REDUIT	(45)	18.2	57.7	33.9	11.7 **	DB AB
LABTIUM	(47)	19.0	30.8 **	58.6 **	15.9	G CB
RELAB	(49)	20.8	57.0	34.3	16.7 *	EE CB
PIEST-RIPP	(51)	10.6 **	50.3 **	41.0 **	18.9 **	EE CB
SIRI	(53)	20.0	55.0	32.0	16.0	DA AA
AAAGROUP	(56)	19.9	60.0	30.5	14.7	AA AA
REHURKAVO	(57)	19.9	61.4	32.9	14.8	EE AB
AMIS-AGRO	(58)	19.8	58.8	31.0	14.1	AC CB
0055HIK	(59)	20.5	56.3	30.7	14.6	EE CB
BLRSLAL	(62)	19.8	58.9	31.4	14.1	AA AA
AARESEARCH	(63)	19.6	59.2	30.6	13.3	AA AA
AQAWEP	(64)	24.7 **	64.7 *	45.0 **	19.6 **	EE CB
ANDREA	(66)	19.5	54.7	30.3	12.3 *	EE D
CORBANA	(67)	19.7	62.0	32.7	14.8	EE CB
HAMELN	(68)	19.6	58.6	31.6	15.2	DG CB
FEJER	(70)	19.9	59.7	31.9	14.3	DG CB
ANALGIR	(74)	19.5	59.2	31.8	13.8	AA AB
ELML	(75)	19.4	60.8	32.1	15.1	AB CB
DFAL	(76)	21.0	58.8	20.9 **	11.3 **	AA AA
HILL	(78)	19.7	63.0	33.7	16.0	EE CB
RUAKURA	(79)	19.0	64.0	32.0	15.0	DC CB
METLAPARKA	(81)	20.0	64.6 *	32.8	14.4	G CB
HLVA	(84)	20.1	58.5	30.3	14.2	G CB
ELAEIS.P	(85)	22.9 **	56.2	33.9	16.5 *	DA AA
CIAT	(90)	18.8	57.5	30.6	13.8	DC AB
SPSSBKCH	(91)	21.8 *	63.9	33.8	16.2	AB AA
ALFA	(95)	19.6	49.4 **	30.7	14.1	G AB
GR.FERRADE	(102)	19.2	58.0	30.8	14.6	AD CB
EKOM	(103)	19.6	59.1	31.2	13.8	AA AB
WROCLAW	(104)	20.0	58.9	31.5	14.1	AB AB
NDA mean		19.81	59.34	31.64	14.43	(cont.)
NDA st dev		1.21	2.81	1.62	1.19	
NDA N		119	119	119	117	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Zn (mg/kg)</b> (cont.)						
974BRET (107)		20.0	60.8	30.4	14.4	AA AB
HWASL94 (112)		19.0	61.2	30.8	-	
POVLT (115)		16.9 **	52.0 **	27.9 **	13.5	EE CB
LAPANDAY (118)		19.0	53.0 **	29.0	15.0	DG AA
AALI (122)		20.3	62.1	34.6 *	13.4	DC AA
JASZ (128)		20.0	59.0	31.7	14.4	EE CB
GGM (129)		20.0	58.0	31.0	137.0 **	EE  D
SASEXFAS (130)		21.5	61.5	34.0	14.5	
XGCALAFIGA (133)		18.1	55.9	28.8	13.9	EE CB
ICUPROF (134)		19.1	63.8	29.8	14.7	DG D
LUNUWILA (135)		18.3	57.5	32.4	14.6	AA AA
WELE-136 (136)		16.9 **	54.4	28.7 *	13.5	DC CB
BUNASOLS (139)		23.4 **	105.8 **	45.4 **	2.4 **	
VAS (141)		19.6	59.7	30.8	14.4	DG CB
GPM-GROUP (143)		20.3	59.0	30.8	14.1	
NELTROPIKA (145)		22.1 *	59.5	34.4	16.8 *	DB AA
P-2000R (149)		20.0	60.3	32.3	13.0	DB AA
KAOS (157)		23.5 **	65.8 **	34.3	17.7 **	DB CB
IRRI (158)		18.5	57.0	31.0	14.3	DB CB
ANALRESLAB (159)		17.9 *	54.6	29.3	13.7	EE CB
JV (160)		20.8	49.8 **	25.6 **	16.2	AA AA
IRNASE (164)		18.9	58.7	30.4	14.6	EE CB
SYNERS (166)		17.6 *	54.2	29.2	13.4	AA CB
130 (169)		20.0	60.8	32.7	12.6	G AD
Platina222 (170)		20.5	59.0	31.5	13.5	AA AA
BVO95MBPD (171)		18.5	56.4	30.9	14.8	EE CB
SKRA (176)		20.1	59.8	32.1	14.3	AA AB
SPNDTKLABP (177)		22.0 *	63.0	34.0	16.0	AB AA
CHKS (184)		19.1	58.7	32.5	13.7	CB AB
JYUIER (185)		20.6	61.8	33.0	15.3	EE CB
IPULAB (186)		21.7	62.8	33.9	16.3	G CB
PERTH (187)		20.0	61.5	33.4	15.0	DC CB
SAINTE-FOY (190)		20.0	61.0	34.0	20.0 <	DA CB
SCHRG (191)		19.8	52.4 **	30.5	11.8 **	DB AB
LABRES (195)		20.5	59.0	31.0	14.1	G  AA
SPAL (196)		42.9 **	79.5 **	52.1 **	35.9 **	
LQA-ATP (198)		17.0 **	35.0 **	16.2 **	12.5 *	AA AA
GLOBI (200)		19.5	60.0	32.0	14.6	G  AA
FFEEBW (201)		18.7	57.5	31.0	14.3	DG CB
LAIMBURG (202)		19.9	60.3	32.5	15.3	EE CB
QLDNR&M (204)		19.6	59.9	31.1	14.8	DB CB
OSCHR-OL (205)		21.0	60.0	32.0	14.5	G  AB
DANRLAB (206)		18.9	58.2	31.6	13.5	EE AA
SKLODPOL (213)		19.4	59.0	31.0	13.7	G AB
MALWA (216)		19.6	58.4	31.8	13.8	G  AA
DATE (218)		21.5	58.1	37.0 **	14.2	G CB
ALMP1011 (219)		9.4 **	47.0 **	20.0 **	4.2 **	AB CB
NEINUT (230)		19.9	60.6	32.6	15.8	DC AB
GUYLAB (231)		20.9	60.9	32.9	10.9 **	G  AA
KERICHO (236)		20.5	57.4	31.5	14.4	AA AA
ADE (239)		17.8 *	57.6	31.0	15.9	AA CB
LASUTEVEA (241)		20.0	62.4	31.1	13.8	
SMART (246)		21.3	62.6	33.4	14.3	AB AA
REYEPS (249)		19.1	59.6	31.0	14.3	DG CB
ABMCE (250)		20.2	59.8	31.5	15.5	EE  D
ZJKRK (257)		20.4	57.7	32.5	14.0	
FADIAF (261)		18.2	57.3	30.1	13.7	DC AB
SLAF (263)		20.0	63.0	34.0	13.0	DG CB
RIOGLAB (264)		20.9	58.4	31.7	15.2	EE D
ERSAFVGSCA (265)		25.1 **	58.4	34.2	15.3	DC AA
LUARE (269)		19.8	62.0	32.2	11.6 **	G KB
TECHHK (270)		20.0	62.5	32.2	13.6	
NDA mean		19.81	59.34	31.64	14.43	(cont.)
NDA st dev		1.21	2.81	1.62	1.19	
NDA N		119	119	119	117	

## IPE 2009.1 - Inorganic Chemical Composition

Sample		124	164	166	135	MIC
<b>Zn (mg/kg)</b>	(cont.)					
LAF	(273)	21.7	62.0	32.0	16.0	G CB
MELIPLANT	(274)	18.7	45.5 **	30.7	15.5	EE CB
IUNGPUL	(275)	20.3	60.1	31.9	14.5	EE CB
VICTORY	(597)	60.4 **	134.0 **	69.4 **	47.8 **	
WELLAB	(714)	18.6	59.1	28.6 *	11.8 **	EDCB
FOODCHEM	(847)	17.2 **	51.2 **	25.7 **	14.5	DB AA
SPASL	(855)	20.0	60.6	33.5	17.0 **	EE CB
CUP Analab	(870)	20.0	56.3	30.5	14.6	AA AA
IOPRI	(880)	19.0	54.0 *	16.0 **	29.0 **	
LSF	(895)	21.6	55.2	31.1	13.9	
RF-R&D	(905)	19.1	57.6	32.2	14.3	DC CB
SABIC R&T	(927)	29.1 **	57.9	31.2	18.8 **	
CAL-SAC	(973)	20.9	59.3	29.6	16.4 *	DG CB
LS-MRC	(978)	20.7	82.3 **	42.3 **	3.8 **	AA AA
FERTILAB	(979)	19.3	56.9	31.9	12.4 *	DF AD
NDA mean		19.81	59.34	31.64	14.43	
NDA st dev		1.21	2.81	1.62	1.19	
NDA N		119	119	119	117	
	Old statistics					
Median		19.90 (3)	59.15 (3)	31.60 (3)	14.40 (3)	
MAD		0.60	1.59	0.90	0.60	
Mean		19.86	59.33	31.72	14.46	
St Dev		0.84	2.35	1.37	0.86	
N		94	98	99	88	



### IPE 2009.1 - Real totals

Sample		124	164	166	135	MIC
<b>Al (mg/kg)</b>						
WAGENINGEN	(32)	531	357	59.0	1.00	G CB
AMIS-AGRO	(58)	483	329	59.0	18.70	
AQAWEP	(64)	274	157	-	-	EE CB
HLVA	(84)	580	364	61.1	5.00 <	
GR.FERRADE	(102)	488	320	49.0	5.00 <	AD CB
IRRI	(158)	254	156	34.6	1.17	DB CB
JYUIER	(185)	260	126	37.8	5.00 <	EE CB
SLAF	(263)	419	211	52.0	2.00	DG CB
LUARE	(269)	521	287	150.0 <	150.00 <	G KB
NDA mean		463.7	261.9	-	-	
NDA st dev		110.3	111.0	-	-	
NDA N		9	9	7	4	
	Old statistics					
Median		483.0 (3)	287.0 (3)	52.00 (1)	1.585 (1)	
MAD		64.0	76.0	7.00	0.500	
Mean		423.3	256.4	-	-	
St Dev		128.1	94.1	-	-	
N		9	9	7	4	
<b>C - elementary (g/kg)</b>						
ISKCLASKCE	(2)	457	431	487	452	H Z
UMADAKAR	(6)	423 **	402 **	458 **	405	H Z
FORTEST	(44)	432	411	468	408	H JA
LABTIUM	(47)	441	409	474	424	H Z
PIEST-RIPP	(51)	443	421	473	434	H Z
AMIS-AGRO	(58)	439	425	479	443	
AQAWEP	(64)	454	435	479	438	B Z
HILL	(78)	436	412	469	426	
SHERAZADE	(80)	425 **	405 **	464	404	H Z
METLAPARKA	(81)	457	432	487	451	H Z
HLVA	(84)	458	425	495	425	
CIAT	(90)	416 **	398 **	436 **	401	DA E
GR.FERRADE	(102)	453	425	484	446	H E
GEOBOTINST	(123)	450	424	482	454	H Z
IRRI	(158)	442	418	497 **	414	H Z
ANALRESLAB	(159)	434	409	470	410	H Z
JYUIER	(185)	457	428	484	446	H Z
SAINTE-FOY	(190)	453	427	484	451	H
FFEEBW	(201)	443	414	472	434	
QLDNR&M	(204)	431	424	466	426	H Z
DANRLAB	(206)	441	416	474	437	H JA
MERLEWOOD	(217)	452	428	486	447	G Z
DATE	(218)	432	419	478	419	H Z
LABORECOF	(221)	448	419	483	576 **	H Z
ADE	(239)	445	427	485	422	H Z
LASUTEVEA	(241)	451	425	482	426	
RIOGLAB	(264)	453	430	475	424	
LABVAL	(266)	447	429	477	439	H Z
IUNGPUL	(275)	451	424	481	445	G Z
SPASL	(855)	451	425	483	445	H
OPBLab	(975)	447	419	480	435	H Z
NDA mean		446.8	423.0	479.2	432.5	
NDA st dev		9.3	7.7	7.7	17.6	
NDA N		31	31	31	31	
	Old statistics					
Median		447.7 (3)	424.5 (3)	479.5 (3)	434.0 (3)	
MAD		5.5	5.0	5.0	11.7	
Mean		446.4	422.5	478.6	431.1	
St Dev		8.2	7.0	7.3	15.7	
N		28	28	28	30	

### IPE 2009.1 - Real totals

Sample	124	164	166	135	MIC
<b>N - elementary (g/kg)</b>					
ISKCLASKCE (2)	27.8	30.0	13.3	14.7	H Z
UMADAKAR (6)	26.9	29.1	12.5	11.5 **	H Z
OOSTERBEEK (7)	27.8	29.9	12.4	13.9	H Z
CIRADFLHOR (12)	25.1 **	26.2 **	12.3	22.0 **	
KUCHING (27)	26.3 *	28.8	12.2	12.6 *	
LRSCONTROL (28)	27.7	29.7	12.6	14.3	EE Z
WAGENINGEN (32)	30.1 **	30.9	13.8	15.1	DA E
FORTEST (44)	26.6	29.0	12.5	12.8	H JA
LABTIUM (47)	30.1 **	31.0	14.5 **	15.5 *	H Z
ESCH (48)	26.7	29.0	12.5	13.1	H Z
RELAB (49)	29.7 *	28.8	13.5	14.4	
PIEST-RIPP (51)	27.8	29.2	12.5	13.9	H Z
SIRI (53)	26.6	25.3 **	12.0	13.5	DA Z
AMIS-AGRO (58)	27.7	29.4	12.7	13.6	H Z
AQAWEP (64)	27.9	28.1	12.3	14.6	B Z
CORBANA (67)	27.9	30.0	13.1	13.7	H JA
HILL (78)	28.1	29.5	13.6	15.2	H Z
SHERAZADE (80)	25.4 **	28.8	12.2	12.7	H Z
METLAPARKA (81)	28.2	30.2	12.5	13.6	H Z
HLVA (84)	27.8	30.1	12.6	13.7	
BELFAST (97)	28.4	30.2	13.0	14.4	H Z
GR.FERRADE (102)	27.2	29.5	12.7	13.8	H E
974BRET (107)	27.9	29.7	12.2	14.0	H Z
HWASL94 (112)	28.4	31.0	13.7	-	
POVLT (115)	26.5	29.4	13.2	14.2	H Z
GEOBOTINST (123)	27.9	28.4	12.4	13.5	H Z
XGCALAFIGA (133)	28.2	31.0	13.2	14.3	H Z
ICUPROF (134)	28.7	30.6	13.1	14.3	H Z
IRRI (158)	31.0 **	29.8	14.1 *	13.7	H Z
ANALRESLAB (159)	27.7	29.6	12.8	13.3	H Z
SYNERS (166)	1966.0 **	2094.4 **	912.6 **	942.8 **	H Z
JYUIER (185)	31.6 **	31.0	12.3	13.6	H Z
PERTH (187)	28.4	31.2	13.3	14.3	H Z
FFEEBW (201)	27.4	29.5	12.5	13.8	
LAIMBURG (202)	28.2	30.9	13.5	14.7	H/Z
QLDNR&M (204)	28.0	30.0	13.0	15.0	H Z
DANRLAB (206)	31.1 **	31.2	14.0 *	15.4 *	H JA
MERLEWOOD (217)	29.0	29.7	12.9	14.5	H Z
DATE (218)	27.0	29.3	13.1	13.4	H Z
LABORECOF (221)	27.3	30.0	12.5	17.2 **	H Z
LASUTEVEA (241)	28.5	30.4	13.8	14.6	
RIOGLAB (264)	27.8	30.5	12.4	13.1	
LABVAL (266)	28.5	30.6	13.2	14.1	H Z
IUNG PUL (275)	28.7	30.2	13.1	14.7	G Z
SPASL (855)	27.5	30.7	13.4	14.4	H
OPBLab (975)	28.0	29.6	12.6	13.6	H Z
NDA mean	27.85	29.90	12.83	14.03	
NDA st dev	0.81	0.93	0.61	0.74	
NDA N	46	46	46	45	
Old statistics					
Median	27.84 (3)	29.88 (3)	12.70 (3)	13.95 (3)	
MAD	0.37	0.60	0.39	0.44	
Mean	27.80	29.89	12.83	14.00	
St Dev	0.63	0.79	0.49	0.62	
N	36	43	42	38	

IPE 2009.1 - Acid extractable (So-called totals)

Sample		124	164	166	135	MIC
<b>Al (mg/kg)</b>						
PUSLITTAN	(14)	324	194	42.5	7.60	
LRSCONTROL	(28)	332	183	35.4	0.65 <	EE CB
FORTEST	(44)	266	129	42.6	-	EE CB
LABTIUM	(47)	218	25 **	98.5 **	10.00 <	G CB
PIEST-RIPP	(51)	235	95	19.5 **	10.00 <	EE CB
CORBANA	(67)	232	117	40.8	1.65	
HAMELN	(68)	268	136	37.5	10.00 <	DG CB
FEJER	(70)	280	141	39.1	5.00 <	DG CB
HILL	(78)	304	142	58.7 **	10.00 <	EE CB
JASZ	(128)	258	129	37.1	10.00 <	
WELE-136	(136)	307	166	37.2	1.09	DC CB
VAS	(141)	269	140	30.8	14.40	
ANALRESLAB	(159)	308	155	39.8	1.00	EE CB
IRNASE	(164)	222	100	15.4 **	10.00 <	EE CB
IPULAB	(186)	299	142	40.0	15.00 <	G CB
SAINTE-FOY	(190)	424 **	204	100.0 <	100.00 <	DA CB
QLDNR&M	(204)	311	161	43.0	12.00	DB CB
ADE	(239)	257	127	37.0	13.00	AA CB
REYEPS	(249)	455 **	210	60.8 **	10.30	DG CB
RIOGLAB	(264)	358	182	44.3	1.87	
SPASL	(855)	228	101	37.3	2.88	EE CB
RF-R&D	(905)	254	141	42.4	-	DC CB
NDA mean		276.1	143.6	39.48	6.177	
NDA st dev		50.1	33.2	3.89	6.279	
NDA N		22	22	21	10	
	Old statistics					
Median		268.5 (3)	141.3 (3)	39.45 (3)	5.240 (3)	
MAD		36.0	19.7	2.40	4.195	
Mean		276.5	147.4	39.17	6.579	
St Dev		39.9	33.1	3.48	5.458	
N		20	21	16	10	
<b>Si (mg/kg)</b>						
WELE-136	(136)	313	770	220	13.8	G CB
Median		313.0 (1)	770.0 (1)	220.0 (1)	13.80 (1)	
MAD		-	-	-	-	
N		1	1	1	1	

## IPE 2009.1 - Other determinations

Sample	124	164	166	135	MIC
<b>13C (atom%*100)</b>					
JYUIER (185)	107.5	106.9	107.5	107.5	H  Z
MERLEWOOD (217)	108.1	107.5	108.0	108.0	
Median	107.79 (1)	107.18 (1)	107.77 (1)	107.77 (1)	
MAD	0.29	0.28	0.27	0.27	
N	2	2	2	2	
<b>15N (atom%*100)</b>					
JYUIER (185)	36.58	36.68	36.57	36.75	H  Z
MERLEWOOD (217)	36.62	36.73	36.65	36.79	
Median	36.600 (1)	36.705 (1)	36.610 (1)	36.770 (1)	
MAD	0.020	0.025	0.040	0.020	
N	2	2	2	2	
<b>delta 13C (‰ V-PDB)</b>					
MERLEWOOD (217)	-27.8	-33.4	-28.1	-28.2	
Median	-27.77 (1)	-33.39 (1)	-28.11 (1)	-28.18 (1)	
MAD	-	-	-	-	
N	1	1	1	1	
<b>delta 15N (‰ Air )</b>					
MERLEWOOD (217)	-0.400	2.61	0.280	4.35	
Median	-0.4000 (1)	2.610 (1)	0.2800 (1)	4.350 (1)	
MAD	-	-	-	-	
N	1	1	1	1	

## IPE 2009.1 - Nutritional values

Sample		124	164	166	135	MIC
<b>ADF-ash-free (g/kg)</b>						
OOSTERBEEK	(7)	312	422	363	7.75	ZZZA
CAL-SAC	(973)	326	404	376	8.65	ZZ--
Median		318.9 (1)	413.0 (1)	369.3 (1)	8.200 (1)	
MAD		7.2	9.0	6.7	0.451	
N		2	2	2	2	
<b>Crude fibre (g/kg)</b>						
OOSTERBEEK	(7)	267	332	211	5.1 <	ZZZA
KUCHING	(27)	351	405	400	4.4	
ESCH	(48)	287	323	223	20.0	
FOODCHEM	(847)	253	11	488	247.7	AOAC
CAL-SAC	(973)	251	310	202	0.7	ZZ--
Median		266.5 (1)	323.0 (1)	223.0 (1)	12.20 (1)	
MAD		15.5	13.0	21.0	9.66	
N		5	5	5	4	
<b>NDF-ash-free (g/kg)</b>						
OOSTERBEEK	(7)	442	550	446	19.2	ZZZA
CAL-SAC	(973)	411	467	434	29.9	CZ--
Median		426.6 (1)	508.4 (1)	439.9 (1)	24.53 (1)	
MAD		15.6	41.4	5.9	5.37	
N		2	2	2	2	
<b>Polysaccharides (starch) (g/kg)</b>						
FOODCHEM	(847)	426	720	329	435	
CAL-SAC	(973)	22	-	72	890	Z---
Median		224.1 (1)	720.0 (1)	200.4 (1)	662.5 (1)	
MAD		201.9	-	128.6	227.5	
N		2	1	2	2	
<b>TDF (g/kg)</b>						
FOODCHEM	(847)	429	689	583	236	AOAC
Median		429.0 (1)	689.0 (1)	583.0 (1)	236.0 (1)	
MAD		-	-	-	-	
N		1	1	1	1	
<b>Total ash (g/kg)</b>						
KUCHING	(27)	113	135	64.7	5.30	
ESCH	(48)	107	121	61.0	4.00	
ELML	(75)	115	131	63.3	4.50	---A
974BRET	(107)	114	160 **	69.6	4.26	-Z-A
LPPAM	(124)	111	126	63.7	3.20	----
KGZMB-P	(150)	103	120	56.0	4.32	---A
ERSAFVGSCA	(265)	102	122	54.1	3.50	
FOODCHEM	(847)	83 **	44 **	54.3	89.80 **	AOAC
CAL-SAC	(973)	118	139	64.4	760.00 **	---A
LS-MRC	(978)	118	132	67.7	8.00 *	H P
NDA mean		111.6	128.3	62.68	4.186	
NDA st dev		7.7	9.7	5.27	1.179	
NDA N		10	10	10	10	
	Old statistics					
Median		113.0 (3)	128.4 (3)	63.50 (3)	4.260 (3)	
MAD		5.0	6.4	3.35	0.260	
Mean		111.2	128.2	61.88	-	
St Dev		6.1	7.0	5.44	-	
N		9	8	10	7	

### IPE 2009.1 - Nutritional values

Sample	124	164	166	135	MIC
<b>Total fat (g/kg)</b>					
KUCHING (27)	17.9	29.7	10.0	7.6	
FOODCHEM (847)	23.5	13.5	10.3	91.1	AOAC
CAL-SAC (973)	29.7	34.3	22.7	10.8	---A
Median	23.50 (1)	29.70 (1)	10.30 (1)	10.80 (1)	
MAD	5.60	4.60	0.30	3.20	
N	3	3	3	3	

# IPE 2009.1

## Z - Scores

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>ISKCLASKCE (2)</b>				
B (IN)	0.63	0.09	0.31	-0.49
Ca (IN)	0.42	-0.11	-0.60	-
Cu (IN)	0.09	3.58	2.33	2.23
Fe (IN)	0.62	-0.49	-2.98	-
K (IN)	-0.64	-0.22	-1.39	-
Mg (IN)	-0.38	-0.71	-1.19	0.68
Mn (IN)	-0.13	-0.27	-0.40	0.60
P (as P) (IN)	1.71	0.91	0.66	1.18
C - elementary (RT)	1.09	1.04	1.01	1.10
N - elementary (RT)	-0.07	0.10	0.77	0.91
<b>AGRILAB (4)</b>				
B (IN)	-1.79	-2.26	-1.14	0.76
Ca (IN)	0.24	0.60	1.16	0.03
Cu (IN)	-0.12	-0.86	-2.00	-0.98
Fe (IN)	0.62	0.68	-0.72	0.29
K (IN)	0.50	0.73	1.18	-0.28
Mg (IN)	0.65	0.81	1.04	0.45
Mn (IN)	0.55	0.28	0.64	0.29
N - Kjeldahl (as N) (IN)	0.62	-6.58	-0.22	0.48
Na (IN)	0.79	0.88	0.68	0.50
P (as P) (IN)	-0.75	1.47	-0.20	0.13
S (as S) (IN)	-0.34	1.57	-0.93	-0.09
Zn (IN)	0.65	-1.76	-0.52	-0.11
<b>UMADAKAR (6)</b>				
Ca (IN)	-5.10	-2.41	-4.64	-0.50
K (IN)	-0.12	-1.02	-0.38	1.80
Mg (IN)	0.80	-0.40	-0.87	-0.53
N - Kjeldahl (as N) (IN)	-5.02	-1.07	-3.50	-1.57
Na (IN)	16.56	7.39	15.76	2.37
P (as P) (IN)	0.10	0.15	0.45	-0.09
C - elementary (RT)	-2.56	-2.74	-2.77	-1.56
N - elementary (RT)	-1.17	-0.87	-0.53	-3.41
<b>OOSTERBEEK (7)</b>				
B (IN)	1.98	1.38	1.32	0.49
Ca (IN)	1.51	1.02	1.13	<
Cl (as Cl) (IN)	0.52	0.66	<	<
Co (IN)	-0.62	-1.21	-0.65	<
Cu (IN)	0.67	1.32	1.05	0.75
Fe (IN)	2.08	1.23	0.90	<
I (IN)	#	#	#	<
K (IN)	1.79	1.20	1.54	0.97
Mg (IN)	1.69	0.93	1.38	0.54
Mn (IN)	1.99	1.08	1.00	1.17
Mo (IN)	-0.82	0.75	-2.44	-2.01
N - Kjeldahl (as N) (IN)	1.35	0.29	0.65	0.47
N - NO3 (as N) (IN)	0.20	0.26	<	<
Na (IN)	-0.02	0.01	<	<
P (as P) (IN)	2.39	2.09	1.90	0.65
S (as S) (IN)	2.97	1.46	0.80	1.02
Se (IN)	0.94	-0.15	-0.42	-0.91
Zn (IN)	0.68	1.51	0.93	0.72
N - elementary (RT)	-0.07	-0.03	-0.68	-0.20
ADF-ash-free (NUT)	#	#	#	#
Crude fibre (NUT)	#	#	#	<
NDF-ash-free (NUT)	#	#	#	#
<b>CIRADFLHOR (12)</b>				
Ca (IN)	3.37	-0.11	-0.09	26.20
Cl (as Cl) (IN)	1.73	2.50	2.83	9.47
Fe (IN)	0.55	-1.10	-0.47	1.66
K (IN)	0.27	-0.76	-0.02	5.37
Mg (IN)	3.06	2.63	2.72	1.40
Mn (IN)	4.33	1.94	-1.58	-4.72

(cont)



## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>CIRADFLHOR (12) (cont.)</b>				
P (as P) (IN)	-0.16	-0.10	-0.55	-1.62
Zn (IN)	1.90	-0.02	-1.05	-2.61
N - elementary (RT)	-3.43	-4.05	-0.91	10.74
<b>PUSLITTAN (14)</b>				
B (IN)	-0.58	2.74	-1.60	3.54
Ca (IN)	-20.19	-19.22	-16.58	-1.41
Cu (IN)	6.40	4.45	3.96	2.63
Fe (IN)	0.56	0.63	0.64	-0.07
K (IN)	-20.72	-20.93	-18.66	-9.05
Mg (IN)	-18.27	-15.57	-18.31	-8.65
Mn (IN)	3.81	2.11	1.83	0.71
N - Kjeldahl (as N) (IN)	-29.69	-13.18	-18.13	-11.96
Na (IN)	144.08	176.37	40.93	-0.04
P (as P) (IN)	-22.18	-21.93	-20.25	-14.64
S (as S) (IN)	-22.58	-13.52	-9.20	-12.38
Zn (IN)	22.19	4.89	3.13	2.42
Al (AE)	0.96	1.52	0.78	0.23
<b>IACM LTD (15)</b>				
As (IN)	-0.56	-0.47	-0.09	-0.30
Cd (IN)	0.06	-0.03	-0.20	<
Hg (IN)	<	-	<	<
Pb (IN)	0.33	0.34	-0.49	<
<b>HKPC-EMD (16)</b>				
As (IN)	<	<	<	<
Cd (IN)	<	<	<	<
Hg (IN)	<	<	<	<
Pb (IN)	<	0.45	<	<
<b>SEREMBAN (19)</b>				
B (IN)	-0.23	-0.59	0.02	-0.73
Ca (IN)	0.83	0.11	-0.75	0.67
K (IN)	0.10	0.15	-0.07	-0.38
Mg (IN)	0.19	0.11	0.32	-0.51
Mn (IN)	-0.40	-0.37	0.24	0.04
N - Kjeldahl (as N) (IN)	1.41	0.83	-0.02	0.14
P (as P) (IN)	0.29	0.72	0.50	-0.41
<b>MARDI (26)</b>				
B (IN)	0.80	0.89	2.28	-1.31
Ca (IN)	0.70	0.07	0.50	0.67
Cu (IN)	1.54	1.95	1.57	-0.48
Fe (IN)	1.27	0.26	-1.88	8.45
K (IN)	0.83	0.68	0.66	0.71
Mg (IN)	0.88	0.58	1.12	-0.03
Mn (IN)	1.18	0.93	1.04	0.04
N - Kjeldahl (as N) (IN)	3.23	0.76	-0.07	-0.59
P (as P) (IN)	0.04	0.24	0.23	-1.03
S (as S) (IN)	0.83	0.77	0.78	0.15
Zn (IN)	-1.50	0.87	-0.58	-1.29
<b>KUCHING (27)</b>				
B (IN)	-0.23	-1.35	-1.14	3.32
Ca (IN)	-0.13	-0.28	-0.82	<
Cu (IN)	-0.61	-1.21	-2.42	2.01
Fe (IN)	-0.62	-0.90	-1.15	-0.04
K (IN)	-0.07	0.08	-1.22	-0.28
Mg (IN)	-0.38	-0.13	-0.40	-1.70
Mn (IN)	-0.92	-0.70	-0.16	-3.89
P (as P) (IN)	-0.16	-0.32	-0.80	-1.27
Zn (IN)	3.47	2.01	0.84	3.01
N - elementary (RT)	-1.91	-1.19	-1.03	-1.92
Crude fibre (NUT)	#	#	#	#
Total ash (NUT)	0.18	0.69	0.38	0.95

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>KUCHING (27)</b> (cont.)				
Total fat (NUT)	#	#	#	#
<b>LRSCONTROL (28)</b>				
B (IN)	-0.02	-0.14	-0.15	-0.90
Ca (IN)	0.15	0.60	0.61	-0.29
Cl (as Cl) (IN)	0.15	0.48	-0.45	-1.05
Cu (IN)	-0.26	-0.34	-0.51	-0.35
Fe (IN)	2.27	0.59	0.42	-0.64
Hg (IN)	1.46	-0.04	0.18	-0.79
K (IN)	0.01	-0.22	-0.71	-0.59
Mg (IN)	-0.04	0.05	0.48	0.42
Mn (IN)	2.60	0.41	1.04	0.62
Na (IN)	-0.47	-0.32	-0.77	-0.87
P (as P) (IN)	-0.06	0.18	0.14	-0.22
S (as S) (IN)	-5.25	-4.61	-1.62	1.09
Zn (IN)	-0.84	0.13	-0.27	0.40
N - elementary (RT)	-0.19	-0.22	-0.37	0.37
Al (AE)	1.12	1.19	-1.05	<
<b>ANALGEO (29)</b>				
B (IN)	0.63	0.92	0.60	<
Ba (IN)	2.27	1.82	1.27	#
Be (IN)	#	<	<	<
Cd (IN)	0.02	0.39	-0.70	<
Co (IN)	0.11	-0.24	-0.25	<
Cu (IN)	0.47	0.38	-0.07	-0.04
Hg (IN)	-0.65	-1.69	-1.13	-0.41
Li (IN)	#	#	<	<
Mn (IN)	1.50	1.49	1.89	0.73
Mo (IN)	0.23	-0.03	0.33	0.37
Ni (IN)	4.16	1.65	1.99	<
Pb (IN)	1.52	0.70	0.74	-0.23
Rb (IN)	#	#	#	#
Sb (IN)	<	<	#	<
Sn (IN)	<	#	#	#
Sr (IN)	0.95	0.25	0.79	#
V (IN)	2.58	2.22	<	<
Zn (IN)	0.98	-0.48	-1.01	-0.36
<b>FELDA (30)</b>				
B (IN)	-0.71	-0.67	-0.56	-0.83
Ca (IN)	0.06	-0.55	-1.36	8.12
Cu (IN)	1.26	0.52	0.46	3.21
Fe (IN)	-0.64	-0.59	-0.38	1.99
K (IN)	-0.61	-0.64	-0.88	-0.09
Mg (IN)	-0.38	0.63	0.64	-0.74
Mn (IN)	-0.31	-0.53	0.56	-0.23
N - Kjeldahl (as N) (IN)	2.89	2.24	2.90	1.20
P (as P) (IN)	9.97	3.26	7.04	7.82
Zn (IN)	1.31	1.02	1.77	1.58
<b>WAGENINGEN (32)</b>				
Ca (IN)	-0.86	0.25	0.94	0.67
Cd (IN)	0.23	1.37	2.14	0.00
Cl (as Cl) (IN)	1.21	0.89	0.69	-0.32
Co (IN)	0.57	-0.41	-0.11	-0.11
Cr (IN)	-0.05	-0.56	-1.02	-
Cu (IN)	-0.61	0.52	0.66	0.12
Fe (IN)	1.27	0.91	1.04	-1.67
K (IN)	0.10	0.63	0.49	-0.28
Mg (IN)	0.19	0.81	0.64	0.28
Mn (IN)	0.13	0.28	0.44	0.04
Na (IN)	2.89	1.07	0.14	0.05
Ni (IN)	1.07	1.36	3.95	-
P (as P) (IN)	0.73	0.29	0.75	0.25
Pb (IN)	-3.13	-3.17	-1.79	0.76

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>WAGENINGEN (32) (cont.)</b>				
S (as S) (IN)	-0.57	-0.35	-0.56	-0.33
Sn (IN)	#	#	#	#
Zn (IN)	0.15	1.30	1.46	1.32
Al (RT)	0.61	0.86	#	#
N - elementary (RT)	2.76	1.07	1.59	1.45
<b>OVA JORK (35)</b>				
B (IN)	1.71	0.77	0.95	0.43
Ca (IN)	-1.69	-0.63	-0.71	<
Cu (IN)	0.09	-0.86	0.05	-1.76
Fe (IN)	-0.98	-0.72	-0.72	0.65
K (IN)	-1.94	-0.67	-1.39	-2.47
Mg (IN)	-0.38	0.46	0.40	0.45
Mn (IN)	-2.87	-1.80	-1.76	-2.51
N - Kjeldahl (as N) (IN)	0.96	-0.40	0.97	0.66
Na (IN)	1.72	1.51	1.65	0.92
P (as P) (IN)	-1.24	-0.21	-0.20	-2.32
Zn (IN)	-1.50	-0.73	-1.13	-1.54
<b>MHLUME (36)</b>				
Ca (IN)	3.92	0.07	2.05	2.80
K (IN)	-0.80	-1.37	-0.88	-1.28
Mg (IN)	-1.53	-1.30	-1.19	0.68
N - Kjeldahl (as N) (IN)	-1.43	-1.46	-1.55	-1.31
P (as P) (IN)	-4.19	-5.80	-3.65	-3.48
<b>FORTEST (44)</b>				
B (IN)	-0.36	-0.97	-1.08	-1.69
Ca (IN)	0.77	0.56	0.41	0.42
Cu (IN)	-0.38	-0.34	-0.41	-1.19
Fe (IN)	-0.28	-0.25	-0.25	-0.56
K (IN)	-0.83	-0.44	0.22	0.10
Mg (IN)	-0.50	0.11	-0.40	-0.50
Mn (IN)	-1.50	-2.10	-2.27	-5.86
P (as P) (IN)	0.24	0.35	-0.20	-0.70
S (as S) (IN)	0.71	0.81	0.83	0.77
SO4 (as SO4) (IN)	#	#	#	#
Zn (IN)	-0.43	0.20	-1.32	-0.53
C - elementary (RT)	-1.59	-1.55	-1.48	-1.37
N - elementary (RT)	-1.55	-0.96	-0.60	-1.68
Al (AE)	-0.21	-0.45	0.80	-
<b>REDUIT (45)</b>				
Ca (IN)	-0.50	-2.22	-1.81	21.74
Cu (IN)	-0.71	19.30	14.53	-3.03
Fe (IN)	0.14	0.03	-4.12	0.42
K (IN)	0.18	-0.92	-0.37	4.47
Mg (IN)	152.18	0.87	-0.63	13.00
Mn (IN)	-4.71	-1.15	-1.97	-6.62
N - Kjeldahl (as N) (IN)	4.71	1.44	0.23	1.74
P (as P) (IN)	0.83	0.46	0.40	0.48
Zn (IN)	-1.34	-0.58	1.40	-2.30
<b>LABTIUM (47)</b>				
Ag (IN)	#	#	#	#
As (IN)	7.08	-4.57	42.73	-0.12
B (IN)	1.15	-4.30	5.69	-0.02
Ba (IN)	0.28	37.32	-8.37	<
Be (IN)	<	<	<	<
Bi (IN)	<	<	<	<
Ca (IN)	-0.50	6.77	-5.12	0.03
Cd (IN)	50.17	-0.87	0.22	0.55
Co (IN)	-2.45	-0.07	1.00	<
Cr (IN)	-3.55	-3.88	0.79	0.43
Cu (IN)	-0.43	-2.24	1.36	0.07
Fe (IN)	-0.74	-7.09	18.72	<

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>LABTIUM (47) (cont.)</b>				
Ga (IN)	#	#	#	<
Hg (IN)	5.56	5.19	-4.40	<
K (IN)	-1.29	-16.15	47.95	1.00
Li (IN)	#	#	<	<
Mg (IN)	-2.68	-3.53	0.32	-0.74
Mn (IN)	0.23	18.53	-11.41	0.04
Mo (IN)	33.34	0.87	2.16	0.76
Na (IN)	-0.62	-5.69	8.70	<
Ni (IN)	-0.44	2.42	3.37	0.94
P (as P) (IN)	-0.55	-9.26	12.82	-0.68
Pb (IN)	15.23	1.04	7.38	2.69
Rb (IN)	#	#	#	#
S (as S) (IN)	-0.18	-7.74	11.05	-0.56
Sb (IN)	#	#	#	<
Se (IN)	1.61	19.20	35.54	28.41
Sr (IN)	1.24	3.28	-1.93	<
Ti (IN)	#	<	#	<
V (IN)	-6.69	-1.49	0.65	<
Zn (IN)	-0.67	-10.14	16.65	1.24
C - elementary (RT)	-0.63	-1.83	-0.68	-0.48
N - elementary (RT)	2.76	1.18	2.73	1.99
Al (AE)	-1.16	-3.57	15.19	<
<b>ESCH (48)</b>				
Ca (IN)	-0.23	-0.81	-0.24	<
K (IN)	0.45	-0.27	0.41	-0.68
P (as P) (IN)	-2.22	-1.89	-2.79	-13.96
N - elementary (RT)	-1.42	-0.98	-0.53	-1.25
Crude fibre (NUT)	#	#	#	#
Total ash (NUT)	-0.60	-0.75	-0.32	-0.16
<b>RELAB (49)</b>				
B (IN)	-0.79	-0.93	-1.02	-0.15
Ca (IN)	-0.22	-1.87	-0.38	<
Cl (as Cl) (IN)	1.10	0.89	1.28	2.45
Cu (IN)	-0.61	-2.93	-2.42	-1.76
Fe (IN)	-1.20	23.45	-1.26	0.03
K (IN)	-0.39	-2.27	-0.37	-0.28
Mg (IN)	-0.38	-1.30	-0.40	0.68
Mn (IN)	-2.55	-1.90	-0.60	3.09
Mo (IN)	2.39	-1.74	0.25	-2.44
Na (IN)	-1.10	-1.55	-0.75	-1.01
P (as P) (IN)	-0.26	-1.33	-0.20	1.18
S (as S) (IN)	-1.04	-1.64	0.42	-1.87
Zn (IN)	0.82	-0.83	1.64	1.91
N - elementary (RT)	2.27	-1.19	1.10	0.50
<b>PIEST-RIPP (51)</b>				
Ca (IN)	-0.50	-0.99	-0.71	-0.82
Cu (IN)	2.20	2.10	-0.01	0.07
Fe (IN)	-2.52	-1.79	1.70	-0.39
K (IN)	-0.96	-0.57	-1.39	99.85
Mg (IN)	-0.38	-0.83	-0.71	-0.03
Mn (IN)	0.23	0.02	-0.18	0.06
P (as P) (IN)	-1.53	-2.45	-2.53	-2.55
S (as S) (IN)	-0.57	-0.76	-0.19	-0.56
Zn (IN)	-7.63	-3.21	5.78	3.77
C - elementary (RT)	-0.41	-0.26	-0.81	0.08
N - elementary (RT)	-0.07	-0.76	-0.53	-0.17
Al (AE)	-0.82	-1.48	-5.14	<
<b>SIRI (53)</b>				
B (IN)	-1.96	-4.00	0.02	-1.26
Ca (IN)	-2.96	-4.00	-3.35	6.63
Cu (IN)	1.73	0.52	0.66	-1.76
Fe (IN)	-1.27	-1.04	1.48	-1.02

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>SIRI (53) (cont.)</b>				
K (IN)	0.10	-0.27	-1.39	-1.28
Mg (IN)	-0.15	0.52	-0.08	0.92
Mn (IN)	1.18	1.58	0.24	-3.89
N - Kjeldahl (as N) (IN)	-0.63	-1.14	-1.40	-0.77
P (as P) (IN)	-1.04	-2.61	-2.87	-2.43
Zn (IN)	0.15	-1.54	0.22	1.32
N - elementary (RT)	-1.54	-4.96	-1.35	-0.71
<b>AAAGROUP (56)</b>				
B (IN)	-0.06	-0.33	0.14	1.12
Ca (IN)	0.24	1.48	0.72	1.10
Cu (IN)	0.40	0.09	0.46	-0.72
Fe (IN)	-0.51	-0.30	0.31	1.63
K (IN)	0.34	-0.37	0.32	1.10
Mg (IN)	0.07	0.05	0.00	0.68
Mn (IN)	0.50	0.09	0.44	0.54
N - Kjeldahl (as N) (IN)	0.05	0.39	0.38	0.75
P (as P) (IN)	-0.55	-0.54	-0.20	-0.10
Zn (IN)	0.07	0.23	-0.70	0.23
<b>REHURKAVO (57)</b>				
Cu (IN)	-0.07	0.07	0.09	1.65
Fe (IN)	0.38	0.49	-0.22	-
Hg (IN)	-0.51	-1.30	0.01	0.40
I (IN)	#	#	#	#
Mn (IN)	-1.45	0.67	-1.18	-0.98
N - NO3 (as N) (IN)	4.97	0.09	#	#
Zn (IN)	0.07	0.73	0.78	0.31
<b>AMIS-AGRO (58)</b>				
B (IN)	0.37	0.24	0.14	0.62
Ca (IN)	0.06	-0.28	0.17	0.25
Cl (as Cl) (IN)	-0.14	-0.30	-0.49	0.32
Cu (IN)	0.56	0.52	0.82	0.50
Fe (IN)	0.20	0.26	1.33	0.94
K (IN)	0.42	0.28	0.66	-0.88
Mg (IN)	0.53	-0.36	0.16	0.68
Mn (IN)	0.76	0.18	0.84	0.83
Na (IN)	0.79	0.58	0.36	0.44
P (as P) (IN)	0.53	0.35	0.14	0.13
S (as S) (IN)	-0.50	-0.59	-0.32	0.03
Zn (IN)	-0.01	-0.19	-0.39	-0.28
Al (RT)	0.17	0.60	#	#
C - elementary (RT)	-0.84	0.26	-0.03	0.59
N - elementary (RT)	-0.19	-0.54	-0.21	-0.57
<b>0055HIK (59)</b>				
B (IN)	1.76	0.39	0.31	-0.08
Ca (IN)	0.79	0.60	0.61	<
Cu (IN)	-1.65	-1.21	-1.23	-0.46
Fe (IN)	1.80	-0.53	0.10	0.01
Hg (IN)	<	<	<	<
K (IN)	-1.78	-2.08	-2.11	-1.67
Mg (IN)	0.88	0.46	1.36	0.68
Mn (IN)	1.34	0.84	-18.21	92.53
N - Kjeldahl (as N) (IN)	-0.18	-2.73	-0.96	-0.15
Na (IN)	<	-0.25	<	<
P (as P) (IN)	0.63	-0.21	0.40	0.25
Pb (IN)	<	<	<	<
Sr (IN)	-0.86	-1.11	-0.50	<
Zn (IN)	0.57	-1.08	-0.58	0.15
<b>BLRSLAL (62)</b>				
B (IN)	0.24	-0.21	0.77	11.31
Ca (IN)	-0.31	-0.46	1.05	<
Cl (as Cl) (IN)	-0.19	0.18	<	<

(cont)

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Sample	124	164	166	135
<b>BLRSLAL (62) (cont.)</b>				
Cu (IN)	0.33	0.17	-1.37	0.05
Fe (IN)	0.50	0.54	-1.29	0.51
K (IN)	0.01	-0.37	-1.39	<
Mg (IN)	-0.15	-0.01	1.20	<
Mn (IN)	0.23	0.18	0.44	0.18
N - Kjeldahl (as N) (IN)	1.75	0.44	-0.07	0.03
P (as P) (IN)	-0.06	-0.21	-0.37	0.48
Zn (IN)	-0.01	-0.16	-0.15	-0.28
<b>AARESEARCH (63)</b>				
B (IN)	-0.02	0.09	0.25	-0.12
Ca (IN)	-0.57	-0.21	-0.79	1.52
Cl (as Cl) (IN)	-0.55	0.03	11.74	0.41
Cu (IN)	-0.14	0.17	-0.15	-0.83
Fe (IN)	-0.03	0.07	0.38	0.35
K (IN)	-0.11	0.23	-0.14	0.01
Mg (IN)	-0.10	-0.60	0.08	-0.51
Mn (IN)	0.16	-0.03	0.04	-0.42
N - Kjeldahl (as N) (IN)	0.27	0.46	0.38	0.12
P (as P) (IN)	0.04	-0.88	-0.55	-0.34
Zn (IN)	-0.18	-0.05	-0.64	-0.95
<b>AQAWEP (64)</b>				
B (IN)	-2.60	-0.73	-1.16	<
Ca (IN)	-0.29	4.60	3.37	<
Cd (IN)	10.78	2.36	16.64	12.57
Fe (IN)	0.27	3.77	7.74	6.72
Hg (IN)	0.60	-0.13	-0.13	0.65
K (IN)	0.00	-1.87	0.24	0.09
Mg (IN)	-0.18	3.71	3.16	0.88
Mn (IN)	0.13	5.79	5.64	6.70
Na (IN)	0.35	-0.02	0.29	<
P (as P) (IN)	-1.51	1.28	0.37	0.13
S (as S) (IN)	-0.31	8.92	0.61	0.37
Zn (IN)	4.05	1.89	8.23	4.39
Al (RT)	-1.72	-0.94	-	-
C - elementary (RT)	0.74	1.51	-0.07	0.31
N - elementary (RT)	0.03	-1.99	-0.81	0.72
<b>ANDREA (66)</b>				
As (IN)	2.02	-0.09	2.38	0.07
B (IN)	-0.36	-0.94	-0.41	-0.21
Ba (IN)	0.61	-0.46	-0.65	#
Cd (IN)	0.00	-0.84	-0.77	-1.78
Co (IN)	0.56	-0.26	0.55	-0.70
Cr (IN)	-0.46	-0.98	0.23	0.08
Cu (IN)	-0.87	-1.99	-1.21	-1.06
Mn (IN)	-0.41	-1.51	3.28	-1.30
Mo (IN)	1.06	-0.88	0.43	-1.40
Ni (IN)	2.35	-0.77	-0.34	-0.85
Pb (IN)	-0.07	-0.41	-2.28	-0.98
V (IN)	0.16	-0.21	0.45	#
Zn (IN)	-0.26	-1.67	-0.83	-1.77
<b>CORBANA (67)</b>				
B (IN)	0.11	0.17	0.37	0.23
Ca (IN)	-0.68	-0.28	-0.27	-0.39
Cu (IN)	-0.24	0.14	0.17	0.59
Fe (IN)	-0.86	-0.25	-0.04	-0.21
K (IN)	-0.23	-0.07	-0.02	-0.38
Mg (IN)	0.07	0.28	0.56	-0.27
Mn (IN)	0.39	0.54	1.04	0.26
P (as P) (IN)	0.04	0.24	0.49	-0.80
S (as S) (IN)	0.05	0.05	0.78	-0.92
Zn (IN)	-0.09	0.94	0.66	0.31
N - elementary (RT)	0.06	0.10	0.45	-0.44

(cont)

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Sample	124	164	166	135
<b>CORBANA (67) (cont.)</b>				
Al (AE)	-0.88	-0.80	0.34	-0.72
<b>HAMELN (68)</b>				
As (IN)	1.66	1.17	0.56	0.28
B (IN)	0.20	0.09	0.54	0.85
Ba (IN)	-1.59	-1.13	-0.31	<
Be (IN)	#	<	<	<
Bi (IN)	#	<	<	<
Ca (IN)	-0.59	-0.63	-0.05	1.52
Cd (IN)	1.00	0.71	1.29	2.91
Cl (as Cl) (IN)	-1.62	-1.34	-0.13	-0.05
Co (IN)	0.81	1.13	1.58	2.41
Cr (IN)	-0.88	-1.28	-1.44	<
Cu (IN)	-0.36	-0.29	0.19	0.73
Fe (IN)	-0.15	0.17	0.09	-0.48
Hg (IN)	-0.65	-2.38	-1.95	-1.66
K (IN)	0.42	0.03	0.66	0.61
Li (IN)	#	#	<	<
Mg (IN)	-0.96	-0.89	-0.32	0.21
Mn (IN)	-0.98	0.18	0.64	1.32
Mo (IN)	0.72	0.99	1.31	1.11
Na (IN)	-0.41	-0.51	-0.29	<
Ni (IN)	1.73	-0.02	-0.27	<
P (as P) (IN)	0.24	0.13	0.83	0.48
Pb (IN)	0.95	-0.08	0.55	-0.26
S (as S) (IN)	-0.57	-0.51	-0.32	0.15
Sb (IN)	#	#	#	#
Sr (IN)	-1.25	-1.29	-0.86	<
V (IN)	-0.72	-0.23	-0.47	<
Zn (IN)	-0.18	-0.26	-0.02	0.65
Al (AE)	-0.16	-0.23	-0.51	<
<b>FEJER (70)</b>				
As (IN)	<	<	<	<
B (IN)	0.33	0.20	0.54	0.47
Ba (IN)	0.12	0.22	0.32	#
Ca (IN)	-0.40	-0.46	0.06	0.05
Cd (IN)	0.29	-0.03	0.61	<
Co (IN)	0.08	<	<	<
Cr (IN)	-0.24	0.18	<	<
Cu (IN)	-0.03	-0.09	-0.21	-0.04
Fe (IN)	0.09	0.07	0.03	0.25
Hg (IN)	<	<	<	<
K (IN)	-0.15	0.03	-0.02	0.11
Mg (IN)	-0.27	-0.07	0.08	-0.03
Mn (IN)	0.29	0.25	0.84	0.37
Mo (IN)	-0.15	-0.20	0.07	0.68
N - Kjeldahl (as N) (IN)	0.16	-0.09	0.38	-0.06
Na (IN)	0.21	0.12	0.11	0.45
Ni (IN)	-0.20	<	0.07	<
P (as P) (IN)	0.43	-0.32	0.75	0.83
Pb (IN)	<	-0.20	<	<
S (as S) (IN)	0.21	0.05	0.19	0.26
Se (IN)	<	<	<	<
Sr (IN)	-0.08	0.11	0.57	<
V (IN)	0.13	<	<	<
Zn (IN)	0.07	0.13	0.16	-0.11
Al (AE)	0.08	-0.08	-0.10	<
<b>ANALGIR (74)</b>				
As (IN)	-0.29	0.06	-0.41	-0.61
B (IN)	-0.02	0.32	0.48	1.40
Ca (IN)	0.98	0.60	0.61	<
Cd (IN)	0.22	0.25	-0.27	<
Cr (IN)	1.05	0.44	0.90	0.34
Cu (IN)	0.51	0.07	0.30	-0.03

(cont)

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Sample	124	164	166	135
<b>ANALGIR (74) (cont.)</b>				
Fe (IN)	-0.15	0.63	0.15	-0.10
Hg (IN)	-0.07	-0.59	0.10	0.73
K (IN)	0.26	1.03	-0.37	-0.28
Mg (IN)	0.99	0.87	0.64	0.68
Mn (IN)	-0.40	0.25	0.44	-0.35
N - Kjeldahl (as N) (IN)	0.73	-1.41	-0.36	0.48
Na (IN)	<	<	<	<
Ni (IN)	0.53	0.21	0.22	0.16
P (as P) (IN)	0.33	0.24	0.66	0.83
Pb (IN)	0.05	0.81	0.74	-0.06
S (as S) (IN)	-0.42	-0.03	0.54	0.62
Zn (IN)	-0.26	-0.05	0.10	-0.53
<b>ELML (75)</b>				
Ca (IN)	1.25	1.13	1.27	-0.24
Cu (IN)	-0.89	0.41	-0.11	-2.00
Fe (IN)	-1.27	-0.39	-0.16	-0.64
K (IN)	1.07	0.98	1.01	1.20
Mg (IN)	0.42	0.52	0.64	0.49
Mn (IN)	1.55	0.22	1.83	0.74
N - Kjeldahl (as N) (IN)	0.96	0.13	0.97	1.02
N - NO3 (as N) (IN)	0.88	0.29	#	#
Na (IN)	0.21	0.23	0.43	-0.28
P (as P) (IN)	-0.06	0.35	-0.03	-0.22
Zn (IN)	-0.34	0.52	0.29	0.57
Total ash (NUT)	0.44	0.28	0.12	0.27
<b>DFAL (76)</b>				
B (IN)	0.07	0.51	-2.99	-2.19
Ca (IN)	-0.40	10.65	1.72	6.42
Cu (IN)	-0.61	-3.57	-3.37	-3.17
K (IN)	-1.29	-3.68	-1.39	-0.88
Mg (IN)	0.30	3.98	0.80	-1.22
Mn (IN)	-0.50	-0.63	-8.95	-2.66
N - Kjeldahl (as N) (IN)	0.62	-1.19	1.42	0.75
P (as P) (IN)	-0.65	-0.26	-0.63	-4.64
Zn (IN)	0.98	-0.19	-6.63	-2.63
<b>HILL (78)</b>				
B (IN)	0.07	0.28	0.42	0.11
Ca (IN)	0.52	0.42	0.61	-0.18
Cl (as Cl) (IN)	-0.61	-0.60	-0.73	-0.60
Co (IN)	-0.60	-0.75	-0.33	-0.16
Cu (IN)	-0.61	-0.69	0.20	0.69
Fe (IN)	-1.27	-1.00	-0.53	-0.14
I (IN)	#	#	#	<
K (IN)	-0.07	-0.17	-0.19	0.21
Mg (IN)	-1.53	-0.60	-0.63	-0.27
Mn (IN)	-0.77	-0.60	-0.36	0.04
Mo (IN)	-0.12	0.18	0.07	-0.30
N - NO3 (as N) (IN)	1.45	-0.77	<	<
Na (IN)	-1.02	-0.86	-0.57	-0.73
P (as P) (IN)	-0.26	0.52	0.32	0.01
S (as S) (IN)	-0.42	-0.11	-0.19	-0.21
Se (IN)	-0.06	0.70	0.27	-0.11
SO4 (as SO4) (IN)	#	#	#	#
Zn (IN)	-0.09	1.30	1.27	1.32
C - elementary (RT)	-1.16	-1.44	-1.33	-0.37
N - elementary (RT)	0.30	-0.44	1.26	1.58
Al (AE)	0.56	-0.05	4.95	<
<b>RUAKURA (79)</b>				
B (IN)	-0.62	0.09	-0.44	0.52
Ca (IN)	0.06	0.95	0.06	<
Co (IN)	-2.06	-4.32	-3.71	-1.90
Cu (IN)	0.09	0.86	-0.11	0.50

(cont)



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Sample	124	164	166	135
<b>RUAKURA (79) (cont.)</b>				
Fe (IN)	0.85	1.52	0.75	0.29
K (IN)	0.50	-0.02	-0.54	0.71
Mg (IN)	-0.38	1.63	-0.40	0.68
Mn (IN)	-0.40	0.93	0.84	1.02
Mo (IN)	0.69	2.28	1.97	-0.49
N - Kjeldahl (as N) (IN)	-0.07	-0.46	-1.11	-0.50
Na (IN)	1.81	0.86	<	<
P (as P) (IN)	0.73	2.03	0.66	0.01
S (as S) (IN)	0.52	0.77	0.42	0.50
Se (IN)	-0.33	-0.32	-0.24	-0.13
Zn (IN)	-0.67	1.66	0.22	0.48
<b>SHERAZADE (80)</b>				
C - elementary (RT)	-2.39	-2.32	-1.98	-1.62
N - elementary (RT)	-3.01	-1.18	-0.97	-1.80
<b>METLAPARKA (81)</b>				
B (IN)	0.72	0.58	0.48	0.42
Ca (IN)	0.79	0.07	-0.60	-0.61
Cu (IN)	2.18	1.41	0.96	0.90
Fe (IN)	-1.27	-0.30	-1.05	-0.73
K (IN)	0.91	0.18	1.01	0.00
Mg (IN)	-1.19	-0.89	-1.19	-0.20
Mn (IN)	-0.13	-0.14	-0.58	0.13
P (as P) (IN)	0.04	0.35	-0.11	0.13
S (as S) (IN)	0.13	0.37	-0.02	-0.21
Zn (IN)	0.15	1.87	0.72	-0.02
C - elementary (RT)	1.09	1.17	1.01	1.05
N - elementary (RT)	0.42	0.32	-0.53	-0.57
<b>HLVA (84)</b>				
As (IN)	0.57	-0.10	-0.14	0.26
B (IN)	0.03	0.51	1.00	0.45
Ca (IN)	-0.68	0.07	0.06	-0.63
Cd (IN)	0.49	1.18	0.68	-0.51
Cl (as Cl) (IN)	-0.40	-0.19	-0.63	0.03
Co (IN)	0.88	-0.46	-0.25	<
Cr (IN)	0.13	-1.57	-1.67	<
Cu (IN)	-0.28	-0.15	0.30	0.50
Fe (IN)	1.74	1.10	0.29	-0.67
Hg (IN)	0.44	0.51	0.59	-1.41
K (IN)	0.18	0.48	0.49	-0.34
Mg (IN)	-0.50	0.22	-0.24	-0.86
Mn (IN)	-0.50	0.22	-0.72	-0.47
Mo (IN)	0.05	0.17	-0.04	-0.21
N - NH4 (as N) (IN)	#	#	#	<
N - NO3 (as N) (IN)	-0.57	-0.14	#	<
Na (IN)	0.61	1.69	-0.65	<
Ni (IN)	-0.16	0.13	0.65	<
P (as P) (IN)	-1.04	-0.04	-0.37	-0.68
Pb (IN)	0.90	1.43	-0.14	-0.59
S (as S) (IN)	0.52	-0.19	0.04	-0.80
Se (IN)	-0.09	0.22	0.33	0.66
SO4 (as SO4) (IN)	#	#	#	#
Sr (IN)	0.95	0.36	0.39	<
V (IN)	0.29	0.06	0.86	<
Zn (IN)	0.24	-0.30	-0.83	-0.19
Al (RT)	1.05	0.92	#	<
C - elementary (RT)	1.20	0.26	2.06	-0.43
N - elementary (RT)	-0.07	0.21	-0.37	-0.44
<b>ELAEIS.P (85)</b>				
B (IN)	-1.88	-1.35	-1.83	-0.74
Ca (IN)	-0.50	-0.28	0.06	0.67
Cl (as Cl) (IN)	0.07	-0.60	-	-
Cu (IN)	0.77	0.28	0.73	-0.08

(cont)

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Sample	124	164	166	135
<b>ELAEIS.P (85) (cont.)</b>				
Fe (IN)	-4.05	-2.82	-0.86	8.45
K (IN)	0.99	0.78	0.15	0.71
Mg (IN)	-0.38	-0.71	0.40	3.07
Mn (IN)	-0.03	0.44	-0.16	-0.15
N - Kjeldahl (as N) (IN)	-2.68	0.49	0.68	-0.86
P (as P) (IN)	-1.04	-0.99	0.32	0.95
S (as S) (IN)	-2.60	-1.64	-0.80	-3.05
Zn (IN)	2.56	-1.12	1.40	1.75
<b>DGCCRF (87)</b>				
As (IN)	26.32	22.21	<	<
Bi (IN)	#	#	#	<
Hg (IN)	<	<	2.95	<
Pb (IN)	-7.39	-7.06	-17.23	<
<b>CIAT (90)</b>				
B (IN)	1.41	1.34	1.52	1.28
Ca (IN)	-20.30	-19.37	-16.68	-1.43
Cu (IN)	-7.18	-2.96	-2.86	-4.09
Fe (IN)	-1.57	-0.62	-0.48	-0.59
K (IN)	-20.32	-20.60	-18.44	-8.91
Mg (IN)	-18.37	-15.64	-18.38	-8.67
Mn (IN)	-1.13	-0.79	-0.76	-1.21
N - Kjeldahl (as N) (IN)	-29.67	-13.15	-18.08	-11.93
Na (IN)	112.94	124.16	33.41	7.65
P (as P) (IN)	-22.23	-21.87	-20.23	-14.65
S (as S) (IN)	-22.14	-13.25	-9.13	-12.20
Zn (IN)	-0.84	-0.65	-0.64	-0.53
C - elementary (RT)	-3.31	-3.26	-5.63	-1.79
<b>SPSSBKCH (91)</b>				
B (IN)	0.29	-0.17	0.37	-0.09
Ca (IN)	0.42	0.78	0.61	1.31
Cu (IN)	3.40	2.55	2.02	-0.97
Fe (IN)	2.69	3.80	4.25	1.99
K (IN)	0.58	1.23	0.32	0.51
Mg (IN)	-0.61	-0.01	-0.40	-0.27
Mn (IN)	-0.03	0.93	0.04	0.82
N - Kjeldahl (as N) (IN)	-0.29	-0.09	0.68	0.66
P (as P) (IN)	-0.06	-0.15	0.14	0.01
Zn (IN)	1.65	1.62	1.34	1.49
<b>ALFA (95)</b>				
Cd (IN)	<	-0.41	-0.13	<
Cr (IN)	<	<	<	<
Cu (IN)	0.33	-0.86	-3.36	-0.03
Fe (IN)	0.25	-0.58	-1.80	0.12
Mn (IN)	0.51	1.01	0.38	-0.55
N - Kjeldahl (as N) (IN)	0.16	1.44	3.50	0.75
Ni (IN)	-0.08	<	<	<
Pb (IN)	-0.27	-0.20	0.69	<
Zn (IN)	-0.21	-3.53	-0.55	-0.27
<b>BELFAST (97)</b>				
Ca (IN)	-0.04	0.78	0.28	0.44
K (IN)	0.66	1.13	0.15	-1.08
Mg (IN)	-0.61	0.40	-0.32	-0.51
P (as P) (IN)	0.83	1.24	0.83	0.25
S (as S) (IN)	0.13	0.45	0.23	0.38
N - elementary (RT)	0.67	0.32	0.28	0.50
<b>GR.FERRADE (102)</b>				
As (IN)	2.25	1.22	<	3.62
B (IN)	-1.62	-1.48	-1.99	-0.21
Ca (IN)	1.56	1.48	1.05	-
Cd (IN)	<	-2.12	-2.51	<

(cont)

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Sample	124	164	166	135
<b>GR.FERRADE (102) (cont.)</b>				
Cl (as Cl) (IN)	0.12	0.33	0.15	0.51
Co (IN)	<	<	<	<
Cr (IN)	0.54	-0.55	<	<
Cu (IN)	0.04	-0.05	0.71	1.50
Fe (IN)	1.49	1.04	0.66	1.14
Hg (IN)	0.18	-0.04	0.91	<
K (IN)	0.75	2.09	0.49	912.85
Mg (IN)	-0.04	0.11	0.16	-0.27
Mn (IN)	-0.03	0.12	0.06	0.29
Mo (IN)	<	0.16	<	0.47
N - NO3 (as N) (IN)	1.83	0.54	<	<
Na (IN)	1.81	2.16	2.35	0.33
Ni (IN)	3.44	-0.62	-1.27	<
P (as P) (IN)	-0.16	0.46	0.14	-0.45
Pb (IN)	-1.22	1.09	-0.04	<
S (as S) (IN)	0.36	-0.03	-0.07	0.26
Se (IN)	<	<	<	<
SO4 (as SO4) (IN)	#	#	#	-
Zn (IN)	-0.55	-0.48	-0.52	0.17
Al (RT)	0.22	0.52	#	<
C - elementary (RT)	0.66	0.26	0.62	0.76
N - elementary (RT)	-0.80	-0.44	-0.21	-0.30
<b>EKOM (103)</b>				
Ca (IN)	0.04	0.14	0.25	<
Cr (IN)	-0.28	0.89	<	<
Cu (IN)	-0.05	-0.05	-0.23	-0.48
Fe (IN)	-0.21	-0.02	0.21	0.14
Hg (IN)	0.35	-0.04	-0.07	1.03
K (IN)	-0.15	-0.27	-0.37	<
Mg (IN)	0.07	0.99	-0.16	-0.03
Mn (IN)	-0.45	-0.17	0.04	-0.33
N - Kjeldahl (as N) (IN)	-0.52	-0.46	0.82	-0.32
Na (IN)	<	<	<	<
P (as P) (IN)	-0.16	-0.66	-0.63	0.01
Zn (IN)	-0.18	-0.09	-0.27	-0.53
<b>WROCLAW (104)</b>				
As (IN)	-0.49	-0.19	-0.03	-0.55
Ca (IN)	-0.27	-0.51	-0.48	<
Cd (IN)	0.29	0.15	0.08	0.03
Cr (IN)	0.02	1.08	0.41	0.16
Cu (IN)	0.09	-0.34	-0.72	-0.18
Fe (IN)	-0.03	-0.11	0.34	0.12
Hg (IN)	0.13	0.24	-0.15	0.21
K (IN)	0.10	0.00	-0.23	<
Mg (IN)	0.76	0.46	-1.19	0.21
Mn (IN)	0.13	-0.70	-0.16	-0.46
N - Kjeldahl (as N) (IN)	-0.48	0.11	0.38	0.03
Na (IN)	0.18	0.58	<	<
Ni (IN)	0.02	-0.12	0.17	0.45
P (as P) (IN)	0.14	-0.49	-2.01	0.01
Pb (IN)	0.20	-0.43	0.00	0.30
Zn (IN)	0.15	-0.16	-0.08	-0.28
<b>LAROL (105)</b>				
Ca (IN)	-0.68	-0.11	0.06	<
Hg (IN)	-0.07	0.10	0.59	0.83
K (IN)	-0.07	-0.17	-0.19	<
Mg (IN)	-0.38	0.46	0.00	-1.70
N - Kjeldahl (as N) (IN)	0.16	0.02	-0.51	-0.24
Na (IN)	-0.04	0.00	<	<
P (as P) (IN)	-0.26	-0.77	-0.20	0.01

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Sample	124	164	166	135
<b>974BRET (107)</b>				
B (IN)	-3.43	0.70	0.02	-0.40
Ca (IN)	1.34	1.13	0.39	-0.39
Cu (IN)	1.73	1.29	0.85	-0.51
Fe (IN)	0.44	0.26	-0.07	0.14
K (IN)	1.32	1.13	1.35	0.81
Mg (IN)	0.76	0.58	0.40	-0.03
Mn (IN)	1.39	1.03	0.04	0.51
P (as P) (IN)	2.50	1.75	2.04	1.64
Zn (IN)	0.15	0.52	-0.76	-0.02
N - elementary (RT)	0.06	-0.22	-1.03	-0.03
Total ash (NUT)	0.31	3.26	1.31	0.06
<b>HWASL94 (112)</b>				
B (IN)	0.55	0.43	-0.10	-
Ca (IN)	-0.77	-0.63	-0.82	-
Cu (IN)	-0.38	0.24	-0.14	-
Fe (IN)	0.61	0.96	-0.20	-
K (IN)	1.23	0.83	0.66	-
Mg (IN)	-0.38	-0.25	-0.63	-
Mn (IN)	0.23	0.35	-0.03	-
Na (IN)	0.15	-0.19	0.24	-
P (as P) (IN)	-0.06	-0.21	-0.59	-
S (as S) (IN)	0.13	0.05	-0.32	-
Zn (IN)	-0.67	0.66	-0.52	-
N - elementary (RT)	0.67	1.18	1.43	-
<b>POVLT (115)</b>				
As (IN)	0.04	-1.05	-0.71	0.19
B (IN)	0.07	-0.30	-0.75	<
Ca (IN)	-0.50	-1.69	-1.15	<
Cd (IN)	<	-0.41	2.00	<
Cl (as Cl) (IN)	1.31	-0.38	<	<
Cu (IN)	0.16	0.53	-0.14	-0.51
Fe (IN)	1.33	0.73	0.31	-0.01
Hg (IN)	1.81	1.24	-0.31	<
K (IN)	-0.72	0.18	0.15	-1.67
Mg (IN)	-1.30	-0.71	-1.19	-1.22
Mn (IN)	0.65	0.54	-0.16	-0.92
N - Kjeldahl (as N) (IN)	-1.43	-1.17	-0.82	-0.60
N - NO3 (as N) (IN)	-0.27	-2.75	<	<
Na (IN)	-0.56	-0.46	<	<
Ni (IN)	-2.15	-1.45	-1.03	<
P (as P) (IN)	-0.75	0.35	-1.06	-0.68
Pb (IN)	-1.64	-1.28	-0.02	<
Zn (IN)	-2.41	-2.61	-2.31	-0.76
N - elementary (RT)	-1.66	-0.54	0.61	0.23
<b>LAPANDAY (118)</b>				
B (IN)	0.72	0.51	0.31	-0.61
Ca (IN)	-2.89	-1.16	-0.38	0.88
Cl (as Cl) (IN)	1.34	2.87	3.56	11.41
Cu (IN)	1.73	-4.65	-0.88	0.12
Fe (IN)	0.50	0.17	-0.13	1.27
K (IN)	-1.37	1.08	-0.71	-0.68
Mg (IN)	-3.94	-2.06	-2.39	-3.60
Mn (IN)	-3.03	-0.70	-0.56	-0.94
N - Kjeldahl (as N) (IN)	1.30	-0.77	0.97	0.57
Na (IN)	-1.98	-2.20	0.14	0.29
P (as P) (IN)	1.81	-4.18	-0.80	-0.10
S (as S) (IN)	-1.90	-1.00	-1.66	-5.54
Zn (IN)	-0.67	-2.25	-1.63	0.48
<b>MSIRI (121)</b>				
Ca (IN)	-0.40	-2.05	-3.68	-0.88
K (IN)	-0.39	-0.82	-0.54	0.66
Mg (IN)	-0.50	-0.95	-0.55	-3.13

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>MSIRI (121) (cont.)</b>				
N - Kjeldahl (as N) (IN)	0.05	1.23	0.08	-0.68
P (as P) (IN)	0.73	0.13	0.92	1.06
S (as S) (IN)	-0.65	-2.84	-3.82	-4.43
<b>AALI (122)</b>				
B (IN)	-2.14	0.92	2.16	-1.02
Ca (IN)	0.89	-0.25	-0.10	3.22
Cl (as Cl) (IN)	10.56	11.41	13.38	11.69
Cu (IN)	-1.32	-1.72	-1.49	-0.82
Fe (IN)	2.72	3.41	6.49	3.85
K (IN)	0.58	-5.89	-0.26	-0.09
Mg (IN)	-0.50	-0.19	-0.71	0.68
Mn (IN)	25.42	16.77	18.34	25.40
N - Kjeldahl (as N) (IN)	4.16	1.28	4.17	-1.56
P (as P) (IN)	-2.03	2.81	0.83	2.23
S (as S) (IN)	3.56	4.46	1.40	4.53
Zn (IN)	0.40	0.98	1.83	-0.86
<b>GEOBOTINST (123)</b>				
Ca (IN)	-0.59	-0.83	-0.78	0.03
K (IN)	-0.88	-0.23	-1.03	-0.29
Mg (IN)	-0.61	-1.12	-0.32	346.44
N - Kjeldahl (as N) (IN)	0.84	0.55	1.27	0.66
P (as P) (IN)	-0.16	-0.77	-1.06	0.01
C - elementary (RT)	0.34	0.13	0.36	1.22
N - elementary (RT)	0.06	-1.62	-0.70	-0.71
<b>LPPAM (124)</b>				
Total ash (NUT)	-0.07	-0.27	0.19	-0.84
<b>JASZ (128)</b>				
As (IN)	<	<	<	<
B (IN)	0.46	-0.25	0.02	0.35
Ca (IN)	0.15	-0.28	0.17	-0.18
Cd (IN)	<	0.39	<	<
Co (IN)	<	<	<	<
Cr (IN)	<	<	<	<
Cu (IN)	-0.10	0.09	0.00	0.14
Fe (IN)	-0.15	0.26	-0.13	0.37
K (IN)	0.34	0.33	0.32	-0.09
Mg (IN)	0.07	0.22	0.24	-0.03
Mn (IN)	0.39	0.09	0.64	0.27
Mo (IN)	<	-0.50	<	0.62
Na (IN)	-0.01	-0.14	-0.19	<
Ni (IN)	<	<	<	<
P (as P) (IN)	-0.26	0.13	0.06	0.25
Pb (IN)	<	<	<	<
S (as S) (IN)	-0.11	-0.03	0.05	0.15
Se (IN)	<	<	<	<
Zn (IN)	0.15	-0.12	0.04	-0.02
Al (AE)	-0.36	-0.44	-0.61	<
<b>GGM (129)</b>				
B (IN)	10.58	2.44	2.74	<
Ca (IN)	2.26	-1.34	0.72	<
Co (IN)	-1.15	-1.53	-0.80	<
Cu (IN)	-1.11	-1.21	-0.11	-0.82
Fe (IN)	0.20	-1.28	0.03	<
K (IN)	-1.53	-0.12	-0.37	<
Mg (IN)	0.19	-0.42	-0.08	-0.03
Mn (IN)	0.44	-0.86	-0.08	1.16
Mo (IN)	-0.88	-2.47	-0.64	-1.72
N - Kjeldahl (as N) (IN)	-2.91	-1.73	-1.06	-1.45
Na (IN)	<	<	<	<
P (as P) (IN)	0.19	-0.82	0.14	0.53
S (as S) (IN)	-0.26	0.77	0.42	6.66

(cont)

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Sample	124	164	166	135
<b>GGM (129) (cont.)</b>				
Se (IN)	-0.33	<	<	<
Zn (IN)	0.15	-0.48	-0.39	103.22
<b>SASEXFAS (130)</b>				
Ca (IN)	-1.69	1.13	-2.91	7.05
Cu (IN)	1.94	1.57	1.94	1.10
Fe (IN)	-0.39	0.35	3.96	5.09
K (IN)	-0.31	-0.27	1.01	1.70
Mg (IN)	-0.38	-0.71	-0.40	-1.70
Mn (IN)	1.44	0.61	1.04	-0.64
N - Kjeldahl (as N) (IN)	-1.09	1.60	-2.74	-1.22
P (as P) (IN)	0.73	0.35	-1.06	-1.15
S (as S) (IN)	-5.72	-3.24	1.64	-1.87
Zn (IN)	1.40	0.77	1.46	0.06
<b>XGCALAFIGA (133)</b>				
B (IN)	-0.58	-0.82	-1.48	-1.50
Ca (IN)	-0.77	-0.33	-0.25	-0.44
Fe (IN)	-0.39	-0.86	0.25	-0.12
K (IN)	0.29	0.38	0.15	0.31
Mg (IN)	-0.15	-0.13	-0.08	-0.03
Mn (IN)	-0.71	-0.72	-0.76	-0.09
P (as P) (IN)	-0.26	-0.10	-0.37	-1.03
S (as S) (IN)	-0.73	-0.51	-0.56	-0.68
Zn (IN)	-1.42	-1.22	-1.75	-0.44
N - elementary (RT)	0.39	1.22	0.61	0.32
<b>ICUPROF (134)</b>				
Cd (IN)	0.13	-0.21	-1.05	-0.22
Cl (as Cl) (IN)	-0.37	-0.52	0.56	-0.69
Co (IN)	0.19	0.89	4.73	1.34
Cr (IN)	2.96	2.20	2.40	1.78
Cu (IN)	-2.07	-1.84	-0.95	0.07
Mo (IN)	-0.04	-0.54	0.23	0.10
Pb (IN)	-1.88	-2.06	-2.08	-0.69
Zn (IN)	-0.62	1.57	-1.13	0.22
N - elementary (RT)	0.98	0.72	0.48	0.37
<b>LUNUWILA (135)</b>				
Ca (IN)	0.82	1.48	3.40	4.42
Cu (IN)	-0.19	0.67	0.68	0.29
Fe (IN)	-1.85	0.09	2.97	6.24
K (IN)	-0.38	-0.16	-0.52	-2.95
Mg (IN)	-1.99	-2.00	-1.19	-0.77
Mn (IN)	-2.01	-0.93	-0.81	-1.21
N - Kjeldahl (as N) (IN)	-0.40	-0.61	-1.49	-0.90
Na (IN)	-5.29	-0.59	4.98	3.03
P (as P) (IN)	0.94	0.72	1.47	0.10
Zn (IN)	-1.30	-0.64	0.48	0.10
<b>WELE-136 (136)</b>				
B (IN)	2.02	0.77	0.03	0.72
Ba (IN)	-1.82	-0.18	-0.91	#
Be (IN)	#	#	#	#
Ca (IN)	-0.16	-0.92	-1.05	-0.82
Cd (IN)	-0.16	0.25	-0.09	0.03
Co (IN)	-0.76	-0.63	-0.20	-0.43
Cr (IN)	-3.49	-1.36	-1.82	-1.28
Cu (IN)	-0.43	-0.10	0.06	0.05
Fe (IN)	0.44	1.01	0.45	-0.69
I (IN)	#	#	#	#
K (IN)	-2.53	-2.02	1.14	-1.22
Mg (IN)	-0.84	-0.77	-0.95	-0.15
Mn (IN)	0.13	-1.09	-0.28	0.46
Mo (IN)	0.22	0.07	-0.29	0.26
Na (IN)	-0.16	-0.32	-0.44	-0.63

(cont)

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Sample	124	164	166	135
<b>WELE-136 (136) (cont.)</b>				
Ni (IN)	2.59	2.69	0.50	-0.99
P (as P) (IN)	-0.40	-0.54	-0.86	-0.99
Pb (IN)	-0.68	-0.80	-1.57	-0.30
S (as S) (IN)	0.91	0.87	0.72	1.50
Sr (IN)	-0.78	-0.61	-0.72	#
V (IN)	-2.00	-0.70	-1.03	#
Zn (IN)	-2.41	-1.76	-1.81	-0.77
Al (AE)	0.62	0.67	-0.59	-0.81
Si (AE)	#	#	#	#
<b>BUNASOLS (139)</b>				
B (IN)	65.14	38.48	46.15	44.63
Ca (IN)	-11.81	-0.09	-8.80	-0.18
Cl (as Cl) (IN)	-2.50	-5.41	0.24	0.51
Cu (IN)	2.15	1.69	4.13	10.45
Fe (IN)	-10.18	-5.66	-3.84	-0.50
K (IN)	-11.12	-10.67	-7.58	106.89
Mg (IN)	1.45	3.21	2.40	0.21
Mn (IN)	-3.82	-0.46	-3.03	5.94
N - Kjeldahl (as N) (IN)	4.51	4.16	5.07	2.55
Na (IN)	-5.71	-4.91	1.19	1.75
P (as P) (IN)	-2.22	-1.27	-2.01	2.58
S (as S) (IN)	14.48	11.93	17.40	30.96
Zn (IN)	2.93	16.52	8.52	-10.15
<b>VAS (141)</b>				
As (IN)	<	<	<	<
B (IN)	-0.28	-0.36	-0.27	0.64
Ca (IN)	0.33	0.07	-0.05	0.46
Cd (IN)	<	0.85	<	<
Co (IN)	-0.33	<	<	<
Cr (IN)	<	<	<	<
Cu (IN)	0.23	0.02	0.36	0.16
Fe (IN)	-0.03	0.35	0.25	0.35
Hg (IN)	<	<	<	<
K (IN)	-0.23	-0.52	0.15	0.21
Mg (IN)	-0.84	-0.71	-0.79	0.21
Mn (IN)	-0.29	-0.11	-0.16	0.01
Mo (IN)	<	<	<	<
Na (IN)	-0.07	-0.23	0.15	0.45
Ni (IN)	-0.69	<	0.22	<
P (as P) (IN)	-0.65	-0.66	-0.29	-0.57
Pb (IN)	<	-0.98	<	<
S (as S) (IN)	0.67	0.37	0.42	0.50
Se (IN)	<	<	<	<
Zn (IN)	-0.18	0.13	-0.52	-0.02
Al (AE)	-0.14	-0.11	-2.23	1.31
<b>GPM-GROUP (143)</b>				
Ca (IN)	-0.13	-0.11	1.83	-0.18
Cu (IN)	0.56	0.00	-1.49	0.31
Fe (IN)	0.26	0.03	-1.30	0.71
K (IN)	0.34	-0.17	-2.08	1.50
Mg (IN)	0.42	0.17	0.08	0.45
Mn (IN)	0.13	0.22	0.04	0.24
N - Kjeldahl (as N) (IN)	0.50	-0.09	-0.96	-0.15
Na (IN)	0.18	-6.07	-0.03	0.58
P (as P) (IN)	0.14	-0.15	-1.15	0.01
Zn (IN)	0.40	-0.12	-0.52	-0.28
<b>NELTROPIKA (145)</b>				
Ca (IN)	-1.87	-1.69	-1.04	0.67
Cu (IN)	3.14	1.72	1.90	1.63
Fe (IN)	0.09	0.03	1.48	1.46
K (IN)	0.91	1.18	0.32	-0.28
Mg (IN)	0.88	0.17	0.80	-0.03

(cont)

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Sample	124	164	166	135
<b>NELTROPIKA (145) (cont.)</b>				
Mn (IN)	0.65	0.28	0.04	-1.53
N - Kjeldahl (as N) (IN)	-0.63	-0.19	-2.44	-1.85
Na (IN)	3.66	2.99	4.10	3.62
P (as P) (IN)	0.43	0.96	0.83	1.06
S (as S) (IN)	-1.90	-1.80	-2.15	-4.48
Zn (IN)	1.89	0.06	1.71	2.00
<b>P-2000R (149)</b>				
Ca (IN)	1.07	41.69	-5.78	36.84
Cu (IN)	0.02	0.72	0.22	-0.23
Fe (IN)	0.14	-0.07	-0.06	-0.16
K (IN)	-0.96	1.18	-0.19	1.70
Mg (IN)	-1.99	-0.01	-1.59	0.45
Mn (IN)	0.13	0.80	0.64	-1.73
N - Kjeldahl (as N) (IN)	-0.97	-0.19	-0.22	-0.77
Na (IN)	-1.61	-1.95	0.95	-0.26
P (as P) (IN)	0.63	-1.33	-0.37	-1.03
Zn (IN)	0.15	0.34	0.41	-1.20
<b>KGZMB-P (150)</b>				
Cd (IN)	3.92	4.12	3.56	<
N - Kjeldahl (as N) (IN)	0.27	-0.09	0.08	-0.32
Total ash (NUT)	-1.12	-0.85	-1.27	0.11
<b>KAOS (157)</b>				
As (IN)	-0.46	-0.19	0.95	0.59
Ca (IN)	0.88	1.27	0.54	-0.39
Cd (IN)	5.48	3.93	3.21	<
Fe (IN)	2.66	2.40	1.36	-0.75
Hg (IN)	<	<	-0.39	<
K (IN)	1.62	1.33	1.78	1.70
Mg (IN)	1.57	1.28	1.28	1.16
Na (IN)	0.18	0.23	-	-
P (as P) (IN)	1.27	1.58	1.35	2.34
Pb (IN)	0.77	0.91	-	<
S (as S) (IN)	1.26	0.69	0.78	1.81
Se (IN)	-1.14	<	<	<
Zn (IN)	3.02	2.30	1.64	2.72
<b>IRRI (158)</b>				
As (IN)	16.20	9.00	141.06	24.92
B (IN)	2.36	1.68	1.76	0.72
Ca (IN)	-0.86	-0.99	-0.38	-0.61
Cd (IN)	-3.69	-0.97	-6.24	-
Co (IN)	0.91	-1.14	1.80	0.82
Cr (IN)	-4.92	-1.80	-0.34	-
Cu (IN)	-1.86	-0.40	-0.63	-0.23
Fe (IN)	1.56	-0.11	-0.01	-0.70
K (IN)	-1.21	-0.82	-0.71	-0.28
Mg (IN)	-1.30	-0.48	-0.55	-0.03
Mn (IN)	0.34	-0.04	0.24	0.06
Mo (IN)	-2.09	-0.97	-4.06	-1.33
N - Kjeldahl (as N) (IN)	-2.22	0.28	-1.40	-0.77
Na (IN)	-0.75	-0.81	-0.50	-0.82
Ni (IN)	-0.69	-0.70	-1.82	-0.79
P (as P) (IN)	-0.85	-1.05	-0.80	-0.68
Pb (IN)	4.89	-0.27	6.91	-
S (as S) (IN)	-0.18	-0.59	-0.44	-1.16
Se (IN)	19.64	15.58	101.10	33.56
Sr (IN)	-0.88	-0.82	-0.46	#
V (IN)	-10.02	-	-	-
Zn (IN)	-1.09	-0.83	-0.39	-0.11
Al (RT)	-1.90	-0.95	#	#
C - elementary (RT)	-0.52	-0.66	2.32	-1.05
N - elementary (RT)	3.86	-0.11	2.08	-0.44



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Sample	124	164	166	135
<b>ANALRESLAB (159)</b>				
B (IN)	-1.18	-0.78	-0.56	-0.03
Ca (IN)	-0.50	-0.81	-0.38	<
Cl (as Cl) (IN)	-1.49	-0.97	-0.53	-0.32
Co (IN)	-0.26	0.33	-0.11	-0.54
Cu (IN)	-0.85	-0.86	-0.57	-0.53
Fe (IN)	-0.51	0.12	-0.19	-0.98
I (IN)	#	#	#	#
K (IN)	-2.43	-1.87	-2.78	0.71
Mg (IN)	-1.99	-1.48	-1.59	-2.17
Mn (IN)	-0.71	-0.63	-0.16	-0.55
Mo (IN)	-0.32	-0.55	-0.80	-0.31
N - NO3 (as N) (IN)	-0.80	-2.86	#	#
Na (IN)	-0.01	0.16	-0.29	-0.58
P (as P) (IN)	-0.35	-0.21	-0.03	-0.22
S (as S) (IN)	-2.37	-1.56	-1.17	-1.63
Se (IN)	-0.25	-0.32	0.01	-0.50
Zn (IN)	-1.59	-1.68	-1.44	-0.61
C - elementary (RT)	-1.38	-1.83	-1.20	-1.28
N - elementary (RT)	-0.19	-0.33	-0.04	-0.98
Al (AE)	0.64	0.34	0.08	-0.82
<b>JV (160)</b>				
B (IN)	0.85	1.11	1.76	1.39
Ca (IN)	-5.65	-1.69	-4.46	0.67
Cl (as Cl) (IN)	0.07	0.89	0.83	1.52
Cu (IN)	-1.41	-1.72	-2.11	-4.95
Fe (IN)	-3.64	-2.86	-1.74	1.59
K (IN)	-1.73	-1.62	0.49	0.21
Mg (IN)	-3.25	-5.11	-6.38	0.68
Mn (IN)	-4.97	-2.88	-4.29	-1.04
N - Kjeldahl (as N) (IN)	-2.85	0.76	0.53	-1.04
N - NO3 (as N) (IN)	-0.45	-15.59	#	#
Na (IN)	43.28	42.29	36.92	11.09
P (as P) (IN)	7.32	-2.56	-1.15	-1.38
Zn (IN)	0.82	-3.39	-3.73	1.49
<b>IRNASE (164)</b>				
B (IN)	-1.09	-0.95	-0.95	-0.10
Ba (IN)	-0.98	-0.05	0.78	<
Ca (IN)	-2.42	-2.84	-2.53	<
Cu (IN)	-0.82	-1.19	-1.43	-2.17
Fe (IN)	-2.27	-2.31	-1.58	-0.77
K (IN)	-1.23	-1.74	-1.27	<
Mg (IN)	-2.79	-2.06	-2.07	-2.89
Mn (IN)	-1.29	-0.63	-1.08	0.16
N - Kjeldahl (as N) (IN)	0.64	-0.12	-0.96	0.81
Na (IN)	1.92	2.22	3.19	2.22
Ni (IN)	-1.64	-2.63	-3.43	<
P (as P) (IN)	-2.91	-3.17	-2.70	-1.85
S (as S) (IN)	-4.79	-2.92	-1.54	-3.41
Sr (IN)	0.80	0.94	0.88	<
Zn (IN)	-0.76	-0.23	-0.76	0.15
Al (AE)	-1.08	-1.31	-6.20	<
<b>SYNERS (166)</b>				
B (IN)	-2.70	-0.44	-1.07	1.59
Ca (IN)	455.64	519.36	421.53	66.97
Cl (as Cl) (IN)	271.07	466.11	216.57	206.35
Cu (IN)	0.50	-0.10	-0.19	1.66
Fe (IN)	-4.66	-4.31	-2.56	1.55
K (IN)	502.97	564.02	499.63	226.40
Mg (IN)	723.16	636.43	751.11	304.65
Mn (IN)	-0.92	-1.32	0.74	-1.60
Mo (IN)	-1.21	-3.11	-0.60	-4.55
Na (IN)	-5.64	-6.11	-1.73	-
P (as P) (IN)	675.01	697.22	642.73	420.71

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>SYNERS (166) (cont.)</b>				
S (as S) (IN)	602.86	322.05	226.39	278.13
Zn (IN)	-1.81	-1.81	-1.49	-0.83
N - elementary (RT)	2380.22	2225.27	1470.74	1252.82
<b>130 (169)</b>				
Ca (IN)	-	-0.81	-3.02	-
Cu (IN)	-0.61	-0.12	-0.52	-1.38
Fe (IN)	-1.81	-0.95	1.92	-0.20
Hg (IN)	-1.89	0.38	-2.93	-
K (IN)	-1.45	-0.92	3.23	0.61
Mg (IN)	0.76	1.63	1.20	0.68
Mn (IN)	0.15	-0.40	-2.41	-1.38
N - Kjeldahl (as N) (IN)	-2.34	-0.40	-0.22	-0.95
Ni (IN)	0.53	-0.34	0.12	-
P (as P) (IN)	-1.24	-0.21	-1.06	0.01
Pb (IN)	0.54	0.87	0.25	0.23
Zn (IN)	0.18	0.52	0.66	-1.54
<b>Platina222 (170)</b>				
B (IN)	0.72	0.02	0.37	0.04
Ca (IN)	0.70	-0.11	0.06	7.05
Cu (IN)	2.44	0.26	0.51	-2.23
Fe (IN)	-1.45	-0.95	-0.57	4.21
K (IN)	0.18	0.78	1.18	1.10
Mg (IN)	1.91	-0.25	-0.55	1.40
Mn (IN)	-0.92	-1.02	-0.46	0.83
N - Kjeldahl (as N) (IN)	0.05	-1.25	-0.07	-0.15
Na (IN)	-0.47	-0.37	-0.11	-0.48
P (as P) (IN)	-0.45	-0.77	-0.11	0.36
Zn (IN)	0.57	-0.12	-0.08	-0.78
<b>BVO95MBPD (171)</b>				
B (IN)	0.59	0.85	0.42	1.04
Ca (IN)	1.34	0.42	0.28	<
Cu (IN)	-0.97	-0.69	0.43	2.14
Fe (IN)	-0.21	-0.95	0.09	2.38
K (IN)	-1.29	-2.27	-1.22	-1.38
Mg (IN)	0.53	0.28	0.56	-0.03
Mn (IN)	-1.50	-1.25	-1.50	-0.32
N - Kjeldahl (as N) (IN)	0.39	-0.03	-0.07	0.12
P (as P) (IN)	1.32	0.74	0.66	0.48
Zn (IN)	-1.09	-1.05	-0.46	0.31
<b>IRS (173)</b>				
K (IN)	1.07	1.28	0.83	0.21
Na (IN)	4.36	5.42	11.97	0.60
<b>SKRA (176)</b>				
As (IN)	-0.19	-0.06	0.19	-0.56
Ca (IN)	<	-0.11	-0.16	<
Cd (IN)	<	0.39	0.01	<
Cr (IN)	0.13	0.31	<	<
Cu (IN)	0.09	0.04	0.03	-0.04
Fe (IN)	0.26	0.40	0.34	0.19
Hg (IN)	-0.07	0.42	0.37	0.40
K (IN)	-0.31	-0.67	0.66	<
Mg (IN)	-0.38	-0.13	-0.40	<
Mn (IN)	0.34	-0.01	0.44	0.24
N - Kjeldahl (as N) (IN)	-0.18	-0.03	0.38	0.48
Na (IN)	-0.44	0.12	<	<
Ni (IN)	0.04	-0.01	0.22	<
P (as P) (IN)	-0.26	-0.21	-0.20	0.01
Pb (IN)	0.05	0.25	-0.24	<
Zn (IN)	0.24	0.16	0.29	-0.11

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Sample	124	164	166	135
<b>SPNDTKLABP (177)</b>				
Ca (IN)	0.15	-0.63	-0.71	-0.61
Cu (IN)	-9.98	-13.25	-10.11	-5.51
Fe (IN)	-2.34	-2.44	-2.98	1.17
K (IN)	1.72	-0.62	1.01	1.00
Mg (IN)	-2.56	-1.54	-1.27	-0.27
Mn (IN)	-3.55	-2.33	-3.35	-1.69
N - Kjeldahl (as N) (IN)	-0.07	-11.81	3.35	3.36
Na (IN)	-5.97	-6.36	-1.79	-1.02
Zn (IN)	1.81	1.30	1.46	1.32
<b>UMEG-GB3 (180)</b>				
Hg (IN)	-1.64	-1.30	-0.44	0.13
<b>CHKS (184)</b>				
Ca (IN)	0.15	1.13	0.94	<
Cd (IN)	<	-0.55	<	<
Cr (IN)	<	<	<	<
Cu (IN)	-0.17	-0.03	-0.52	-0.40
Fe (IN)	0.44	-0.21	-0.34	0.34
Hg (IN)	-0.26	-0.86	-0.97	-0.66
K (IN)	0.10	0.08	-0.37	<
Mg (IN)	0.19	0.58	1.20	<
Mn (IN)	-0.13	-0.96	0.04	-0.20
N - Kjeldahl (as N) (IN)	0.50	-0.67	-0.22	-0.32
Ni (IN)	<	<	<	<
P (as P) (IN)	0.73	0.07	-1.06	0.60
Pb (IN)	<	0.70	<	<
Zn (IN)	-0.59	-0.23	0.53	-0.61
<b>JYUIER (185)</b>				
As (IN)	2.32	1.50	1.87	1.30
B (IN)	-0.67	-0.93	-0.67	-0.08
Be (IN)	<	<	<	<
Ca (IN)	0.70	0.42	0.61	-0.58
Cd (IN)	0.14	1.18	0.81	<
Co (IN)	0.22	0.33	0.95	<
Cr (IN)	1.97	-0.29	2.01	-0.67
Cu (IN)	-0.21	0.71	0.14	0.05
Fe (IN)	-0.15	-1.42	-1.11	0.07
Hg (IN)	9.59	<	<	<
K (IN)	0.34	-0.12	-0.02	0.32
Mg (IN)	0.07	-0.36	-0.08	0.28
Mn (IN)	0.71	0.09	0.24	0.48
Mo (IN)	0.07	0.32	-0.76	0.37
Na (IN)	-0.10	-0.07	-0.39	<
Ni (IN)	0.41	1.02	0.51	<
P (as P) (IN)	-0.85	-2.11	-1.41	-0.92
Pb (IN)	-0.13	-0.20	0.00	<
S (as S) (IN)	-0.65	-1.24	-1.04	-0.75
Sb (IN)	<	<	#	<
Se (IN)	0.29	<	<	<
Sr (IN)	-0.32	0.36	1.69	<
Ti (IN)	#	#	#	#
V (IN)	0.03	0.04	-0.09	<
Zn (IN)	0.65	0.87	0.84	0.74
Al (RT)	-1.85	-1.23	#	<
C - elementary (RT)	1.09	0.65	0.62	0.76
N - elementary (RT)	4.60	1.18	-0.86	-0.57
13C (OD)	#	#	#	#
15N (OD)	#	#	#	#
<b>IPULAB (186)</b>				
B (IN)	0.14	0.43	0.73	1.21
Ba (IN)	-0.48	-0.45	0.13	<
Ca (IN)	-0.65	-0.23	-0.03	<
Cu (IN)	-0.68	0.57	0.02	0.37

(cont)

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Sample	124	164	166	135
<b>IPULAB (186) (cont.)</b>				
Fe (IN)	0.21	-0.33	0.32	<
K (IN)	-0.58	-0.28	0.23	0.01
Mg (IN)	-0.73	-0.25	0.00	-0.27
Mn (IN)	0.67	0.56	0.12	3.45
Mo (IN)	<	1.18	<	<
N - Kjeldahl (as N) (IN)	-0.60	0.77	-0.71	-0.17
N - NO3 (as N) (IN)	-0.15	-0.04	<	<
Na (IN)	-0.63	-0.50	<	<
P (as P) (IN)	0.43	1.08	1.35	0.48
S (as S) (IN)	0.05	0.13	0.05	0.38
Zn (IN)	1.53	1.24	1.40	1.55
Al (AE)	0.45	-0.06	0.14	<
<b>PERTH (187)</b>				
B (IN)	0.24	0.20	0.19	0.04
Ca (IN)	0.70	0.42	0.39	<
Cl (as Cl) (IN)	0.17	0.52	-0.44	0.32
Cu (IN)	0.56	0.31	0.68	0.93
Fe (IN)	1.86	1.38	1.87	0.32
K (IN)	1.56	1.13	1.01	0.90
Mg (IN)	1.34	0.58	1.12	0.68
Mn (IN)	2.07	1.36	2.43	1.42
N - Kjeldahl (as N) (IN)	0.84	1.76	1.27	0.93
Na (IN)	0.76	1.16	<	<
P (as P) (IN)	1.91	1.97	1.96	0.71
S (as S) (IN)	0.99	0.21	-0.07	0.15
Zn (IN)	0.15	0.77	1.09	0.48
N - elementary (RT)	0.67	1.40	0.77	0.37
<b>GDAGRO (188)</b>				
B (IN)	0.07	-0.29	-0.10	-0.15
K (IN)	0.50	0.03	0.66	-0.28
Mg (IN)	-0.38	0.05	-0.08	<
N - Kjeldahl (as N) (IN)	-0.29	0.65	0.23	-0.15
P (as P) (IN)	-0.55	-0.43	-0.37	0.01
<b>SAINTE-FOY (190)</b>				
B (IN)	<	<	<	<
Ca (IN)	0.68	0.46	0.57	0.03
Cu (IN)	<	<	<	<
Fe (IN)	2.21	1.66	3.82	<
K (IN)	1.16	0.76	0.73	0.61
Mg (IN)	0.65	0.40	0.80	0.45
Mn (IN)	0.65	-0.37	1.44	<
N - Kjeldahl (as N) (IN)	0.47	-1.09	-0.26	0.21
Na (IN)	<	0.02	<	<
P (as P) (IN)	1.22	0.74	1.01	1.53
Zn (IN)	0.15	0.59	1.46	<
C - elementary (RT)	0.66	0.52	0.62	1.05
Al (AE)	2.95	1.82	<	<
<b>SCHRG (191)</b>				
B (IN)	-4.69	-1.12	-0.39	3.68
Ca (IN)	-1.78	-0.46	-1.81	<
Cd (IN)	15.83	-1.34	10.24	17.65
Cu (IN)	3.61	1.29	-0.41	-0.82
Fe (IN)	-0.33	-0.62	-2.00	1.27
K (IN)	-0.55	0.08	-0.37	<
Mg (IN)	1.34	1.16	1.44	-1.70
Mn (IN)	-0.13	0.57	-0.20	-0.15
N - Kjeldahl (as N) (IN)	-1.43	1.29	3.79	0.48
Na (IN)	0.02	0.19	0.23	0.19
Ni (IN)	6.59	-2.67	2.19	1.89
P (as P) (IN)	-1.44	-2.11	-1.67	0.13
Pb (IN)	9.19	1.49	1.73	<
Zn (IN)	-0.01	-2.47	-0.70	-2.21

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Sample	124	164	166	135
<b>LABRES (195)</b>				
As (IN)	0.14	-0.06	-0.05	-0.47
Ca (IN)	-0.04	1.48	0.39	<
Cd (IN)	<	0.15	-0.13	<
Cr (IN)	0.13	0.24	<	<
Cu (IN)	0.33	-0.03	-0.11	-0.25
Fe (IN)	0.50	0.07	0.25	0.12
Hg (IN)	0.13	1.20	0.50	61.66
K (IN)	0.10	-0.42	0.49	0.21
Mg (IN)	0.76	0.46	0.40	0.68
Mn (IN)	-0.13	-0.04	-0.16	-0.15
N - Kjeldahl (as N) (IN)	0.05	-0.14	0.38	0.48
Na (IN)	0.18	0.12	<	<
Ni (IN)	-0.08	-0.12	0.22	<
P (as P) (IN)	0.04	0.01	-0.11	0.48
Pb (IN)	0.22	0.36	0.00	<
Zn (IN)	0.57	-0.12	-0.39	-0.28
<b>SPAL (196)</b>				
Ca (IN)	46.68	53.51	42.61	32.59
Fe (IN)	-1.36	1.04	1.14	9.34
K (IN)	1.07	1.13	1.18	-1.28
Mg (IN)	0.76	0.46	-1.99	0.68
Mn (IN)	-3.08	1.00	0.82	-5.65
N - Kjeldahl (as N) (IN)	5.27	3.29	2.75	2.01
Na (IN)	21.73	21.44	2.51	-0.53
P (as P) (IN)	0.73	0.91	0.66	1.18
Zn (IN)	19.13	7.16	12.63	18.08
<b>LQA-ATP (198)</b>				
B (IN)	-0.75	0.02	-1.37	-0.54
Ca (IN)	0.24	-0.46	0.50	-0.39
Cu (IN)	1.03	-1.55	0.82	-0.82
Fe (IN)	-0.68	-1.18	0.60	0.29
K (IN)	0.66	0.93	1.18	0.61
Mg (IN)	2.25	1.40	0.40	-0.03
Mn (IN)	1.81	0.38	-0.96	1.81
N - Kjeldahl (as N) (IN)	0.73	0.34	0.23	0.66
P (as P) (IN)	3.58	1.47	3.08	0.95
Zn (IN)	-2.33	-8.65	-9.53	-1.62
<b>GLOBI (200)</b>				
Ca (IN)	-0.13	0.07	-0.60	0.56
Cd (IN)	0.02	-0.08	0.72	2.17
Cr (IN)	0.13	0.70	0.47	-0.02
Cu (IN)	-0.61	-0.86	-0.26	-0.06
Fe (IN)	-0.27	0.35	0.02	0.12
K (IN)	0.10	0.48	-0.37	-0.16
Mg (IN)	0.19	-0.07	-0.47	-0.27
Mn (IN)	-0.13	0.38	-0.40	-0.06
N - Kjeldahl (as N) (IN)	-0.07	-0.88	0.08	0.12
Na (IN)	0.39	0.26	0.44	0.42
Ni (IN)	-0.20	0.32	-0.47	0.29
P (as P) (IN)	-0.45	-0.15	-0.63	0.13
Pb (IN)	0.71	-0.20	0.00	0.11
Zn (IN)	-0.26	0.23	0.22	0.15
<b>FFEEBW (201)</b>				
B (IN)	-0.90	-0.81	-0.68	-0.60
Ca (IN)	-1.30	-0.25	-0.64	-0.54
Cd (IN)	-0.38	-0.78	-1.10	0.91
Co (IN)	0.28	3.63	1.26	9.41
Cr (IN)	2.17	0.92	-0.18	<
Cu (IN)	0.68	0.28	0.93	1.23
Fe (IN)	0.38	0.82	-0.28	-1.06
K (IN)	-1.03	-1.53	-0.43	-0.26
Mg (IN)	-1.76	-1.18	-1.43	-0.74

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>FFEEBW (201) (cont.)</b>				
Mn (IN)	0.13	0.71	-0.21	<
Mo (IN)	-0.45	-1.04	-0.91	0.22
Na (IN)	-0.90	-1.17	-0.37	-0.72
Ni (IN)	-0.58	-1.13	-0.93	<
P (as P) (IN)	-0.45	-0.26	0.06	-0.22
Pb (IN)	-1.29	-0.69	0.42	<
S (as S) (IN)	-1.20	-0.76	-0.44	-0.56
Zn (IN)	-0.96	-0.65	-0.41	-0.12
C - elementary (RT)	-0.41	-1.18	-0.94	0.08
N - elementary (RT)	-0.58	-0.39	-0.58	-0.25
<b>LAIMBURG (202)</b>				
B (IN)	0.07	0.02	0.08	1.20
Br (IN)	#	#	#	#
Ca (IN)	1.42	0.60	1.56	0.03
Cu (IN)	2.91	2.76	2.82	4.07
Fe (IN)	2.64	1.46	1.67	1.30
K (IN)	0.38	-0.20	0.30	-0.19
Mg (IN)	1.57	1.10	2.24	2.11
Mn (IN)	3.39	2.27	2.61	2.60
Na (IN)	-0.76	-0.62	1.51	0.04
P (as P) (IN)	1.32	0.96	1.09	0.60
S (as S) (IN)	1.06	0.37	0.54	0.50
Zn (IN)	0.07	0.34	0.53	0.74
N - elementary (RT)	0.46	1.08	1.15	0.88
<b>SEEDLING (203)</b>				
Ca (IN)	-1.21	0.27	0.08	0.10
K (IN)	-0.02	0.00	0.51	0.20
Mg (IN)	-0.02	1.04	0.54	2.26
Mn (IN)	0.68	0.61	0.23	4.71
N - Kjeldahl (as N) (IN)	0.39	-0.30	0.81	0.66
P (as P) (IN)	-0.32	-0.09	0.25	0.89
<b>QLDNR&amp;M (204)</b>				
B (IN)	0.16	0.28	0.02	-0.34
Ca (IN)	-0.50	0.60	-0.71	0.67
Cd (IN)	1.39	0.76	0.15	-0.78
Cl (as Cl) (IN)	1.10	0.52	-0.53	-0.32
Co (IN)	0.23	0.90	1.31	0.59
Cu (IN)	0.79	1.72	0.82	0.69
Fe (IN)	1.21	-1.28	-0.45	-1.48
K (IN)	0.18	1.53	-0.37	0.41
Mg (IN)	0.19	0.58	-0.08	0.45
Mn (IN)	-1.34	-0.83	-0.64	0.28
Mo (IN)	1.32	0.36	1.29	0.99
N - NO3 (as N) (IN)	6.18	1.38	#	#
Na (IN)	-0.75	-0.35	-0.93	-0.05
P (as P) (IN)	-0.35	0.29	-0.03	1.30
Pb (IN)	-0.11	-0.65	-1.96	4.19
S (as S) (IN)	-1.90	-1.16	-0.93	0.50
Zn (IN)	-0.18	0.20	-0.33	0.31
C - elementary (RT)	-1.70	0.13	-1.72	-0.37
N - elementary (RT)	0.18	0.10	0.28	1.31
Al (AE)	0.70	0.52	0.91	0.93
<b>OSCHR-OL (205)</b>				
Ca (IN)	0.06	0.78	0.39	15.57
Cd (IN)	-1.93	-0.08	0.01	<
Cu (IN)	0.33	-0.17	-0.26	-0.06
Fe (IN)	0.44	-0.67	0.31	0.29
Hg (IN)	0.13	1.06	0.50	0.33
K (IN)	-0.88	-0.62	0.83	-0.28
Mg (IN)	-0.38	1.04	0.40	0.68
Mn (IN)	-0.40	-0.04	1.04	0.04
N - Kjeldahl (as N) (IN)	-1.09	-0.40	-1.26	-0.50

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>OSCHR-OL (205) (cont.)</b>				
Na (IN)	-0.13	0.58	-0.07	0.44
Ni (IN)	-0.08	-0.01	0.02	0.42
P (as P) (IN)	-0.26	-1.33	-	-
Pb (IN)	0.71	-0.76	0.00	0.11
Zn (IN)	0.98	0.23	0.22	0.06
<b>DANRLAB (206)</b>				
B (IN)	-0.15	-0.33	-0.38	-0.92
Ca (IN)	0.24	-0.53	-0.40	<
Cl (as Cl) (IN)	-0.68	-1.05	-0.63	-0.51
Cu (IN)	0.93	1.09	1.47	0.73
Fe (IN)	-0.98	-0.19	-0.20	-0.63
K (IN)	-0.72	-1.42	-0.54	-0.28
Mg (IN)	0.76	0.46	-0.40	-1.70
Mn (IN)	2.13	1.45	2.13	0.93
N - NH4 (as N) (IN)	#	#	<	<
N - NO3 (as N) (IN)	-0.36	-2.28	#	<
Na (IN)	-0.10	0.09	-0.24	-0.63
P (as P) (IN)	0.73	0.35	0.66	0.01
S (as S) (IN)	-0.18	-0.03	0.05	0.62
Zn (IN)	-0.76	-0.41	-0.02	-0.78
C - elementary (RT)	-0.63	-0.92	-0.68	0.25
N - elementary (RT)	3.99	1.40	1.92	1.85
<b>C.S.S. (209)</b>				
K (IN)	-2.60	-1.60	-1.38	-2.94
N - Kjeldahl (as N) (IN)	-0.78	-0.40	-2.09	-2.69
P (as P) (IN)	-2.12	-0.94	-0.72	-0.57
<b>SKLODPOL (213)</b>				
As (IN)	-0.52	-2.11	-0.41	-0.56
B (IN)	-0.49	-0.21	0.08	-0.06
Ca (IN)	-0.22	1.13	-0.16	<
Cd (IN)	0.80	-0.08	-0.70	-
Cr (IN)	-0.42	0.24	0.25	<
Cu (IN)	-0.64	-0.12	-0.57	-0.08
Fe (IN)	0.50	0.17	-1.81	0.17
Hg (IN)	-0.65	-0.31	1.32	-0.41
K (IN)	-1.04	-0.22	0.66	0.21
Mg (IN)	-1.53	-0.71	-0.40	0.68
Mn (IN)	-0.92	-0.70	-0.70	-0.07
N - Kjeldahl (as N) (IN)	-0.63	-2.09	0.45	-0.77
Na (IN)	0.70	-0.28	<	<
Ni (IN)	0.28	0.54	-0.94	<
P (as P) (IN)	-2.71	-0.77	-2.79	-1.73
Pb (IN)	0.45	0.25	0.20	-
Zn (IN)	-0.34	-0.12	-0.39	-0.61
<b>MALWA (216)</b>				
As (IN)	-0.23	-0.02	-0.78	-0.47
Ca (IN)	-0.59	0.78	2.05	15.14
Cd (IN)	<	-0.55	<	<
Cr (IN)	0.13	1.34	<	<
Cu (IN)	-0.14	-0.52	-0.57	-0.63
Fe (IN)	-0.51	0.12	-0.48	<
K (IN)	-0.80	0.13	-1.05	<
Mg (IN)	0.07	-0.01	2.40	<
Mn (IN)	-0.29	-0.01	0.24	<
N - Kjeldahl (as N) (IN)	-0.75	-1.19	-0.81	-0.24
Na (IN)	1.10	0.35	<	<
Ni (IN)	-0.44	-0.18	-0.96	<
P (as P) (IN)	0.33	-0.21	-1.32	0.01
Pb (IN)	-0.60	-0.09	0.74	<
Zn (IN)	-0.18	-0.33	0.10	-0.53

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Sample	124	164	166	135
<b>MERLEWOOD (217)</b>				
C - elementary (RT)	0.55	0.65	0.88	0.82
N - elementary (RT)	1.41	-0.22	0.12	0.64
13C (OD)	#	#	#	#
15N (OD)	#	#	#	#
delta 13C (OD)	#	#	#	#
delta 15N (OD)	#	#	#	#
<b>DATE (218)</b>				
B (IN)	2.63	2.15	2.10	-2.24
Ba (IN)	0.87	2.65	4.57	#
Ca (IN)	0.87	0.34	0.80	1.73
Cu (IN)	1.36	0.88	1.40	0.95
Fe (IN)	-0.27	1.33	3.43	4.05
K (IN)	1.75	0.62	2.74	-4.55
Mg (IN)	1.57	1.22	1.12	-1.46
Mn (IN)	1.78	1.04	2.65	-0.02
N - Kjeldahl (as N) (IN)	-0.29	-1.83	0.38	-0.15
Na (IN)	0.55	3.24	3.49	1.11
P (as P) (IN)	0.43	0.46	1.18	0.13
S (as S) (IN)	1.45	1.41	1.64	0.74
Sr (IN)	-0.20	0.84	-0.65	#
Zn (IN)	1.43	-0.44	3.29	-0.17
C - elementary (RT)	-1.58	-0.54	-0.20	-0.75
N - elementary (RT)	-1.00	-0.67	0.36	-0.88
<b>ALMP1011 (219)</b>				
B (IN)	-1.00	-0.70	-0.65	-0.65
Ca (IN)	-2.26	-1.83	-1.67	<
Cu (IN)	<	-4.93	-4.70	<
Fe (IN)	-5.20	-4.81	-4.08	<
K (IN)	-2.43	-1.92	-1.82	-0.68
Mg (IN)	-3.71	-2.65	-2.95	-3.36
Mn (IN)	-2.86	-2.87	-2.89	-3.96
Mo (IN)	<	<	<	<
N - Kjeldahl (as N) (IN)	-2.78	-1.07	-0.87	-0.65
Na (IN)	2.95	3.13	5.52	7.70
P (as P) (IN)	-2.81	-2.11	-2.10	-3.95
S (as S) (IN)	-0.65	-0.35	-1.05	-1.51
Zn (IN)	-8.65	-4.39	-7.20	-8.65
<b>LABORECOF (221)</b>				
C - elementary (RT)	0.17	-0.53	0.50	8.11
N - elementary (RT)	-0.68	0.10	-0.53	4.28
<b>NEINUT (230)</b>				
Ca (IN)	0.96	0.16	1.15	-0.37
Cu (IN)	-0.12	-0.03	0.17	0.52
Fe (IN)	1.10	0.71	0.82	0.33
K (IN)	0.27	1.71	1.31	0.21
Mg (IN)	0.14	0.95	2.38	1.17
Mn (IN)	-0.35	-0.86	-0.82	0.20
N - Kjeldahl (as N) (IN)	1.21	1.05	0.34	0.60
Na (IN)	-1.44	-1.43	-0.37	-0.19
P (as P) (IN)	0.00	0.40	0.07	0.42
S (as S) (IN)	0.53	0.30	0.24	0.24
Zn (IN)	0.07	0.45	0.59	1.16
<b>GUYPALAB (231)</b>				
B (IN)	-1.05	0.24	1.12	5.32
Ca (IN)	-0.31	0.95	-0.82	0.14
Fe (IN)	-0.45	1.05	0.21	-1.41
K (IN)	0.50	0.48	3.06	8.64
Mg (IN)	0.53	-0.30	1.52	-1.72
Mn (IN)	-0.03	0.44	0.04	0.60
N - Kjeldahl (as N) (IN)	1.87	0.39	1.27	0.66
P (as P) (IN)	-0.85	-0.32	-0.37	0.71

(cont)



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Sample	124	164	166	135
<b>GUYLAB (231) (cont.)</b>				
S (as S) (IN)	0.83	-0.35	-2.51	-5.78
Zn (IN)	0.90	0.55	0.78	-2.97
<b>KERICHO (236)</b>				
Ca (IN)	-0.31	0.07	-0.49	-0.39
Cu (IN)	0.40	-0.59	-0.11	-0.19
Fe (IN)	-1.27	-1.14	0.00	-0.25
K (IN)	0.75	0.33	-0.88	1.00
Mg (IN)	0.19	0.22	0.00	-0.03
Mn (IN)	0.34	-0.44	-1.20	-0.45
N - Kjeldahl (as N) (IN)	0.73	0.02	0.53	0.84
Na (IN)	-0.01	5.75	-0.03	-0.32
P (as P) (IN)	0.83	0.29	0.32	-0.10
Zn (IN)	0.57	-0.69	-0.08	-0.02
<b>ADE (239)</b>				
As (IN)	10.05	-3.14	4.45	1.43
B (IN)	-0.41	-0.63	-0.04	0.14
Ca (IN)	0.33	-1.87	0.39	1.52
Cd (IN)	-1.93	-2.88	-0.70	0.32
Co (IN)	-1.07	0.62	-0.69	4.00
Cr (IN)	-5.20	-2.14	-1.80	0.88
Cu (IN)	1.45	0.38	0.99	1.10
Fe (IN)	0.91	0.77	1.92	3.55
Hg (IN)	48.99	13.44	-7.66	19.45
K (IN)	2.13	-0.02	1.18	-2.37
Mg (IN)	-2.10	-2.36	-1.11	-0.03
Mn (IN)	-1.34	-1.97	-0.32	0.75
Mo (IN)	-0.86	-1.84	-0.25	-0.74
N - Kjeldahl (as N) (IN)	-2.04	0.96	-16.69	-11.04
Na (IN)	3.47	1.16	3.89	0.21
Ni (IN)	-0.69	0.65	0.51	2.09
P (as P) (IN)	-2.71	-2.17	-0.20	-0.22
Pb (IN)	-5.90	-3.96	-6.14	1.30
S (as S) (IN)	-0.96	-0.76	-1.54	-0.33
Se (IN)	-2.92	-1.04	-1.27	0.24
Zn (IN)	-1.67	-0.62	-0.39	1.24
C - elementary (RT)	-0.20	0.52	0.75	-0.60
Al (AE)	-0.38	-0.50	-0.64	1.09
<b>LASUTEVEA (241)</b>				
B (IN)	-0.32	-1.08	-1.54	-0.64
Ca (IN)	-0.31	-0.28	-0.82	-0.16
Cu (IN)	1.12	-0.19	-1.25	-0.16
Fe (IN)	0.74	1.05	0.45	-0.76
K (IN)	0.18	1.08	-0.37	0.51
Mg (IN)	0.76	0.87	0.56	-0.03
Mn (IN)	0.71	-0.04	0.24	-0.98
P (as P) (IN)	-0.16	-0.32	0.14	0.36
Zn (IN)	0.15	1.09	-0.33	-0.53
C - elementary (RT)	0.45	0.26	0.36	-0.37
N - elementary (RT)	0.79	0.53	1.59	0.77
<b>SMART (246)</b>				
B (IN)	-0.71	-0.17	0.25	-0.57
Ca (IN)	-1.23	-0.63	-1.81	3.03
Cl (as Cl) (IN)	-0.61	-0.52	0.00	-0.32
Cu (IN)	4.05	0.05	-0.27	-1.47
Fe (IN)	-0.86	-1.00	0.16	-0.59
K (IN)	-0.39	-2.98	1.69	-
Mg (IN)	-1.30	-1.18	-1.99	-0.51
Mn (IN)	3.39	2.30	2.63	14.98
N - Kjeldahl (as N) (IN)	0.39	0.44	-0.36	-0.06
Na (IN)	1.04	0.84	1.69	1.45
P (as P) (IN)	-0.94	-1.44	-1.41	-2.55
Zn (IN)	1.23	1.16	1.09	-0.11

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Sample	124	164	166	135
<b>REYEPS (249)</b>				
B (IN)	1.06	0.66	0.71	0.62
Ca (IN)	1.44	0.25	0.50	-0.61
Cd (IN)	-0.76	-0.78	-0.56	-1.15
Cr (IN)	11.08	1.79	0.55	0.31
Cu (IN)	-0.92	-1.53	-1.21	-0.06
Fe (IN)	1.44	0.68	0.21	0.29
K (IN)	0.83	0.08	-0.54	-0.38
Mg (IN)	0.07	0.28	1.04	-0.51
Mn (IN)	-0.08	-0.27	-0.36	0.31
Na (IN)	-0.25	-0.58	-0.10	-0.66
Ni (IN)	5.73	4.09	1.60	0.70
P (as P) (IN)	0.24	0.63	0.23	-0.34
Pb (IN)	-0.13	-0.42	1.95	2.76
S (as S) (IN)	0.99	0.29	0.05	0.38
Zn (IN)	-0.59	0.09	-0.39	-0.11
Al (AE)	3.57	2.00	5.49	0.66
<b>ABMCE (250)</b>				
As (IN)	-0.09	2.40	0.19	2.53
B (IN)	0.46	0.24	-0.67	<
Be (IN)	#	#	<	<
Ca (IN)	-0.50	3.60	1.61	<
Cd (IN)	1.97	3.19	0.72	0.32
Co (IN)	0.26	0.33	-0.25	<
Cr (IN)	-0.05	0.18	0.25	<
Cu (IN)	0.09	1.34	-1.80	0.61
Fe (IN)	0.32	-0.16	-0.89	<
K (IN)	0.10	-0.27	-1.05	<
Mg (IN)	-0.38	-0.71	2.00	<
Mn (IN)	0.13	0.09	1.04	-2.26
Mo (IN)	-0.13	0.44	-1.61	-0.74
N - Kjeldahl (as N) (IN)	0.05	0.02	-0.96	0.84
Na (IN)	<	<	<	<
Ni (IN)	0.77	-1.23	-1.75	<
P (as P) (IN)	0.73	0.91	1.52	1.18
Pb (IN)	0.71	5.53	0.25	<
S (as S) (IN)	0.13	0.13	-1.54	-0.33
V (IN)	0.27	1.99	-0.90	<
Zn (IN)	0.32	0.16	-0.08	0.90
<b>IRQ-1992-S (251)</b>				
As (IN)	1.72	-0.76	<	<
Cd (IN)	-0.60	-0.62	0.08	0.26
Cr (IN)	-1.25	-0.18	-0.07	-
Cu (IN)	-0.41	0.10	-1.70	0.07
Hg (IN)	<	<	-1.67	54.21
Ni (IN)	-0.69	-0.01	-1.95	-
Pb (IN)	0.49	-1.39	-0.66	-0.06
<b>ZJKRK (257)</b>				
Ca (IN)	-0.31	1.54	0.39	<
Cd (IN)	<	-0.08	<	<
Cr (IN)	0.13	0.70	<	<
Cu (IN)	-0.14	-0.52	-0.41	-0.25
Fe (IN)	-0.68	-0.11	0.75	0.22
Hg (IN)	1.22	0.51	1.65	0.33
K (IN)	-0.55	-0.58	0.27	<
Mg (IN)	0.76	-0.13	1.20	<
Mn (IN)	-0.56	0.48	-0.30	-0.06
N - Kjeldahl (as N) (IN)	0.08	-0.68	0.01	-0.24
Na (IN)	0.85	0.35	<	<
Ni (IN)	-0.69	-0.56	1.01	<
P (as P) (IN)	0.73	0.80	0.92	0.36
Pb (IN)	-0.11	-0.20	0.00	<
Zn (IN)	0.49	-0.58	0.53	-0.36

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Sample	124	164	166	135
<b>FADIAF (261)</b>				
Ca (IN)	19149.71	18044.76	15646.40	-
Cd (IN)	-5.64	-7.08	-5.81	-
Cu (IN)	0.37	1.22	0.94	0.29
Fe (IN)	-1.33	-0.90	-0.66	-0.98
Hg (IN)	-3.06	-2.80	-3.66	-1.61
K (IN)	21498.17	21511.89	16576.09	7585.36
Mg (IN)	16751.35	14203.16	16931.98	7611.12
Mn (IN)	-2.19	-1.19	-1.56	-0.55
Na (IN)	-0.93	-1.04	-0.50	-
Pb (IN)	-2.15	-1.11	-3.41	-0.86
Zn (IN)	-1.34	-0.73	-0.95	-0.61
<b>SLAF (263)</b>				
Ca (IN)	0.19	0.16	0.28	-0.61
Cd (IN)	<	-5.12	<	<
Co (IN)	0.92	1.96	-1.36	<
Cr (IN)	1.61	0.63	-0.70	-0.93
Cu (IN)	-0.71	-0.45	-0.09	-0.04
Fe (IN)	1.92	1.52	1.48	-0.25
K (IN)	0.45	0.30	0.35	-1.28
Mg (IN)	-0.27	-0.13	0.08	-1.22
Mn (IN)	0.65	0.78	0.84	0.04
Na (IN)	-0.78	-0.53	-0.16	-0.19
Ni (IN)	4.61	3.46	1.69	-0.62
P (as P) (IN)	0.14	0.18	0.58	-1.38
Pb (IN)	-0.52	0.25	1.53	2.39
S (as S) (IN)	0.67	0.37	0.30	-0.80
Zn (IN)	0.15	1.30	1.46	-1.20
Al (RT)	-0.41	-0.46	#	#
<b>RIOGLAB (264)</b>				
Ag (IN)	#	#	#	<
As (IN)	-0.72	-0.68	-0.65	-0.20
Ba (IN)	0.18	0.72	0.48	#
Be (IN)	#	#	#	<
Bi (IN)	#	#	#	<
Ca (IN)	-0.22	-0.28	-0.60	-0.58
Cd (IN)	-0.25	-0.17	-0.53	0.02
Co (IN)	0.02	-0.01	0.11	-0.04
Cr (IN)	-0.39	-0.82	-1.13	-1.11
Cs (IN)	#	#	#	#
Cu (IN)	-1.50	-1.46	-1.31	-0.14
Fe (IN)	-0.03	-0.02	-0.06	-0.36
K (IN)	0.26	0.18	0.15	-0.80
Li (IN)	#	#	#	#
Mg (IN)	1.34	1.10	0.80	0.16
Mn (IN)	0.13	0.15	-0.34	0.24
Mo (IN)	0.29	0.89	0.09	0.21
N - Kjeldahl (as N) (IN)	-1.54	-0.77	-0.51	-1.40
Na (IN)	0.02	0.49	-0.05	-0.76
Ni (IN)	0.32	0.68	-0.56	-0.55
Pb (IN)	0.36	-0.16	-1.20	-0.53
Rb (IN)	#	#	#	#
S (as S) (IN)	0.05	-0.11	1.49	-1.13
Sb (IN)	#	#	#	<
Se (IN)	0.29	0.88	1.09	-0.59
Sn (IN)	#	#	#	-
Sr (IN)	0.04	-0.03	-0.28	#
V (IN)	0.00	0.58	-0.43	<
Zn (IN)	0.90	-0.33	0.04	0.65
C - elementary (RT)	0.66	0.91	-0.55	-0.48
N - elementary (RT)	-0.07	0.64	-0.70	-1.25
Al (AE)	1.63	1.16	1.24	-0.69

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>ERSAFVGSCA (265)</b>				
B (IN)	-6.93	-7.90	6.21	23.45
Ca (IN)	1.71	0.42	0.39	4.93
Cu (IN)	1.10	4.31	1.27	1.61
Fe (IN)	4.74	23.20	10.98	49.55
K (IN)	4.65	237.51	237.79	90.93
Mg (IN)	-0.61	-1.07	-0.40	-0.98
Mn (IN)	-1.13	0.51	0.54	1.12
N - Kjeldahl (as N) (IN)	-0.29	-0.19	1.42	-0.24
Na (IN)	14.83	8.15	45.50	-0.53
P (as P) (IN)	-1.14	-2.00	-0.29	-1.50
Zn (IN)	4.38	-0.33	1.58	0.74
Total ash (NUT)	-1.30	-0.63	-1.63	-0.58
<b>LABVAL (266)</b>				
C - elementary (RT)	0.02	0.78	-0.29	0.37
N - elementary (RT)	0.79	0.75	0.61	0.10
<b>LUARE (269)</b>				
Br (IN)	#	#	<	<
Ca (IN)	0.24	0.95	-0.60	<
Cd (IN)	<	<	<	<
Cl (as Cl) (IN)	-0.27	0.37	<	<
Cu (IN)	0.16	0.60	0.66	0.75
Fe (IN)	-0.09	0.03	-1.18	<
K (IN)	0.26	0.03	-0.19	<
Mg (IN)	3.75	3.10	0.08	<
Mn (IN)	-0.77	-1.28	-1.74	-1.78
Na (IN)	<	<	<	<
P (as P) (IN)	1.22	0.35	-0.11	-1.62
Pb (IN)	<	<	<	<
Rb (IN)	#	#	#	#
S (as S) (IN)	1.14	0.45	0.42	-0.68
Sr (IN)	1.26	0.83	1.46	<
Zn (IN)	-0.01	0.94	0.35	-2.38
Al (RT)	0.52	0.23	<	<
<b>TECHHK (270)</b>				
As (IN)	0.37	0.43	0.07	-0.65
Ca (IN)	-0.50	-0.81	-1.37	-0.18
Cd (IN)	0.02	-12.63	-0.41	-1.15
Co (IN)	0.59	1.07	0.55	-0.31
Cr (IN)	0.63	0.01	0.57	0.23
Cu (IN)	0.09	0.16	-0.15	-0.03
Fe (IN)	1.21	0.87	1.33	-0.50
Hg (IN)	2.46	3.81	-1.13	7.03
K (IN)	-1.04	0.23	-0.37	-0.48
Mg (IN)	-2.22	-0.89	-1.03	-0.51
Na (IN)	-1.12	-1.30	-0.50	-0.70
Ni (IN)	0.65	-0.19	-0.12	-0.77
Pb (IN)	0.23	0.59	-0.41	-0.64
Sb (IN)	#	#	#	#
Sn (IN)	#	#	#	#
Zn (IN)	0.15	1.12	0.35	-0.70
<b>LAF (273)</b>				
B (IN)	2.36	2.06	2.91	2.35
Ca (IN)	-18.70	-17.92	-15.37	-1.24
Cu (IN)	5.72	4.48	3.75	5.20
Fe (IN)	1.21	1.01	1.04	1.27
K (IN)	-18.97	-19.21	-17.12	-8.02
Mg (IN)	-16.67	-14.14	-16.60	-7.89
Mn (IN)	2.60	1.81	2.83	2.30
N - Kjeldahl (as N) (IN)	-26.56	-11.46	-16.30	-10.72
P (as P) (IN)	-20.52	-20.22	-18.65	-13.61
S (as S) (IN)	-20.54	-12.23	-8.38	-11.23
Zn (IN)	1.56	0.94	0.22	1.32

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>MELIPLANT (274)</b>				
Ca (IN)	-1.23	-1.43	-1.00	0.42
Cu (IN)	0.00	-0.55	-0.49	0.59
K (IN)	-0.52	0.42	-1.15	-1.77
Mg (IN)	-0.27	-1.18	-0.08	-0.98
Na (IN)	2.37	2.03	3.61	1.13
P (as P) (IN)	0.04	-1.83	-0.03	-2.08
S (as S) (IN)	0.05	0.21	-0.80	-0.33
Zn (IN)	-0.91	-4.91	-0.56	0.89
<b>IUNGPUL (275)</b>				
Ca (IN)	-2.06	0.07	-2.03	-0.18
Cd (IN)	-0.70	0.48	1.29	1.06
Cr (IN)	-0.84	-0.57	0.34	-0.59
Cu (IN)	-0.28	-0.03	0.13	-0.57
Fe (IN)	0.14	0.40	0.10	-0.15
Hg (IN)	-0.29	0.38	0.34	-0.07
K (IN)	0.42	-0.12	0.32	-2.76
Mg (IN)	0.42	-0.07	0.72	-0.51
Mn (IN)	0.29	0.41	0.24	0.27
Mo (IN)	-0.09	0.28	-0.45	-0.62
N - Kjeldahl (as N) (IN)	0.96	0.07	0.82	1.02
Ni (IN)	0.36	-0.34	0.05	-0.26
P (as P) (IN)	0.53	0.91	0.32	-0.34
Pb (IN)	-0.13	-0.34	0.15	0.02
S (as S) (IN)	1.45	1.17	1.03	1.09
Zn (IN)	0.40	0.27	0.16	0.06
C - elementary (RT)	0.45	0.13	0.23	0.71
N - elementary (RT)	1.04	0.32	0.45	0.91
<b>VICTORY (597)</b>				
Ag (IN)	#	#	#	#
Ba (IN)	0.29	4.93	-2.21	#
Be (IN)	#	#	<	#
Bi (IN)	#	#	#	#
Cd (IN)	-1.31	-2.37	-0.54	-0.16
Co (IN)	2.17	0.62	0.02	2.71
Cr (IN)	3.29	-1.01	4.94	4.11
Cs (IN)	#	#	#	#
Cu (IN)	0.54	-1.34	0.30	9.79
Ga (IN)	#	#	#	#
Li (IN)	#	#	#	#
Mn (IN)	-5.18	-3.86	-3.99	3.29
Mo (IN)	1.01	0.51	0.85	-0.35
Ni (IN)	6.82	2.47	2.85	-0.27
Pb (IN)	-3.01	-4.52	-2.11	1.01
Rb (IN)	#	#	#	#
Sb (IN)	#	#	#	#
Se (IN)	-1.30	11.60	3.91	2.35
Sn (IN)	#	#	#	#
Sr (IN)	-4.15	-4.85	-5.41	#
V (IN)	6.09	3.59	0.91	#
Zn (IN)	33.63	26.52	23.32	28.10
<b>WELLAB (714)</b>				
As (IN)	-0.09	0.63	<	0.90
B (IN)	<	<	<	<
Ba (IN)	<	<	-0.23	<
Ca (IN)	-1.51	-0.81	-1.26	<
Cd (IN)	<	0.95	0.18	<
Cr (IN)	-0.79	0.16	1.07	1.11
Cu (IN)	<	<	<	<
Hg (IN)	<	<	<	<
K (IN)	1.07	1.53	-0.88	-1.08
Mg (IN)	-0.50	-0.36	-0.63	0.68
Mn (IN)	-1.34	-0.99	-1.52	<
Na (IN)	1.38	2.87	<	<

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>WELLAB (714) (cont.)</b>				
Pb (IN)	-0.19	1.03	0.08	2.49
Sb (IN)	<	<	<	<
Sn (IN)	<	<	<	<
Zn (IN)	-1.01	-0.09	-1.88	-2.21
<b>LABFOR (846)</b>				
Cu (IN)	6.94	4.74	5.47	6.46
Fe (IN)	-1.28	0.85	0.77	11.73
<b>FOODCHEM (847)</b>				
Ca (IN)	2.02	5.04	3.78	-0.71
Cu (IN)	0.09	0.17	-0.88	0.12
Fe (IN)	-0.95	-0.89	-0.64	-0.59
Mg (IN)	-6.46	-4.00	-6.06	-2.17
Mn (IN)	-3.76	-2.49	-3.59	-1.43
N - Kjeldahl (as N) (IN)	-1.00	0.46	-0.25	-0.73
P (as P) (IN)	-2.03	-1.83	-3.65	-4.88
Zn (IN)	-2.17	-2.89	-3.67	0.06
Crude fibre (NUT)	#	#	#	#
Polysaccharides (starch) (NUT)	#	#	#	#
TDF (NUT)	#	#	#	#
Total ash (NUT)	-3.66	-8.67	-1.59	72.62
Total fat (NUT)	#	#	#	#
<b>AFBI (851)</b>				
Ca (IN)	0.33	-0.11	-1.15	-1.24
K (IN)	2.45	-0.47	1.35	-2.07
Mg (IN)	1.22	-0.95	-2.79	17.12
P (as P) (IN)	1.51	-1.49	-0.89	8.63
S (as S) (IN)	3.01	0.05	0.30	0.50
<b>SPASL (855)</b>				
As (IN)	63.91	118.30	298.27	53.74
B (IN)	4.37	2.22	3.53	6.02
Ca (IN)	2.16	0.61	1.38	-0.22
Cd (IN)	5.76	2.24	2.89	4.48
Co (IN)	-1.86	-	-1.73	-
Cr (IN)	-3.61	0.04	-0.59	-0.27
Cu (IN)	-0.59	-0.15	0.03	1.02
Fe (IN)	-1.22	-0.51	-0.81	-0.75
K (IN)	1.31	1.31	0.90	1.18
Mg (IN)	0.36	0.56	0.39	0.45
Mn (IN)	-0.61	-0.03	-0.02	0.78
Mo (IN)	-1.06	-0.69	0.39	1.80
Na (IN)	-0.33	-0.23	-0.45	-0.58
Ni (IN)	0.32	0.94	0.45	0.53
P (as P) (IN)	1.79	1.26	1.95	2.19
Pb (IN)	-1.40	5.63	3.90	5.18
S (as S) (IN)	0.22	0.06	0.30	1.02
Sr (IN)	-0.29	-0.50	-0.05	#
Zn (IN)	0.12	0.46	1.15	2.16
C - elementary (RT)	0.45	0.28	0.56	0.73
N - elementary (RT)	-0.41	0.84	0.87	0.49
Al (AE)	-0.96	-1.27	-0.57	-0.53
<b>CUP Analab (870)</b>				
B (IN)	1.89	2.12	2.93	2.06
Ca (IN)	0.21	-0.30	0.12	1.73
Cu (IN)	1.53	3.08	1.08	2.34
Fe (IN)	-0.06	-0.84	-0.14	2.11
K (IN)	-0.85	-0.35	-0.59	0.82
Mg (IN)	-0.79	-0.68	-0.34	-0.36
Mn (IN)	0.90	0.08	0.21	-1.38
P (as P) (IN)	-0.52	-1.52	-1.00	-0.77
S (as S) (IN)	-0.39	0.32	-0.44	0.24
Zn (IN)	0.13	-1.10	-0.73	0.18

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>IOPRI (880)</b>				
B (IN)	1.53	0.89	-0.18	-2.20
Ca (IN)	-1.76	4.80	-16.88	300.47
Cl (as Cl) (IN)	-2.91	-2.28	1.51	2.45
Cu (IN)	6.42	-2.93	-3.96	3.89
Fe (IN)	-3.28	-4.35	-7.73	4.86
K (IN)	19.96	19.25	-18.18	95.99
Mg (IN)	6.61	2.33	-16.04	53.31
Mn (IN)	-3.03	-2.00	-18.70	71.79
N - Kjeldahl (as N) (IN)	-0.07	-1.64	-0.60	-2.19
P (as P) (IN)	-1.24	-2.61	-10.29	9.45
Zn (IN)	-0.67	-1.90	-9.66	12.27
<b>LSF (895)</b>				
B (IN)	-1.96	-1.31	-1.95	-1.55
Ca (IN)	-1.14	-0.81	-1.37	1.73
Cu (IN)	-3.08	-1.76	-1.98	-2.04
Fe (IN)	-0.62	-0.30	-1.15	-1.02
K (IN)	-3.40	-2.93	-3.79	-3.36
Mg (IN)	-0.73	-0.25	-1.19	-0.98
Mn (IN)	-3.76	-1.84	-1.81	-2.66
N - Kjeldahl (as N) (IN)	2.43	3.13	1.86	0.93
Na (IN)	-0.19	-0.30	0.46	0.90
P (as P) (IN)	-1.14	-0.66	-1.24	-1.38
S (as S) (IN)	-0.73	-0.35	0.30	-1.28
Zn (IN)	1.48	-1.47	-0.33	-0.44
<b>TLR (900)</b>				
Br (IN)	#	#	<	<
Cr (IN)	<	<	<	<
F (IN)	#	#	<	<
V (IN)	-11.56	<	<	<
<b>RF-R&amp;D (905)</b>				
B (IN)	-1.30	-1.72	1.36	-
Ca (IN)	0.90	0.96	1.83	0.73
Cu (IN)	-0.42	-0.07	0.88	0.05
Fe (IN)	-0.33	-0.58	1.35	-0.05
K (IN)	0.94	-2.72	2.27	0.89
Mg (IN)	0.81	1.09	1.12	-0.72
Mn (IN)	0.23	0.12	0.68	-0.05
N - Kjeldahl (as N) (IN)	-0.33	0.36	-0.29	1.11
Na (IN)	0.40	-0.36	0.68	0.36
P (as P) (IN)	1.16	2.03	1.40	-0.91
Zn (IN)	-0.57	-0.62	0.37	-0.08
Al (AE)	-0.44	-0.07	0.76	-
<b>SABIC R&amp;T (927)</b>				
Ca (IN)	1.15	0.07	-0.21	-0.24
Cu (IN)	10.65	2.41	4.36	9.15
Fe (IN)	-0.22	-0.72	-1.48	-0.40
K (IN)	-0.19	0.12	-0.02	-0.42
Mg (IN)	0.42	0.22	0.16	-0.74
Mn (IN)	-0.19	-1.71	-2.07	-2.51
N - Kjeldahl (as N) (IN)	0.49	0.76	0.54	0.49
P (as P) (IN)	1.32	0.63	1.70	0.95
Zn (IN)	7.69	-0.51	-0.27	3.68
<b>1945 (956)</b>				
N - Kjeldahl (as N) (IN)	-0.63	0.55	-0.36	-0.06
<b>CAL-SAC (973)</b>				
As (IN)	-0.86	3.63	26.93	14.92
B (IN)	0.42	0.02	0.02	0.72
Ca (IN)	0.61	0.78	-0.05	0.67
Co (IN)	-1.07	-1.37	-1.58	<
Cu (IN)	-1.04	-0.21	-0.75	-0.42

(cont)

## IPE 2009.1 Z - Scores - Per Participant

Sample	124	164	166	135
<b>CAL-SAC (973) (cont.)</b>				
Fe (IN)	0.56	0.03	-0.04	<
Hg (IN)	<	<	<	<
K (IN)	-0.72	-1.72	-1.22	-0.28
Mg (IN)	0.76	-0.71	-1.19	0.68
Mn (IN)	-0.45	-0.27	-1.08	1.02
Mo (IN)	1.92	-9.66	3.61	1.11
N - Kjeldahl (as N) (IN)	0.05	0.07	-0.22	-0.06
Na (IN)	0.18	0.58	<	<
P (as P) (IN)	1.71	0.91	0.66	0.01
Pb (IN)	-8.60	-7.16	-13.51	<
S (as S) (IN)	3.64	1.57	2.86	0.50
Se (IN)	1.22	<	<	0.79
Zn (IN)	0.90	-0.01	-1.26	1.66
ADF-ash-free (NUT)	#	#	#	#
Crude fibre (NUT)	#	#	#	#
NDF-ash-free (NUT)	#	#	#	#
Polysaccharides (starch) (NUT)	#	-	#	#
Total ash (NUT)	0.83	1.10	0.33	641.12
Total fat (NUT)	#	#	#	#
<b>OPBLab (975)</b>				
S (as S) (IN)	15.03	11.52	19.11	14.61
C - elementary (RT)	0.02	-0.53	0.10	0.14
N - elementary (RT)	0.18	-0.33	-0.37	-0.57
<b>LS-MRC (978)</b>				
B (IN)	0.07	-0.14	-0.79	-
Ca (IN)	2.63	3.07	1.05	-
Cu (IN)	0.93	0.79	0.20	-
K (IN)	-1.12	4.64	-17.09	4.97
Mg (IN)	1.45	-0.71	0.00	-
Mn (IN)	0.23	0.38	-0.20	-
N - Kjeldahl (as N) (IN)	-1.43	1.39	0.53	-0.06
P (as P) (IN)	-0.26	0.46	0.32	3.86
Zn (IN)	0.73	8.16	6.58	-8.95
Total ash (NUT)	0.83	0.36	0.95	3.24
<b>FERTILAB (979)</b>				
B (IN)	4.12	5.04	1.33	-0.83
Ca (IN)	0.54	1.34	1.10	2.76
Cu (IN)	-0.57	-1.21	-0.49	-1.05
Fe (IN)	-2.57	-1.50	-0.41	0.05
K (IN)	-2.62	-2.34	-2.61	5.84
Mg (IN)	3.65	3.11	3.83	1.23
Mn (IN)	2.06	0.97	-2.37	-1.68
N - Kjeldahl (as N) (IN)	0.24	0.55	-0.61	-0.24
Na (IN)	69.01	57.15	101.42	110.84
P (as P) (IN)	0.23	-0.21	0.12	0.22
S (as S) (IN)	-15.38	-9.41	-7.89	-9.15
Zn (IN)	-0.43	-0.88	0.15	-1.73



# Errors and Corrections

## IPE 2008 Period 4

## Errors and Corrections IPE 2008 Period 4 -

Sample		124	160	949	154	Code
<b>Inorganic Chemical Composition</b>						
<b>S (as S) (g/kg)</b>						
ETMKK	(817)	-	1.23	-	3.63	E, R
NDA mean		2.904	1.364	1.239	3.502	
NDA st dev		0.203	0.125	0.070	0.317	
NDA N		70	71	70	71	
	Old statistics					
Median		2.900 (3)	1.365 (3)	1.245 (3)	3.534 (3)	
MAD		0.100	0.085	0.040	0.182	
Mean		2.899	1.364	1.239	3.513	
St Dev		0.148	0.096	0.052	0.254	
N		57	66	58	64	



International Soil-Analytical Exchange

Fee € 525,- (EUR) per year

In this period 265 participants



International Plant-Analytical Exchange

Fee € 525,- (EUR) per year

In this period 227 participants



International Sediment Exchange for Tests on Organic Contaminants

Fee € 870,- (EUR) per year

In this period 86 participants



International Manure and Refuse Sample Exchange Program

Fee € 715,- (EUR) per year

In this period 43 participants



International Biomass Exchange Program

Fee € 600,- (EUR) per year

In this period 13 participants

For more information and application, please contact:

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