WEPAL-QUASIMEME

Certificate of Analysis

International Plant-Analytical Exchange

REFERENCE MATERIAL

IPE sample 263

2026-Jul-30

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis IPE 263

General Information

In this report an overview is given of analytical data for this sample collected in our proficiency testing program. The consensus values are calculated using a robust statistical model. With this NDA model, the mean and standard deviation are calculated using all reported data when at least 4 results are left after removal of reported 'lower than' (<) and 0 (= zero) values. No outliers are removed.

This report is divided into two sections: Consensus Values and Indicative Values. The division is made on the reliability of the data. Consensus Values are based on at least 8 results and a maximum relative uncertainty of 6.25%. Indicative Values are based on a maximum relative uncertainty of 35% and a minimum of 4 and maximum of 7 results, or a relative uncertainty greater than 6.25% when there are at least 8 results.

For each measurand the following parameters are given: mean, standard deviation, coefficient of variation, number of results, median, MAD (Median of Absolute Deviation), the uncertainty of the mean (consensus or indicative) value and the relative uncertainty.

Please note: Most WEPAL-QUASIMEME reference materials are found to be stable over the long term (>10 years) for most measurand/matrix combinations. There are a few exceptions known to us as being less stable over the long term. These are organotins in sediment (MS6), ASP in shellfish (BT7), some PAHs and PCBs in sediment (SETOC) and N-NH_4 (as N) & N-NO_3 (as N) in clay soils (ISE).

All values, expressed on a weight basis (kg or %), are reported as oven-dried (105°C) material. Moisture is reported in the material as received.

Sample information

WEPAL reference materials are from natural sources only. There is no spiking, mixing or other alterations of the samples. For sample preparation, the IPE samples are dried at 70°C and milled to pass a 0.5 mm sieve.

This IPE sample 263 of Rice / Oryza sativa, from The Netherlands, is prepared for the WEPAL proficiency programs. The sample has been used in 1 round. The results on which the values in this report are based were taken from the round given in the following table:

Year	Round	Number
2026	2	4

Consensus Values IPE 263

Method: Inorganic Chemical Composition

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Cu	mg/kg	1.60	0.568	35.4	75	1.60	0.310	0.082	5.11
Fe	mg/kg	9.16	3.17	34.6	69	9.32	2.08	0.477	5.21
Mn	mg/kg	8.59	0.831	9.7	75	8.59	0.521	0.120	1.40
Zn	mg/kg	11.1	1.30	11.8	77	11.0	0.834	0.185	1.68
As	µg/kg	97.4	14.8	15.2	15	98.3	11.5	4.79	4.92
Mo	µg/kg	397	40.0	10.1	20	395	26.4	11.2	2.81
K	g/kg	1.06	0.125	11.8	81	1.07	0.070	0.017	1.64
Mg	g/kg	0.269	0.039	14.5	77	0.270	0.020	0.006	2.06
N - Kjeldahl (as N)	g/kg	14.3	0.811	5.7	55	14.2	0.610	0.137	0.956
P (as P)	g/kg	1.09	0.105	9.6	84	1.09	0.068	0.014	1.31
S (as S)	g/kg	1.15	0.097	8.5	53	1.15	0.056	0.017	1.45

Method: Real totals

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
C - elementary	g/kg	438	16.3	3.7	35	437	9.80	3.44	0.785
N - elementary	g/kg	14.7	0.783	5.3	52	14.8	0.455	0.136	0.925

Method: Other determinations

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
delta 13C	‰ V-PDB	-27.6	0.411	1.5	11	-27.6	0.318	0.155	0.561
delta 15N	‰ Air	4.80	0.707	14.7	10	4.88	0.394	0.279	5.82

Indicative Values IPE 263

Method: Inorganic Chemical Composition

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
B	mg/kg	0.955	0.711	74.4	48	1.10	0.468	0.128	13.4
Cd	µg/kg	1.40	0.679	48.5	9	1.52	0.301	0.283	20.2
Co	µg/kg	7.95	2.68	33.7	9	8.63	1.37	1.12	14.1
Cr	µg/kg	25.1	30.0	119.5	8	32.3	21.2	13.3	52.8
Hg	µg/kg	2.55	1.15	45.1	9	2.86	0.660	0.480	18.8
Ni	µg/kg	91.0	17.9	19.7	9	86.9	9.63	7.48	8.22
Pb	µg/kg	13.3	6.93	52.2	9	13.7	3.93	2.89	21.7
Se	µg/kg	20.8	3.69	17.7	11	21.0	2.20	1.39	6.68
V	µg/kg	2.40	0.994	41.4	4	2.72	0.525	0.621	25.9
Sr	mg/kg	0.205	0.014	6.7	4	0.205	0.010	0.009	4.18
Ca	g/kg	0.080	0.040	50.5	65	0.090	0.030	0.006	7.83
Cl (as Cl)	g/kg	0.356	0.186	52.2	12	0.358	0.119	0.067	18.9
Na	mg/kg	13.9	9.14	66.0	36	15.2	4.45	1.90	13.8

Method: Real totals

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
S - elementary	g/kg	1.20	0.175	14.6	4	1.25	0.093	0.109	9.12

Method: Acid extractable (So-called totals)

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Al	mg/kg	4.12	4.63	112.3	11	3.77	2.57	1.74	42.3

Method: Nutritional values

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Total ash	g/kg	4.16	1.14	27.5	12	4.05	0.549	0.413	9.91