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2017

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Foreword

This ASPAC annual report is the 13th in the upgraded inter-laboratory proficiency program (ILPP) for plant chemical tests, the first of which occurred in 2004-2005. The report covers three rounds each of four specially prepared samples sent to around 44 participants in February, May and August 2017. A similar annual program for soils (reported separately) operated over much the same time period.

The members of ASPAC's LPC, listed on page iv of this report, oversaw the program. The ASPAC Executive is grateful to all of those who contributed to the report, inclusive of staff of Global Proficiency Ltd (GPL), our service provider.

The ASPAC-LPC and the ASPAC Executive Committee also appreciates the effort made by laboratories who utilized the method-specific proficiency program. By participating, they share a commitment to and responsibility for measurement quality, noting that measurement proficiency is only a component of laboratory accreditation to ISO-IEC 17025 standard, which should be an achievement goal for laboratory managers.

Dr Roger Hill
ASPAC-LPC Convenor

Acknowledgements

DSITI, Queensland, Australia, commissioned by GPL to confirm that test plant samples were homogenous prior to circulation for proficiency testing purposes, are acknowledged, as are operational staff of GPL.

Membership of ASPAC Laboratory Proficiency Committee 2017

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[#]*G E Rayment stepped down from the LPC in April 2017*

Service Provider Details 2017

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[A] ***Note:*** GPL, under its "PlantChek" logo, is accredited (Accreditation No. 1) by IANZ (the New Zealand accreditation authority) to ISO/IEC 17043:2010 standard, noting that IANZ is a full member of both the International Laboratory Accreditation Cooperation (ILAC), and Asia Pacific Laboratory Accreditation Cooperation (APLAC). GPL is also recognised by NATA (National Association of Testing Authorities of Australia) as a proficiency provider.

Contents

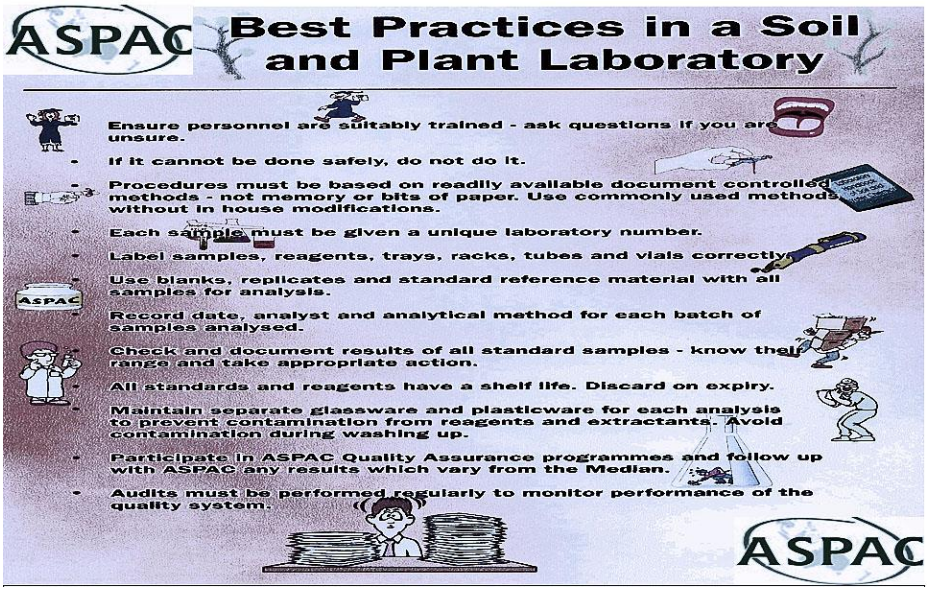
Notes on ASPAC Method-specific Certification: *what it is and what it is not*

In common with almost all soil, plant and water ILPPs worldwide, this plant ILPP used a selection of carefully prepared samples to allow participating laboratories to test and compare their method-by-method measurement performance relative to those of their peers across Australasia. The process is element/test-specific, as each elemental test is assessed separately using internationally-respected non-parametric statistics. Obviously, the peer review process is strongest for tests with most participants, always ≥7 and typically well in excess of that number. Regular feedback with "round-by round" regularity provides tangible evidence to guide laboratory managers in their efforts towards measurement excellence.

Subsequently, a published numeric process was used on a test basis and on each of three rounds of four samples in the program year to determine whether or not a given laboratory qualified to be ASPAC Certified for that test. For the program year covered by this report, 21 was the maximum number of possible certifications per laboratory. The ASPAC Certifications achieved remained current until superseded by findings from the next corresponding ILPP.

Irrespective of method-measurement quality, it remains the responsibility of laboratory management to pay close attention to total quality management. This involves attention to performance in inter-laboratory proficiency programs while also taking account of variables such as technical competence and procedures, sample preparation, records of corrective actions, customer complaints, instrumental accuracy checks and maintenance, staff training / qualifications, standard-solution preparations, method validation / verification, internal audits, batch quality control, reports to clients, etc. Laboratory accreditation to ISO-IEC 17025 standard covers all of these. The National Association of Testing Authorities (NATA) is responsible for laboratory accreditation and compliance in Australia.

Field sampling, the transport of samples to the laboratory, the within-laboratory drying, grinding, mixing and sub-sampling of samples, and the interpretation of test results for clients are other areas that affect the final outcome of soil and plant chemical testing for diagnostic purposes. For helpful guidelines on these topics, refer to publications by Brown (1994)[1], Peverill *et al*. (1999)[2], Rayment (2006)[3] and Reuter and Robinson (1997)[4]. The following "poster", prepared by ASPAC, was designed for within-laboratory use.



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1 Brown, A.J. (1993). A review of soil sampling for chemical analysis. *Australian Journal of Experimental Agriculture* **33 (8)**: 983-1006.

2 Peverill, K.I., Sparrow, L.A. and Reuter, D.J. (Editors) (1999). "Soil Analysis: an interpretation manual". (18+369 pp.) CSIRO Publishing, Victoria.

3 Rayment, G.E. (2006). Australian efforts to prevent the accidental movement of pests and diseases in soil and plant samples. *Communications in Soil Science and Plant Analysis* **37**: 2107-2117.

4 Reuter, D.J. and Robinson, J.B. (Editors) (1997). "Plant Analysis: an interpretation manual". (12+572 pp.) CSIRO Publishing, Victoria.

1. Introduction

This not-for-profit, annual report for 2017 consolidates (for ASPAC members and for the public record) program methodology, summary statistics, and a full listing of results by test for three rounds of plant chemical testing conducted in February, May and August 2017. For historical details on earlier ILPPs for both plant and soil samples undertaken by ASPAC, refer to the ASPAC Web Site at http://www.aspac-australasia.com.

The report includes a description of how ASPAC confers performance-based, elemental-specific certification to laboratories that participated throughout the program year. To respect confidentiality, the cross-reference between laboratory name and laboratory identification number is not included. However, laboratories certified as proficient for specific tests included in this annual program were documented at the time on ASPAC's public web site mentioned above.

2. Program Details

2.1 Responsibilities

GPL was contracted by ASPAC as the plant ILPP provider for 2017. Accordingly, GPL had responsibility on a "round-by round" basis for sourcing and preparing samples and for the timely supply of prepared samples to participating laboratories. They also undertook data collation and statistical analysis and "round-by-round" reporting for ASPAC. In addition, they assembled the contents of the summary and raw data tabulations provided in Section 3 and Appendix 4 of this report.

Members of the ASPAC-LPC had responsibility to implement and resolve matters of policy and to provide guidance on technical matters specific to plant chemical testing both to GPL and to laboratory participants. The ASPAC-LPC also undertook statistical checks and other actions for quality control purposes, participated in a Technical Advisory Group operated jointly with GPL, and contributed to training workshops. Laboratory managers and staff of those who contributed to this annual program are encouraged to seek help from ASPAC if they are shown to be operating at levels of measurement performance below their peers. Appropriate contacts are members of the ASPAC-LPC and/or State representatives of ASPAC (or equivalent).

Participants receive a unique, confidential laboratory number, subsequently used to identify the origin of each result presented in program reports and listings of results. Typically, this identification number carries forward from one annual program to the next.

2.2 Plant program participation

Forty-four laboratories [32 from Australia, 2 from Fiji, 6 from New Zealand, 1 from Pakistan, 2 from Papua New Guinea and 1 from the United Arab Emirates] participated in the ASPAC plant ILPP in 2017, but numbers of reported results varied by "round" and plant test (see Table 1). The counts for each test and sample are given in Table 1 and in Section 3. Contact details for laboratories that submitted results for any test in one or more of the three rounds are provided in Appendix 1.

2.3 Tests, units, laboratory participation and concentration ranges

Three proficiency rounds for plant materials – each comprising four samples – were offered in 2017. Participants were invited to analyse each sample using methods normally employed in their laboratory. Tests commonly performed are documented in Table 1. Laboratories were not required to submit results for every one of these tests, although a minimum of seven participating laboratories per "round" were required for any one test to permit meaningful statistical analyses. In addition, Table 1 includes concentration ranges (minimum, median, maximum) for each element across the 12 samples, noting that those concentration ranges derive from "final" populations after removal of "stragglers" and "outliers" (see section 2.6). For 21 of the 22 plant tests, the population average concentration for a given element was greater than

corresponding medians (average values not presented), while for the other test (S) the average was the same as the median. Moreover, 11 grand median concentrations were lower than their 2016 counterparts, 7 were much the same, and 4 were higher.

Table 1. Plant tests, elemental symbols, units, the arithmetic average numbers of results per round submitted by participating laboratories in the ASPAC 2017 Plant ILPP, plus the concentration ranges and the final grand median concentration for all 22 tests.

2017 Plant tests	Symbol	Units	Average Number of participants			Concentration ranges (final) by test across 12 samples, as reported by labs		
			Feb 17	May 17	Aug 17	Minimum	Median	Maximum
Aluminium	Al	mg/kg	25	22	23	0.8	63.8	568.0
Boron	B	mg/kg	28	26	28	1.1	14.9	75.1
Cadmium	Cd	µg/kg	15	15	15	5.2	14.9	410.0
Calcium	Ca	%	34	30	34	0.05	0.4	2.3
Carbon	C	%	24	20	22	40.2	44.5	51.4
Chloride	Cl	mg/kg	22	18	21	349.0	3105.0	18100.0
Cobalt	Co	µg/kg	18	18	17	21.9	126.0	1530.0
Copper	Cu	mg/kg	33	29	33	2.6	5.8	134.0
Iron	Fe	mg/kg	33	29	32	36.0	88.7	415.0
Lead	Pb	µg/kg	13	13	13	7.0	63.5	405.0
Magnesium	Mg	%	34	30	35	0.1	0.2	1.2
Manganese	Mn	mg/kg	33	29	33	12.3	44.4	293.0
Molybdenum	Mo	µg/kg	18	17	17	60.5	437.0	9240.0
Nitrate-N	NO_3-N	mg/kg	18	15	18	3.7	4.9	3270.0
Nitrogen	N	%	31	26	31	0.9	2.4	4.0
Phosphorus	P	%	33	30	33	0.1	0.2	0.4
Potassium	K	%	34	30	34	0.4	1.2	4.9
Selenium	Se	µg/kg	14	15	13	20.0	67.8	1440.0
Silicon	Si	%	5	6	5	0.01	0.05	0.2
Sodium	Na	mg/kg	32	28	30	11.4	160.5	13800.0
Sulfur	S	%	28	26	27	0.1	0.2	0.5
Zinc	Zn	mg/kg	33	29	33	8.5	23.4	43.2

All but one of the tests in Table 1 were assumed to be total concentrations in the plant material. The assumption is that all results were reported on a 65°C oven-dry basis, not on an "as received" basis. However, some results reported as "totals", such as Al and Si, may only reflect acid-digestible concentrations.

The analytical methods used are not described in detail in this report. Method-indicating codes, however, are summarized in Tables 5 and 6 of Appendix 4, while relevant Codes are included with "raw-data" tabulations in Appendix 4.

2.4 Sample preparation and identification

Before distribution to participants, potential samples were assessed for homogeneity. Specifically, 10 containers of each sample were selected at random from the sub-sampled batch, according to the principles described by Thompson and Wood (1993)[5].These sub-samples were then tested in duplicate for plant total N, using Dumas combustion. The tests were conducted in one laboratory that was accredited to ISO 17025 standard.

Results from homogeneity testing were subsequently statistically assessed according to ISO REMCO Protocol N231 "*Harmonised Proficiency Testing Protocol*" of January 1992. Variations between samples were such that all sample batches were considered to meet homogeneity criteria suited to proficiency testing. Examples of the homogeneity data and statistical assessments are summarized in Appendix 2.

In addition to testing for homogeneity, the plant samples were irradiated or otherwise rendered biologically benign to comply with international and/or national biosecurity regulations or requirements[6].

Ultimately, the samples used in the three rounds of the 2017 program were distributed and coded as follows: February 2017: ASP 1702-1 to 1702-4; May 2017: ASP 1705-1 to 1705-4 and August 2017: ASP 1708-1 to 1708-4. The first 2 digits refer to the year in which the "round" took place, the next 2 digits to the month of that year, and the final digit to 1 of the 4 samples per round. The association between sample code and sample type is provided in Table 2. Ten of the 12 plant test samples were sourced from Australia and 2 were from New Zealand.

Table 2. Sample identification and the origin of the samples included in the 2017 ASPAC plant ILPP.

Sample ID	*Round ID*	*Sample Type*	*Origin*
ASP 1702-1	**2**	Wholegrain Oats	AUS
ASP 1702-2		Buffell Grass	AUS
ASP 1702-3		Weeping Elm Leaves	NZ
ASP 1702-4		Lentils	AUS
ASP 1705-1	**5**	Blueberry Leaves	AUS
ASP 1705-2		Pea Straw	AUS
ASP 1705-3		Olive Leaves	NZ
ASP 1705-4		Chickpeas	AUS
ASP 1708-1	**8**	Clover	AUS
ASP 1708-2		Grass Hay (Southern)	AUS
ASP 1708-3		Rice Leaves	AUS
ASP 1708-4		Capsicum	AUS

[5] Thompson, M. and Wood, R. (1993). International harmonized protocol for proficiency testing of (chemical) analytical laboratories. *Journal of AOAC International* ***76*** (4): 926 – 940.

[6] Rayment, G.E. (2006). Australian efforts to prevent the accidental movement of pests and diseases in soil and plant samples. *Communications in Soil Science and Plant Analysis* **37**: 2107-2117.

2.5 Data analysis and periodic reporting

Laboratory results, after submission to GPL, were entered into a database and independently checked for data transfer accuracy prior to data processing. From the beginning of 2015, laboratories were able to submit results electronically, as .csv files, for direct transfer to the database. Checks were still made of data loaded in this way. The non-parametric assessment of laboratory performance for each sample and method was performed by an iterative statistical procedure similar to that used in WEPAL inter-laboratory proficiency programs of Wageningen University. This procedure[7,8] is suited to datasets of as few as seven laboratories, although larger laboratory populations are best. An outline of the "median / MAD" statistical procedure is provided in Appendix 3, with terms described in Table 3.

In addition to medians and MADs, other statistical parameters (also described in Table 3) were calculated before and following the omission of non-conforming results. The raw data submitted by participating laboratories on a test-by-test basis are documented in Appendix 4, sometimes rounded for table formatting purposes.

Results submitted by each laboratory were expected to have three significant figures, unless protocol or common sense dictated otherwise. For example, the program accepted data where it was common to report measured concentrations to the nearest third decimal point, such as 0.001 mg/kg for those trace metals reported in mg/kg, while two decimal places were accepted for other tests, rather than to three significant figures. However, the program (like others internationally) did not accept a zero value nor a result reported as less than (<) or greater than (>) a specified number. In cases where the expected value was below the laboratory's lower limit of reporting, the expectation was that the laboratory would either report the raw concentration readout from the instrument in absolute terms or a value half way between that value and zero. For high values, it was expected that plant digests would be suitably diluted.

Interim reports for each "round", summarizing measurement performance relative to the performance of all laboratories that undertook the same test/s, were routinely and quickly emailed to participants. The main purpose of these Interim Reports was to provide timely feedback and to enable laboratories to take prompt remedial action where appropriate. Interim reports also provided an opportunity to correct for any data-transfer and data-processing misinterpretations. In addition, newsletters from GPL were sent to all participating laboratories. Their main purpose was to assist in the interpretation of interim reports. Also included in GPL's newsletters was information about upcoming events and operational administration of the program.

Laboratories that participated in the 2017 plant ILPP all received from GPL (on behalf of ASPAC) a laboratory-specific, confidential, Annual Summary Report. Each laboratory's data for the 12 plant samples, the aggregate data from all participants, other relevant statistical data, and whether or not the test/s received ASPAC Certification (if applicable), were provided. The confidential laboratory code number was included.

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7 Rayment, G.E., Miller, R.O. and Sulaeman, E. (2000). Proficiency testing and other interactive measures to enhance analytical quality in soil and plant laboratories. *Communications in Soil Science and Plant Analysis* **31**: 1513-1530.

8 Whitehouse, M.W. (1987). Medians and MADs - Statistical methodology used at Wageningen, The Netherlands, for interlaboratory comparisons in the plant exchange program. Ag. Chem. Br. Report, ACU87/36. 10 pp. (Qld Dept. Primary Ind., Brisbane.)

Table 3. Statistical terms and their meanings in the context of this ASPAC annual report

Statistical term	*Meaning and/or derivation*
Count or number	Original population size.
Maximum i	The highest of a range of values, based on the initial data set.
Minimum i	The lowest of a range of values, based on the initial data set.
Median	The median is the score at the 50th percentile. It is the middle observation of a sequentially sorted array of numbers, except in the case of an even sample size. Here it is the arithmetic mean of the two observations in the middle of the sorted array of observations. The median of a reasonably sized array of numbers is insensitive to extreme scores.
Mean[A]	The arithmetic mean (or average) is the sum of the values of a variable divided by their number. It represents the point in a distribution of measurements about which the summed deviations equal zero. The arithmetic mean is sensitive to extreme measurements.
MAD	The Median of the Absolute Deviations, calculated as the median of the absolute values of the observations minus their median.
Interquartile range (IQR)	This is calculated by subtracting the score at the 25th percentile (referred to as the first quartile; Q_1) from the score at the 75th percentile (the third quartile; Q_3). This value is affected by the assumptions made in the calculation of the first and third quartiles, particularly for low population sizes. Moreover, these differences exist within and across statistical software packages. Prior to the 2004-05 rounds, ASPAC used the algorithm employed by EXCEL and some others. From the 2004-05 program, the algorithm employed has been that of SAS Method 4[9]. In summary, IQR = Q_3-Q_1.
Normalized IQR	This equates to IQR x 0.7413, where the latter is a normalizing factor.
Robust % CV[10]	The robust coefficient of variation (Robust % CV) = (100 x normalised IQR / median). For simplicity, the Robust %CV shown is for the initial results, and also for the "final" population of results for a test after the removal of "outliers" and perhaps "stragglers", usually following one or two iterations. Note that for Interim Reports, this term is estimated as = (100*MAD*1.483)/ Median, separately for "i" and "f" datasets.
Letter "i" and the letter "f" associated with medians, means, MADs, IQR and Robust %CVs.	The letter "i" relates to the initial data set. The letter "f" relates to the "final" data set, generated after one or two iterations typically after removal of laboratories with statistical "outliers" (if any), and statistical "stragglers" (if any).

A When the mean is greater than the median, the distribution is positively skewed. When the mean is lower than the median, the distribution is negatively skewed.

9 SAS Procedure Guide.

10 "Guide to NATA Proficiency Testing". 27 pp. (National Association of Testing Authorities, Australia, December 1997).

2.6 ASPAC's criteria for certification of laboratories for plant tests

Subject to satisfactory measurement performance, typically for 12 samples across three sequential rounds in a 12-month period, ASPAC awards participating laboratories with a printed, signed and dated *Certificate of Proficiency.* The *Certificate of Proficiency* identifies performance for each test that met criteria set by ASPAC. Certification for a given test (not laboratory accreditation) applies when a laboratory incurs no more than four demerit points for the 12 samples.

Demerit points (if any) were allocated through the identification of "outliers" and "stragglers" by the "median / MAD" statistical procedure mentioned earlier in this report. Appendix 3 provides details on how "outliers" and "stragglers" were identified. Two demerit points were allocated to each statistical "outlier", while a statistical "straggler" was allocated one demerit point. As no sample result could be both an "outlier" and a "straggler", a maximum of two demerit points is all that could accrue per sample for a specific test.

For any single "round" of four samples, three (3) was set as the maximum number of demerit points for a specific test. This was done so that unsatisfactory measurement for a test in one "round" did not in itself result in failure to be certified for that test across the three rounds in the designated 12-month period.

If a "round" was missed, the maximum number of three demerit points for every test in that "round" was allocated, unless very special circumstances applied and was known or advised expeditiously to the ASPAC-LPC through its Convenor. When the explanation was accepted, performance from the three most recently completed rounds was used to assess eligibility for certification. There were no "very special circumstances" in 2017.

Finally, if less than seven laboratories submitted results for a particular test and/or sample, proficiency assessments could not be made statistically with an acceptable level of confidence and hence certification for the specific tests could not be granted. This was not the case in 2017.

No certification was provided for the (total) Plant Si test because the LPC determined that laboratories using digestion procedures could not possibly be getting all plant Si into solution because Si is mostly insoluble in digestion acids except hydrofluoric acid. Very few laboratories currently use methods that are able to determine true total Si (e.g. acid digests that include HF, X-Ray Fluorescence Spectroscopy, Neutron Activation Analysis and Alkaline Fusion techniques).

ASPAC's *Certificates of Proficiency* are only issued on completion of each annual program of three rounds. Nowadays, ASPAC provides details of certified laboratories by test on its public web site. Certifications obtained in the 2017 Plant program remained valid until superseded by findings from the following Plant ILPP.

3. Summary Statistics

This section provides summary information and data (sometimes rounded only for table formatting purposes) on a test-by-test basis (in alphabetical order) for each of the 12 samples used across the three rounds in 2017. The tabulations include values relevant to the iterative "median / MAD" procedure plus other parametric and robust statistics. For the meaning or derivation of the terms used in the tabulated summaries, see Table 3 and Appendix 3. All data are expressed on a dry weight basis.

2017: Aluminium (mg Al/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	24	27	27	27	28	28	28	26	28	28	28	28
Minimum i	0.3	53	42.2	6.93	140	106	25.6	1.32	222	20.2	25.6	4.27
Maximum i	21.7	127	83.5	24.2	545	303	60.8	13.3	736	59.6	73.3	200
Median i	1.7	92.6	69.9	13.5	331	239	43.3	5.82	558	45.8	57	114
Mean i	4.87	93.3	68.4	13.3	343	232	43.8	6.41	526	44.2	54.8	113
MAD i	1.22	14.4	7.6	2.3	86.5	29.5	7.05	1.62	83.5	7.8	6.1	13
IQR i	6.05	26.2	13.2	4.15	183	49.3	13.4	3.62	158	12.7	10.6	25.5
Robust CV% i	264	21	14	23	41	15	23	46	21	21	14	17
Median f	0.838	92.6	70.1	13.4	331	242	43.3	5.51	568	45.8	57.4	114
Mean f	1.03	93.3	69.4	12.9	343	244	43.8	5.61	549	44.2	57.6	113
MAD f	0.438	14.4	7.55	2.15	86.5	22	7.05	0.88	82.5	7.8	3.2	11.5
IQR f	0.916	26.2	13.3	3.78	183	45	13.4	1.55	158	12.7	7.35	21.5
Robust CV% f	81	21	14	21	41	14	23	21	21	21	10	14
Outliers	7	0	1	1	0	2	0	3	2	0	3	5
Stragglers	2	0	0	0	0	1	0	4	0	0	3	1

2017: Boron (mg B/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	30	31	31	31	34	34	34	33	32	32	31	32
Minimum i	0.072	0.791	22.5	4.77	46.8	10.6	4.68	2.3	38.5	3.62	3	39.1
Maximum i	16.4	19.9	70.2	17.2	84	27.3	22.3	15.9	56.6	25.1	13.3	64.4
Median i	1.3	3.34	60.1	7.14	74.2	23.1	17.7	12.1	49.2	10.5	6.77	52.1
Mean i	2.78	4.57	58	7.6	73.1	22.6	17.5	11.7	48.4	11.3	7.06	52
MAD i	0.552	0.42	3.7	0.96	4.25	1.1	0.75	0.8	2.1	0.545	0.51	1.05
IQR i	1.76	0.92	8.1	1.55	7.85	1.6	1.4	1.4	3.78	1.03	0.86	1.83
Robust CV% i	101	20	10	16	8	5	6	9	6	7	9	3
Median f	1.13	3.31	60.5	7.14	75.1	23.1	17.7	12.1	49.3	10.5	6.76	52
Mean f	1.08	3.4	60.2	7.14	74.4	23	17.7	11.9	49.1	10.5	6.86	52.1
MAD f	0.316	0.245	3.6	0.54	3.85	0.45	0.6	0.6	1.85	0.3	0.29	0.6
IQR f	0.546	0.513	6.88	0.945	7.3	0.8	1.18	1.1	3.33	0.6	0.603	0.9
Robust CV% f	36	11	8	10	7	3	5	7	5	4	7	1
Outliers	7	9	2	2	2	4	4	4	3	7	8	10
Stragglers	2	2	1	2	0	8	2	2	1	1	3	1

2017: Cadmium (µg Cd/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	17	17	17	17	18	20	18	18	20	20	20	20
Minimum i	1.1	9.53	0.0019	0.00070	5.5	194	13.8	0.8	190	2	1	240
Maximum i	417	361	309	223	143	365	198	104	1350	950	750	1450
Median i	5.3	23.4	9.67	8.78	7.7	241	26.6	5.19	267	18.7	11	410
Mean i	30.9	54.8	30.9	22.1	19.9	244	45.2	14.1	332	83.1	69.7	461
MAD i	2.1	2.3	2.47	2.66	1.55	17	5.5	0.59	11	2.8	5.29	14.5
IQR i	3.84	6.7	11.9	5	8.6	27.5	14.6	7.74	21.8	8	13.8	48.5
Robust CV% i	54	21	91	42	83	8	41	110	6	32	93	9
Median f	5.3	23.4	9.67	8.78	7.7	241	26.6	5.19	267	18.7	11	410
Mean f	5.76	23	8.41	6.88	8.27	232	28.9	5.14	267	18.2	9.32	407
MAD f	2.1	2.3	2.47	2.66	1.55	17	5.5	0.59	11	2.8	5.29	14.5
IQR f	3.53	3.8	3.01	4.84	3.55	28.8	9.4	1.08	20	4.3	7.94	24
Robust CV% f	49	12	23	41	34	9	26	15	6	17	54	4
Outliers	2	4	6	3	5	2	3	9	4	5	5	7
Stragglers	0	0	0	0	0	0	0	0	0	0	0	0

2017: Calcium (%Ca)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	37	37	37	37	38	38	38	38	40	40	40	40
Minimum i	0.04	0.271	0.394	0.059	0.307	0.75	0.465	0.0994	0.87	0.26	0.24	0.24
Maximum i	0.63	1.34	2.81	0.301	4.75	1.31	6.73	1.69	1.77	0.869	1.05	2.62
Median i	0.047	0.33	2.25	0.065	0.409	1.03	0.61	0.149	1.06	0.312	0.301	2.22
Mean i	0.0742	0.357	2.21	0.0751	0.525	1.03	0.78	0.191	1.08	0.326	0.321	2.14
MAD i	0.0028	0.019	0.13	0.003	0.018	0.03	0.0215	0.01	0.03	0.011	0.011	0.055
IQR i	0.0048	0.036	0.23	0.0079	0.0345	0.0575	0.0413	0.0193	0.0625	0.0205	0.0165	0.113
Robust CV% i	8	8	8	9	6	4	5	10	4	5	4	4
Median f	0.046	0.329	2.25	0.064	0.409	1.03	0.607	0.148	1.05	0.312	0.3	2.22
Mean f	0.0458	0.327	2.25	0.0647	0.406	1.02	0.609	0.148	1.05	0.314	0.302	2.21
MAD f	0.002	0.018	0.1	0.002	0.0145	0.025	0.018	0.008	0.02	0.008	0.01	0.04
IQR f	0.0045	0.033	0.2	0.0042	0.029	0.0525	0.034	0.0135	0.04	0.0155	0.014	0.09
Robust CV% f	7	7	7	5	5	4	4	7	3	4	3	3
Outliers	4	2	7	6	4	6	4	5	8	5	5	8
Stragglers	2	0	1	2	0	0	0	2	1	3	0	3

2017: Carbon (%C)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	25	25	25	25	28	28	28	28	27	27	27	27
Minimum i	44.2	41.9	40	41.6	48.4	43.7	46.9	42.1	42.6	40.2	39.5	37.4
Maximum i	48.4	45.5	44.1	45.9	54.3	47	52.4	47.4	46.1	43.7	44.5	41.4
Median i	46.6	43.8	42.4	43.8	51.4	45.4	50.3	45.5	44.8	42.9	41.7	40.2
Mean i	46.4	43.6	42.1	43.6	51.4	45.4	50.1	45.3	44.7	42.5	41.6	40
MAD i	0.4	0.4	0.5	0.6	0.2	0.3	0.25	0.3	0.5	0.5	0.6	0.3
IQR i	1.1	1.1	1.2	1.2	0.425	0.6	0.5	0.65	1.05	1.1	1.05	0.65
Robust CV% 1	2	2	2	2	1	1	1	1	2	2	2	1
Median f	46.6	43.9	42.4	43.9	51.4	45.4	50.3	45.6	45.1	43.1	41.9	40.2
Mean f	46.5	43.9	42.3	43.6	51.4	45.4	50.3	45.5	45	43	41.8	40.3
MAD f	0.4	0.3	0.4	0.55	0.2	0.3	0.2	0.2	0.5	0.2	0.4	0.3
IQR f	0.8	0.55	0.8	1.05	0.4	0.525	0.4	0.3	1	0.4	0.725	0.55
Robust CV% f	1	1	1	2	1	1	1	0	2	1	1	1
Outliers	4	4	4	3	7	4	4	7	4	4	2	5
Stragglers	0	2	1	0	0	0	2	0	0	3	3	0

2017: Chloride (mg Cl/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	23	23	23	23	24	24	24	24	24	24	24	24
Minimum i	240	737	305	795	0.042	0.144	0.247	0.247	1.22	2.03	0.776	1.07
Maximum i	1730	9710	5290	1860	1960	2390	2850	2500	10000	19100	5900	7600
Median i	515	7350	3800	1050	355	1510	2400	1510	9200	17400	5100	7000
Mean i	570	6720	3710	1080	431	1460	2220	1430	7940	15200	4540	6180
MAD i	78	420	350	79	114	90	70	120	225	950	170	210
IQR i	126	1040	585	147	218	138	138	198	943	2400	470	605
Robust CV% i	18	10	11	10	45	7	4	10	8	10	7	6
Median f	514	7570	3800	1050	349	1510	2410	1560	9240	18100	5140	7030
Mean f	509	7420	3800	1040	350	1520	2410	1570	9250	17600	5130	7070
MAD f	44.5	270	160	51.5	70	50	55	90	55	400	60	130
IQR f	90.3	640	300	98.8	149	120	103	180	92.5	1050	130	218
Robust CV% f	13	6	6	7	32	6	3	9	1	4	2	2
Outliers	3	4	4	1	3	5	5	4	8	3	6	4
Stragglers	0	2	2	2	2	1	1	0	4	3	5	2

2017: Cobalt (µg Co/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	20	20	20	21	22	22	21	22	22	22	22	22
Minimum i	1.22	52.2	0.00734	0.00013	20	30	19.9	90	70	160	60	1070
Maximum i	818	357	406	383	609	606	450	559	3740	2150	1590	6610
Median i	21.9	107	33	183	81.4	120	30.5	156	388	619	132	1530
Mean i	68.5	122	72.6	184	96	140	52.7	168	518	660	194	1690
MAD i	4.8	14	7.9	13	4.6	7	3.75	6	13	19	7	90
IQR i	11.6	24.5	34.4	28	15.1	18.3	9.9	18	35	46.3	15.8	130
Robust CV% i	39	17	77	11	14	11	24	9	7	6	9	6
Median f	21.9	107	33	183	81.4	120	30.5	156	388	619	132	1530
Mean f	22.6	106	29.8	180	80.8	120	31	154	385	617	132	1480
MAD f	4.8	14	7.9	13	4.6	7	3.75	6	13	19	7	90
IQR f	8.05	10.7	7.93	14	7.05	11.5	8.6	13.5	28	37	11	130
Robust CV% f	27	7	18	6	6	7	21	6	5	4	6	6
Outliers	5	3	8	5	7	6	2	7	4	5	5	2
Stragglers	0	0	0	0	0	0	0	0	0	0	0	0

2017: Copper (mg Cu/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	35	35	35	35	36	36	36	36	38	38	38	38
Minimum i	0.0578	1.74	4.99	7.35	4.83	0.532	0.36	0.5	9.83	1.84	2.21	111
Maximum i	30.6	25.4	8.67	10.6	8.05	5.2	9.65	8	14.7	11.8	7.81	169
Median i	5.12	3.61	7.1	8.22	5.95	2.62	7.41	4.23	11.3	4.72	5.7	134
Mean i	5.7	4.18	7.05	8.34	6.01	2.6	7.21	4.29	11.6	4.73	5.57	134
MAD i	0.29	0.21	0.42	0.34	0.33	0.18	0.265	0.19	0.45	0.23	0.28	6.5
IQR i	0.575	0.405	0.82	0.705	0.588	0.388	0.483	0.388	0.7	0.423	0.545	11
Robust CV% i	8	8	9	6	7	11	5	7	5	7	7	6
Median f	5.07	3.61	7.17	8.15	5.95	2.62	7.44	4.22	11.2	4.79	5.73	134
Mean f	5.09	3.6	7.12	8.25	5.97	2.59	7.46	4.26	11.2	4.78	5.72	134
MAD f	0.25	0.2	0.41	0.29	0.225	0.13	0.21	0.14	0.2	0.16	0.22	5
IQR f	0.49	0.36	0.75	0.6	0.538	0.295	0.393	0.25	0.425	0.305	0.45	10.5
Robust CV% f	7	7	8	5	7	8	4	4	3	5	6	6
Outliers	3	4	3	1	3	7	6	7	5	8	8	2
Stragglers	3	0	0	1	1	1	0	2	5	3	1	1

2017: Iron (mg Fe/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	35	35	35	35	36	36	36	36	39	39	39	39
Minimum i	5.81	30.4	66.6	9.82	128	192	41.4	6.71	226	28.3	60.6	138
Maximum i	57.9	127	151	101	235	3850	77.7	66.5	548	91.3	144	335
Median i	35.9	78.8	98.1	73.3	204	300	52.5	47.3	414	70	114	248
Mean i	36.9	76.8	98.7	71.1	204	488	52.8	46.9	409	67.2	112	239
MAD i	2.3	5.4	4.6	2.8	13	47.5	2.8	2.8	27	4.2	6	26
IQR i	4.55	11.1	8.9	6.25	25.5	98.8	5.45	5.15	53	9.9	12	44
Robust CV% i	9	10	7	6	9	24	8	8	9	10	8	13
Median f	35.7	79.9	98.4	73.7	207	294	52.8	47.2	416	70.2	114	250
Mean f	36	79.2	98.2	73.4	207	281	52.6	47	415	70.4	115	250
MAD f	2.1	4	4.1	2.25	12.5	26.5	2.5	1.8	17.5	3.3	5	13
IQR f	3.4	7	7.1	4.35	22.8	56.3	4.73	3.4	29.8	5.35	9.25	23
Robust CV% f	7	6	5	4	8	14	7	5	5	6	6	7
Outliers	7	5	7	8	2	6	3	3	7	5	6	6
Stragglers	1	1	0	1	0	2	3	2	4	3	1	4

2017: Lead (µg Pb/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	16	17	17	16	17	17	16	15	18	17	17	17
Minimum i	0.612	0.371	0.103	0.00028	20	40	20	1.64	120	2.49	1	30.6
Maximum i	1870	6070	341	253	262	259	118	118	1100	461	1950	1950
Median i	10.1	80.8	279	18.7	172	167	63.1	9.82	401	37.3	49.7	62.7
Mean i	220	458	211	36.2	163	167	66.8	22.6	456	103	187	222
MAD i	9.34	13	34.5	9.56	19	11	4.45	2.51	5.5	9.8	2.8	3.3
IQR i	68.9	46.5	121	15.5	35	24	13.1	24.4	59.3	82	14	42
Robust CV% i	506	43	32	62	15	11	15	184	11	163	21	50
Median f	10.1	80.8	279	18.7	172	167	63.1	9.82	401	37.3	49.7	62.7
Mean f	11.1	85.8	265	16.1	166	166	64.5	7.01	405	35.7	49.6	62.4
MAD f	9.34	13	34.5	9.56	19	11	4.45	2.51	5.5	9.8	2.8	3.3
IQR f	7.99	25.7	50	8.57	29.5	20	11	7.98	14.3	15.1	2.1	5.75
Robust CV% f	59	24	13	34	13	9	13	60	3	30	3	7
Outliers	6	5	4	2	2	3	3	5	8	6	10	7
Stragglers	0	0	0	0	0	0	0	0	0	0	0	0

2017: Magnesium (%Mg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	37	37	37	37	38	38	38	38	40	40	40	40
Minimum i	0.095	0.178	0.303	0.084	0.163	0.286	0.0681	0.119	0.259	0.19	0.132	0.974
Maximum i	0.4	0.239	0.463	0.277	1.93	3.05	0.766	1.29	1.05	0.896	0.874	2.83
Median i	0.12	0.208	0.375	0.102	0.193	0.311	0.0814	0.131	0.295	0.23	0.155	1.22
Mean i	0.127	0.208	0.379	0.107	0.239	0.384	0.101	0.164	0.317	0.247	0.173	1.25
MAD i	0.005	0.006	0.017	0.003	0.0085	0.015	0.0036	0.0055	0.011	0.0105	0.0055	0.06
IQR i	0.01	0.013	0.031	0.006	0.0178	0.0278	0.00623	0.0128	0.0198	0.0213	0.0113	0.113
Robust CV% i	6	5	6	4	7	7	6	7	5	7	5	7
Median f	0.12	0.21	0.375	0.102	0.192	0.311	0.081	0.131	0.295	0.229	0.154	1.22
Mean f	0.119	0.209	0.373	0.102	0.193	0.31	0.0812	0.132	0.293	0.229	0.154	1.21
MAD f	0.0045	0.004	0.011	0.002	0.008	0.0145	0.00305	0.005	0.008	0.009	0.005	0.045
IQR f	0.009	0.0085	0.0223	0.0042	0.017	0.0235	0.00603	0.0115	0.016	0.018	0.01	0.11
Robust CV% f	6	3	4	3	7	6	6	7	4	6	5	7
Outliers	5	9	4	8	3	2	5	3	3	4	5	3
Stragglers	0	1	5	4	0	0	1	0	2	0	0	1

2017: Manganese (mg Mn/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	35	35	35	35	36	36	36	36	38	38	38	38
Minimum i	36.9	20.7	36.8	9.97	206	40.3	6.21	12.1	37.7	40.2	137	107
Maximum i	51.8	32.1	62.1	15.3	351	67.6	15.2	22.9	62.2	68.8	240	216
Median i	44.8	25.2	44.2	12.3	293	48	12.5	20.8	44.2	57.4	197	141
Mean i	44.8	25.3	44.7	12.4	291	48.3	12.1	20.2	45	56.5	195	143
MAD i	1.6	1.2	1.8	0.4	15	1.85	0.6	1	1	1.4	7.5	3.5
IQR i	3.05	2.1	3.3	0.8	26.8	3.83	1.05	1.88	1.9	3.7	14	6
Robust CV% i	5	6	6	5	7	6	6	7	3	5	5	3
Median f	44.6	25.2	44.2	12.3	293	48	12.5	20.9	44.2	57.7	198	141
Mean f	44.7	25.3	44.4	12.3	293	47.9	12.5	20.9	44.3	57.6	198	141
MAD f	1.3	0.7	1.2	0.35	15	1.6	0.4	0.8	0.9	0.7	6	2.5
IQR f	2.53	1.9	2.7	0.625	25	3.05	0.8	1.45	1.55	1.3	12	4.25
Robust CV% f	4	6	5	4	6	5	5	5	3	2	4	2
Outliers	4	4	5	7	2	4	5	4	7	10	3	9
Stragglers	3	2	1	0	1	1	0	0	0	7	2	5

2017: Molybdenum (µg Mo/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	19	19	19	19	22	20	18	22	19	20	21	20
Minimum i	57.8	374	5.67	1970	176	1	1	25.4	150	100	867	4080
Maximum i	2240	1650	2900	3130	1330	132	390	1260	370	419	9870	6420
Median i	265	559	196	2530	1060	66.8	60.5	888	315	310	9240	5990
Mean i	413	625	341	2510	990	69.9	84.6	839	290	298	8320	5630
MAD i	22	26	22	70	20	8	9.75	27	10.5	16	420	355
IQR i	136	105	55.5	135	111	20.6	16.2	91.8	41.5	42.3	820	745
Robust CV% i	38	14	21	4	8	23	20	8	10	10	7	9
Median f	265	559	196	2530	1060	66.8	60.5	888	315	310	9240	5990
Mean f	257	564	200	2530	1050	65	60.3	884	309	309	9130	5790
MAD f	22	26	22	70	20	8	9.75	27	10.5	16	420	355
IQR f	32	46	42	130	20	11.9	12.8	40.5	10.8	27	508	750
Robust CV% f	9	6	16	4	1	13	16	3	3	6	4	9
Outliers	6	5	4	3	9	4	3	7	7	7	3	2
Stragglers	0	0	0	0	0	0	0	0	0	0	0	0

2017: Nitrate-nitrogen (mg NO_3-N/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	17	17	17	17	19	19	20	18	19	18	17	19
Minimum i	0.001	0.001	7.55	0.735	0.1	0.1	0.1	0.129	0.001	2	0.001	305
Maximum i	27.5	132	2720	35	25	27.1	70	61.2	120	1600	91	4140
Median i	4.92	4.9	19.5	5	4.41	7.47	6.26	6.58	12.2	10.5	5.03	3260
Mean i	6.36	15.6	182	7.54	5.04	8.45	12.6	12.8	21.1	110	11.5	3130
MAD i	3.91	2.1	3.8	3.24	2.25	3.13	3.7	4.18	3.3	6.18	2.97	170
IQR i	6.99	9.2	13.9	5.3	4.22	5.55	9.63	9.13	13.6	18.6	5.52	300
Robust CV% i	105	139	53	79	71	55	114	103	82	132	81	7
Median f	4.79	4.02	17.6	3.65	4.06	6.1	4.96	4.65	12	6.79	4.17	3270
Mean f	5.04	3.96	17.6	4.99	3.93	6.65	5.91	6.11	11.3	8.04	4.21	3280
MAD f	3.5	1.09	1.75	2.55	2.43	3.07	2.18	2.85	1.7	2.52	2.1	130
IQR f	6.11	1.88	3.38	5.26	4.13	5.13	4.98	4.81	2.95	5.28	3.92	233
Robust CV% f	95	35	14	107	76	62	74	77	18	58	70	5
Outliers	1	5	4	2	1	2	2	3	6	3	3	3
Stragglers	0	0	3	0	0	0	2	0	2	3	0	0

2017: Nitrogen (%N)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	34	34	34	34	36	36	36	36	37	37	37	37
Minimum i	1.89	0.6	2.48	3.57	1.71	0.82	1.69	3.34	2.5	1.38	2.33	3.27
Maximum i	2.22	1.17	3.18	4.92	2.11	1.3	6.5	3.92	3.21	1.78	3.02	5.71
Median i	2.09	0.856	2.71	3.97	2	1	1.84	3.72	2.81	1.61	2.62	3.75
Mean i	2.08	0.851	2.7	3.98	1.99	1.03	1.98	3.68	2.81	1.62	2.61	3.8
MAD i	0.04	0.0325	0.07	0.08	0.035	0.0425	0.045	0.095	0.07	0.04	0.06	0.08
IQR i	0.085	0.0615	0.13	0.168	0.07	0.0928	0.09	0.18	0.11	0.1	0.1	0.15
Robust CV% i	3	5	4	3	3	7	4	4	3	5	3	3
Median f	2.09	0.86	2.69	3.97	2	0.993	1.84	3.72	2.8	1.61	2.63	3.75
Mean f	2.09	0.859	2.68	3.96	2	0.996	1.84	3.71	2.8	1.62	2.62	3.73
MAD f	0.04	0.021	0.07	0.065	0.025	0.0205	0.03	0.08	0.05	0.03	0.055	0.04
IQR f	0.07	0.0395	0.128	0.138	0.0475	0.0508	0.06	0.165	0.105	0.09	0.0875	0.11
Robust CV% f	2	3	4	3	2	4	2	3	3	4	2	2
Outliers	2	6	1	3	4	6	5	3	3	6	5	3
Stragglers	0	1	0	2	5	3	3	1	2	0	0	6

2017: Phosphorus (%P)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	35	35	35	35	36	36	36	36	38	38	38	38
Minimum i	0.29	0.14	0.15	0.23	0.114	0.0465	0.049	0.283	0.07	0.12	0.19	0.19
Maximum i	0.469	0.208	0.212	0.335	1.35	0.55	1.53	3.27	0.164	0.232	0.373	0.43
Median i	0.388	0.172	0.177	0.285	0.134	0.061	0.162	0.333	0.13	0.189	0.276	0.307
Mean i	0.386	0.173	0.178	0.282	0.168	0.0729	0.197	0.413	0.129	0.188	0.276	0.308
MAD i	0.014	0.006	0.007	0.009	0.0065	0.00345	0.005	0.0135	0.005	0.0065	0.011	0.0125
IQR i	0.031	0.012	0.013	0.0175	0.0115	0.00658	0.00925	0.027	0.0095	0.01	0.0193	0.0223
Robust CV% i	6	5	5	5	6	8	4	6	5	4	5	5
Median f	0.388	0.172	0.176	0.285	0.132	0.0614	0.162	0.333	0.13	0.189	0.277	0.309
Mean f	0.387	0.173	0.176	0.285	0.133	0.061	0.162	0.332	0.13	0.187	0.278	0.31
MAD f	0.013	0.0045	0.006	0.005	0.007	0.0026	0.004	0.012	0.004	0.005	0.007	0.01
IQR f	0.023	0.011	0.013	0.0103	0.0115	0.00515	0.00875	0.023	0.0075	0.00975	0.0138	0.0193
Robust CV% f	4	5	5	3	6	6	4	5	4	4	4	5
Outliers	5	5	3	4	2	4	5	4	4	2	5	6
Stragglers	0	3	0	4	0	2	2	0	0	2	3	0

2017: Potassium (%K)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	37	37	37	37	38	38	38	38	40	40	40	40
Minimum i	0.254	1.27	1.18	0.631	0.458	0.388	0.449	0.385	0.271	0.962	1.34	2.62
Maximum i	5.13	6.23	7.97	8.75	4.16	3.61	3.96	5.88	0.521	1.79	2.75	5.31
Median i	0.375	1.64	1.53	0.87	0.633	0.529	1.58	0.936	0.412	1.58	2.26	4.88
Mean i	0.505	1.75	1.7	1.09	0.732	0.624	1.59	1.08	0.412	1.55	2.22	4.69
MAD i	0.019	0.08	0.08	0.043	0.0375	0.0165	0.065	0.061	0.021	0.06	0.09	0.195
IQR i	0.04	0.14	0.14	0.07	0.078	0.0298	0.143	0.115	0.0405	0.113	0.203	0.41
Robust CV% i	8	6	7	6	9	4	7	9	7	5	7	6
Median f	0.375	1.64	1.52	0.869	0.633	0.53	1.58	0.936	0.412	1.58	2.26	4.93
Mean f	0.375	1.63	1.52	0.876	0.62	0.529	1.57	0.93	0.411	1.58	2.26	4.93
MAD f	0.0135	0.065	0.06	0.027	0.033	0.005	0.035	0.053	0.019	0.02	0.08	0.15
IQR f	0.026	0.128	0.12	0.06	0.064	0.0095	0.0625	0.105	0.032	0.04	0.145	0.278
Robust CV% f	5	6	6	5	7	1	3	8	6	2	5	4
Outliers	5	5	4	4	5	12	6	5	5	3	5	7
Stragglers	2	2	4	2	0	3	4	1	0	11	0	1

2017: Selenium (µg Se/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	18	18	19	19	17	18	19	19	18	18	18	18
Minimum i	14	0.1	0.562	0.0012	3.5	20	28	2	14.9	18.3	73	310
Maximum i	230	1000	1100	2000	556	231	847	1450	770	870	1010	1060
Median i	57.4	78.2	553	1440	20	33.1	40.8	298	49.6	51.7	197	629
Mean i	94.8	141	503	1260	86.8	56.7	152	379	110	168	244	647
MAD i	25.8	18.5	60	140	10	6.5	3.6	37	12.7	8.5	46	88
IQR i	81.7	78	136	250	31.6	27.8	33	80.5	41.4	152	79.8	194
Robust CV% i	106	74	18	13	117	62	60	20	62	218	30	23
Median f	57.4	78.2	553	1440	20	33.1	40.8	298	49.6	51.7	197	629
Mean f	65.2	67.2	546	1410	19.9	31.3	38.8	313	47	49.5	181	623
MAD f	25.8	18.5	60	140	10	6.5	3.6	37	12.7	8.5	46	88
IQR f	36.2	17.2	105	200	19.1	6	4.45	66	15.4	14.2	88.5	197
Robust CV% f	47	16	14	10	71	13	8	16	23	20	33	23
Outliers	4	7	4	4	4	5	7	5	4	8	2	1
Stragglers	0	0	0	0	0	0	0	0	0	0	0	0

2017: Silicon (%Si) NOT CERTIFIED

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	9	9	9	9	9	9	9	9	9	9	9	9
Minimum i	0.00544	0.00504	0.00703	0.00237	0.00583	0.008	0.00267	0.001	0.0213	0.0375	0.038	0.0155
Maximum i	0.0417	1.45	2.52	0.0341	0.288	0.235	0.0365	0.0321	0.422	1.01	3.66	0.14
Median i	0.015	0.226	0.214	0.00607	0.0513	0.0456	0.016	0.008	0.0781	0.0792	0.164	0.042
Mean i	0.0173	0.53	0.882	0.00962	0.0743	0.0676	0.0181	0.00922	0.108	0.196	0.527	0.0502
MAD i	0.0064	0.217	0.203	0.00293	0.0115	0.0034	0.004	0.004	0.0135	0.0142	0.05	0.0065
IQR i	0.0101	1.02	2.04	0.005	0.0222	0.0156	0.008	0.0101	0.0154	0.081	0.1	0.0085
Robust CV% i	50	333	706	61	32	25	37	93	15	76	45	15
Median f	0.015	0.158	0.132	0.00527	0.0513	0.0451	0.015	0.0065	0.0781	0.0712	0.146	0.042
Mean f	0.0173	0.142	0.134	0.00656	0.0476	0.0453	0.0158	0.00636	0.0752	0.0677	0.136	0.0423
MAD f	0.0064	0.103	0.101	0.00259	0.0111	0.0007	0.004	0.00495	0.0019	0.0071	0.05	0.002
IQR f	0.0101	0.184	0.167	0.00493	0.0215	0.0012	0.00745	0.00882	0.0034	0.0127	0.0807	0.00435
Robust CV% f	50	86	94	69	31	2	37	101	3	13	41	8
Outliers	0	2	3	1	1	3	1	1	1	3	1	1
Stragglers	0	1	0	0	0	1	0	0	3	0	0	1

2017: Sodium (mg Na/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	33	36	36	33	37	37	37	36	38	38	37	37
Minimum i	0.00625	0.023	0.0123	0.00575	0.0158	0.054	0.0478	0.008	1.42	0.656	0.476	0.0099
Maximum i	1340	376	692	552	267	688	645	158	15500	7960	252	262
Median i	26.6	219	67.6	12	221	591	518	104	13600	6770	46	72.9
Mean i	71.7	218	97.5	37	205	546	476	98.9	12800	6360	53.2	78.4
MAD i	4.3	16.5	14.8	3.7	20	21	20	8.7	800	325	6	11.3
IQR i	16.8	33	36	18.1	37	48	32	17.7	1550	583	12.4	23.5
Robust CV% i	47	11	40	112	12	6	5	13	8	6	20	24
Median f	26.3	218	64.1	11.4	223	600	520	103	13800	6810	46	71
Mean f	25.8	218	64.1	11	223	596	519	104	13800	6760	46	73.5
MAD f	2.2	15	7.4	2.01	18.5	16	19	3	600	290	3	9.25
IQR f	4.13	30	14.6	3.47	36.8	29	28	7	1150	535	5.8	15.2
Robust CV% f	12	10	17	23	12	4	4	5	6	6	9	16
Outliers	12	3	10	10	3	8	6	9	3	5	12	7
Stragglers	1	0	1	4	0	2	2	6	3	1	2	0

2017: Sulfur (%S)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	32	32	32	32	34	34	34	34	34	34	34	34
Minimum i	0.0703	0.0321	0.0447	0.108	0.173	0.07	0.0894	0.0995	0.14	0.129	0.103	0.223
Maximum i	0.219	0.159	0.192	0.199	2.46	0.81	1.26	1.8	0.235	0.221	1.86	0.585
Median i	0.179	0.115	0.169	0.181	0.239	0.0851	0.13	0.179	0.205	0.181	0.172	0.511
Mean i	0.177	0.113	0.164	0.178	0.304	0.106	0.161	0.222	0.203	0.179	0.218	0.497
MAD i	0.009	0.006	0.0085	0.008	0.011	0.0035	0.0055	0.0075	0.006	0.008	0.008	0.0155
IQR i	0.0178	0.0103	0.0153	0.0158	0.0235	0.0106	0.011	0.0138	0.0118	0.0163	0.015	0.0325
Robust CV% i	7	7	7	6	7	9	6	6	4	7	6	5
Median f	0.179	0.115	0.169	0.184	0.239	0.086	0.131	0.18	0.205	0.182	0.172	0.512
Mean f	0.179	0.115	0.168	0.183	0.241	0.0853	0.131	0.179	0.204	0.181	0.171	0.512
MAD f	0.0075	0.004	0.008	0.0055	0.01	0.0017	0.003	0.0065	0.006	0.008	0.0065	0.0095
IQR f	0.0148	0.009	0.015	0.01	0.0225	0.0031	0.006	0.0128	0.0108	0.0155	0.0115	0.0185
Robust CV% f	6	6	7	4	7	3	3	5	4	6	5	3
Outliers	4	3	1	2	2	8	3	4	4	3	4	7
Stragglers	0	2	0	2	0	5	2	0	0	0	0	1

2017: Zinc (mg Zn/kg)

Statistical parameters	Plant sample identification and values											
	February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
	ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
No of results	35	35	35	35	36	36	36	36	39	39	39	39
Minimum i	15.8	23.3	12.3	26.8	35.2	5.14	12.9	19.1	22.7	11.2	19.4	31.1
Maximum i	27.9	41	21.9	45	93.8	12.9	27.3	27.2	34.9	26.5	54	49.5
Median i	21.4	33.9	15.3	37.2	43.4	8.51	17.5	24	26.8	15.2	22.6	37.7
Mean i	21.6	33.4	15.2	37.3	45.9	8.49	17.6	23.8	26.8	15.4	23.5	37.4
MAD i	1.5	1.6	0.8	1.4	1.3	0.47	0.7	1.05	1.1	1	1.3	1.2
IQR i	2.9	3.25	1.6	2.9	3.55	0.97	1.38	2.08	2.2	2.2	2.55	2.85
Robust CV% i	10	7	8	6	6	8	6	6	6	11	8	6
Median f	21.4	34.6	15.3	37.2	43.2	8.51	17.5	24.1	26.9	15.2	22.6	38
Mean f	21.4	34.2	15.1	37.4	43.2	8.47	17.6	24.2	26.9	15.2	22.5	37.6
MAD f	1.4	1.4	0.7	0.8	0.5	0.395	0.5	0.9	0.9	0.8	1.2	0.85
IQR f	2.5	2.5	1.2	1.6	1.18	0.723	1.1	1.9	1.8	1.43	2.2	1.85
Robust CV% f	9	5	6	3	2	6	5	6	5	7	7	4
Outliers	3	4	4	8	7	6	5	2	3	4	2	5
Stragglers	0	2	2	4	5	0	0	1	1	1	0	4

4. Comments on Measurement Performance

Full evaluation of measurement performance is beyond the scope of this report. These are typically made at ASPAC Workshops and in other national and international fora. However, a few observations are made here.

The grand median robust % CVs across the 12 samples by test in 2017, after the removal of "outliers" and "stragglers", ranged from 1.0 (for C, the same as for 2016) to 66.5 (for NO_3-N, about 2.7 times more than for this test in 2016). Figure 4.1 presents, in ascending order of %CVs for 2017, grand median robust %CVs for program years 2017 and 2016. For most tests, there was little relative difference between robust % CVs in the two years, but the CV for Co was lower in 2017 than 2016, while the opposite was the case for Cd, Al and especially NO3-N.

Robust %CV can be influenced by analyte concentrations. However, for the 2017 Plant Program Year, only the robust %CVs for Zn and Cl were influenced by analyte concentrations to any extent (highest %CVs at lowest concentrations), with coefficients of determination (r^2) for separate power functions of 0.58 and 0.27 respectively.

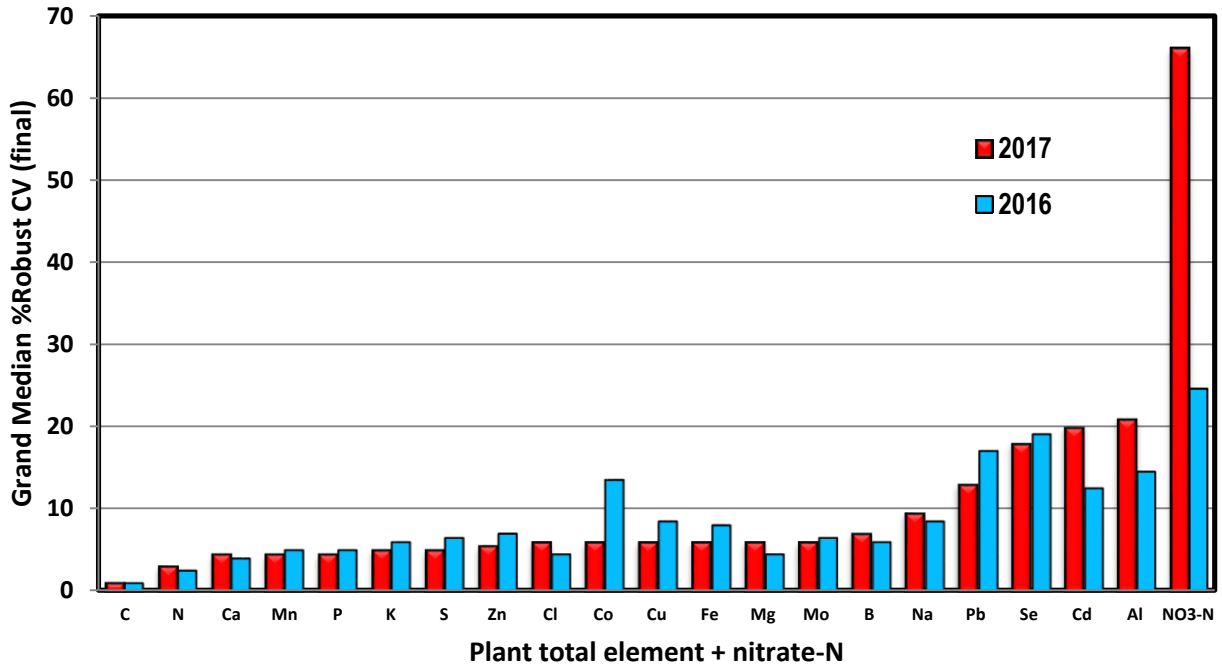

Figure 4.1. Grand median robust %CVs (final) for plant program years 2017 and 2016, excluding plant Si which was not assessed in 2016 and not certified in 2017.

The sequence for test samples with lowest (best at 4.0%) to highest (worst at 9.0%) grand median %CVs across all 22 tests was (ASP): 1708-1 < [1702-4, 1705-3, 1708-4] < 1708-3 < [1705-2, 1708-2] < [1702-2, 1705-4] < 1705-1 < 1702-3 < 1702-1. Collectively, the program grand median %CV for the 12 test samples was 6.0% (7.0% in 2016).

Across all 7616 reported plant test results in 2017, 15.5% were statistically assessed to be "outliers" and 3.9% were assessed to be "stragglers", which were similar to the corresponding percentages in 2016 (14.2% and 4.2% respectively). For individual elements, the range of "outliers", expressed as percentages of the number of reported results for the particular test, ranged from 7.3% (for Al) to 30.5% (Pb), while those for "stragglers" ranged from zero% (Cd, Co, Pb, Mo, Se) to 8.5% (Cl). As noted in the 2016 report, the lack of stragglers for Cd, Co, Mo, Pb and Se may reflect the fact that most laboratories conducting these tests have switched to the more sensitive and appropriate ICPMS analytical finish. As a result, those few laboratories still using ICPOES for these tests would be likely to identify as outliers rather than as stragglers.

Median concentrations of the elements essential for plant growth (Table 1) were generally within the bounds expected of healthy plants, with the exception of nitrate-N, where the grand median of 4.9 mg/kg was well below concentrations

associated with those plant parts (e.g. leaf petioles) where nitrate-N is often measured. However, sample 1708-4 had a final median nitrate-N concentration of 3280 mg/kg, which provided a test of performance at an acceptably high concentration. The presence of very low concentrations of NO3-N in all but one of the 12 test samples probably contributed to the high %CV for this test.

Appendix 1: List of laboratories (including contact details at the time) who participated in ASPAC's Plant ILPP in 2017, arranged by country

Name (position)	*Facility*	*Street and/or Postal Address*	*Country*	*Email*
Stephanie King (Administration)	Aglab	32 Wattle Avenue, Moolap, Victoria, 3220	Australia	service@agmin.com.au
Stephanie King (Administration)	Agrilab	32 Wattle Avenue, Moolap, Victoria, 3220	Australia	service@agmin.com.au
Craig Newman (Laboratory Manager)	AgVita Analytical	4 Thompson's Road, Latrobe, TAS 7307 PO Box 188, Devonport, TAS 7310	Australia	cnewman@agvita.com.au
Tim Thompson (Operations Manager)	APAL Laboratory Pty Ltd	489 The Parade, Magill, SA 5072 PO Box 327, Magill, SA 5072	Australia	tim@apal.com.au
Shannon Lawson (Quality Manager)	Bioscience	488 Nicholson Rd, Forrestdale, WA PO Box 5466, Canning Vale South, WA	Australia	Shannon.Lawson@biosciencewa.com
Jenny McGuire (Manager – Inorganics)	ChemCentre (WA)	Resources & Chem Precinct Centre, Conlon, WA 6102 PO Box 1250 Bentley Delivery Centre, WA 6983	Australia	JMcGuire@chemcentre.wa.gov.au
Chris Gendle (Chemist)	CSBP Ltd – Soil and Plant	2 Altona St, Bibra Lake, WA 6163	Australia	chris.gendle@csbp.com.au
Nell Peisley (DNA Sequencing Coordinator)	CSIRO Analytical Chemistry Group - Agriculture	Clunies Ross St, Acton, ACT 2601 GPO Box 1600, Canberra, ACT 2601	Australia	nell.peisley@csiro.au
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Appendix 2: Homogeneity data and statistical assessments* for Total Plant N% (Dumas N) on the 12 test plant samples in 2017.

Sample name		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
Sub-sample													
1	Rep 1	2.03	0.798	2.71	3.84	1.92	3.53	1.78	3.66	2.66	1.55	2.61	3.64
	Rep 2	2.02	0.795	2.74	3.84	1.92	3.59	1.79	3.66	2.69	1.55	2.62	3.62
2	Rep 1	1.99	0.797	2.70	3.84	1.91	3.56	1.79	3.66	2.74	1.54	2.63	3.64
	Rep 2	2.03	0.798	2.74	3.82	1.90	3.63	1.80	3.64	2.72	1.54	2.63	3.62
3	Rep 1	2.04	0.798	2.72	3.84	1.92	3.63	1.79	3.67	2.72	1.56	2.63	3.65
	Rep 2	2.03	0.789	2.74	3.84	1.92	3.62	1.79	3.67	2.73	1.57	2.62	3.60
4	Rep 1	2.03	0.793	2.70	3.86	1.92	3.65	1.78	3.67	2.68	1.53	2.62	3.64
	Rep 2	2.02	0.797	2.74	3.82	1.90	3.62	1.79	3.64	2.68	1.52	2.62	3.60
5	Rep 1	2.03	0.793	2.74	3.82	1.92	3.58	1.79	3.67	2.74	1.55	2.62	3.63
	Rep 2	2.02	0.793	2.74	3.82	1.91	3.62	1.79	3.63	2.72	1.52	2.62	3.61
6	Rep 1	2.03	0.797	2.75	3.84	1.92	3.6	1.77	3.67	2.71	1.53	2.61	3.64
	Rep 2	2.03	0.794	2.74	3.82	1.91	3.64	1.77	3.62	2.71	1.52	2.62	3.63
7	Rep 1	2.02	0.794	2.73	3.85	1.91	3.66	1.79	3.66	2.69	1.56	2.61	3.66
	Rep 2	2.02	0.798	2.69	3.83	1.92	3.62	1.79	3.66	2.69	1.58	2.62	3.63
8	Rep 1	2.02	0.804	2.73	3.84	1.91	3.5	1.79	3.66	2.70	1.54	2.62	3.63
	Rep 2	2.03	0.799	2.73	3.84	1.91	3.53	1.78	3.65	2.71	1.56	2.62	3.63
9	Rep 1	2.03	0.797	2.70	3.85	1.91	3.57	1.80	3.67	2.71	1.53	2.61	3.65
	Rep 2	2.03	0.797	2.73	3.82	1.91	3.6	1.79	3.67	2.72	1.53	2.62	3.62
10	Rep 1	2.05	0.798	2.74	3.84	1.91	3.63	1.78	3.66	2.68	1.60	2.60	3.63
	Rep 2	2.03	0.800	2.73	3.82	1.91	3.64	1.78	3.65	2.69	1.55	2.61	3.62
Mean		2.03	0.796	2.73	3.83	1.91	3.60	1.79	3.66	2.70	1.55	2.62	3.63
Analytical SD		0.0001	0.00001	0.0004	0.0002	0.0001	0.0008	0.00003	0.00028	0.00012	0.0002	0.00005	0.00035
Sampling SD		0.00003	$3x10^{-6}$	0	0	0	0.0012	0.00004	0	0.00034	0.00024	0.00001	0
SD proficiency data		0.062	0.0396	0.087	0.113	0.039	0.049	0.061	0.1178	0.0693	0.0497	0.0683	0.108
Status		**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**	**H**

* Homogeneity statistics calculated according to: Thompson, M., Ellison, S.L.R. and Wood, R. (2006). "The International Harmonised Protocol for the Proficiency Testing of Analytical Chemistry Laboratories." *Pure Appl. Chem.* **78**(1): 145-196. IUPAC Tech. Report.

Appendix 3: Statistical procedures used by ASPAC for its contemporary plant ILPP

Refer to Table 3 for a description of most statistical terms and their meaning. Of most significance is the "median / MAD" non-parametric, iterative procedure for identifying "outliers" (††) and "stragglers" (†) within datasets for particular tests and samples from multiple (typically 7 or greater) laboratories. See references in the body of the report for more details. Also, the median (μ) is regarded as a good estimate of the true mean, while the MAD; i.e., the median of the absolute deviations from the median, @), is regarded as a good estimate of the standard deviation.

After tabulating the data with a separate column for each sample result and a separate row for each laboratory, calculations were applied iteratively. Each iteration operated at an action level of [(X- μ)/f@] (called the "ASPAC Score" for convenience)>2, where "X" is the value reported by the laboratory (one replicate assumed), "μ" is the median of the population of values, and "f@" is a code for the Gaussian distribution of the sample size "n", approximated by [0.7722 + 1.604/n * t, with t = the Student's "t" for 5% (two-tailed) with n-1 degrees of freedom]. Excluding any case when a laboratory reported no result (or a non-numeric value) [these were automatically excluded], the laboratories at first iteration with an "ASPAC score" >2 were rated as "outliers" (††). Following their removal (if any), the remaining population of laboratory data were subject to a second iteration involving a recalculation of the "ASPAC score". When again >2, the relevant laboratories were rated as "stragglers" (†).

The other statistics summarized in Table 3 were calculated on the same populations of data. Only the first (i) and second (final; f) values appear in the data summaries in Section 3.

Appendix 4: Plant analytical method codes and raw program data for the 12 plant samples across three rounds in 2017.

The following tabulations of raw plant analytical data, as reported by participating laboratories, are listed in approximate alphabetical order by element after removal of unnecessary precision, this following completion of statistical tests. Precision adjustments were performed only to assist raw data presentation. Statistical "outliers" and "stragglers" are indicated by †† and †, respectively. All results are understood to be on an oven dry basis. Method Codes listed in the "raw data" tabulations are described in Tables 5 and 6.

Table 5. ASPAC method indicating codes (MIC) allow laboratories to record the preparation, extraction and/or digestion techniques used for each plant test/element reported in this ILPP. A separate ASPAC Code (see Table 6) is required to identify relevant instrumental and/or analytical finishes.

Preparation / Extraction / Digestion Technique	ASPAC MIC Code
Dry Ashing with HF, and uptake in HCl	AA
Dry Ashing with HF, and uptake in HNO_3	AB
Dry Ashing with HF, and uptake in H_2SO_4	AC
Dry Ashing without HF, and uptake in HCl	AD
Dry Ashing without HF, and uptake in HNO_3	AE
Dry Ashing without HF, and uptake in H_2SO_4	AF
Extraction with acid(s)	BA
Extraction with water	BB
Finely-divided dry sample	CA
Microwave digestion - closed system with HF, and final medium H_2SO_4	DA
Microwave digestion - closed system with HF, and final medium HNO_3 and/or HCl	DB
Microwave digestion - closed system with HF, and final medium $HClO_4$	DC
Microwave digestion - closed system without HF, and final medium H_2SO_4	DD
Microwave digestion - closed system without HF, and final medium HNO_3 and/or HCl	DE
Microwave digestion - closed system without HF, and final medium HCIO4	DF
Microwave digestion - open system with HF, and final medium H_2SO_4	DG
Microwave digestion - open system with HF, and final medium HNO_3 and/or HCl	DH
Microwave digestion in open system with HF, and final medium $HClO_4$	DI
Microwave digestion - open system with HF, and final medium HNO_3 / peroxide	DJ
Microwave digestion - open system without HF, and final medium H_2SO_4	DK
Microwave digestion - open system without HF, and final medium HNO_3 and /or HCl	DL
Microwave digestion - open system without HF, and final medium $HClO_4$	DM
Microwave digestion - open system without HF, and final medium HNO_3 / peroxide	DN
Pellet (fused)	EA
Pellet (pressed powder)	EB
Schoeniger combustion with Pt and O_2, with uptake in HCl	FA
Schoeniger combustion with Pt and O_2, with uptake in HNO_3	FB
Wet digestion - open system with HF, and final medium H_2SO_4	GA
Wet digestion - open system with HF, and final medium HNO_3 and /or HCl	GB
Wet digestion - open system with HF, and final medium $HClO_4$	GC
Wet digestion - open system with HF, and final medium HNO_3 / peroxide	GD
Wet digestion - open system without HF, and final medium H_2SO_4 (includes Kjeldahl – not quantitative for NO_3)	GE
Wet digestion - open system without HF, and final medium H_2SO_4 (includes Kjeldahl – quantitative for NO_3)	GF
Wet digestion - open system without HF, and final medium HNO_3 and /or HCl	GG
Wet digestion - open system without HF, and final medium $HClO_4$	GH
Wet digestion - open system without HF, and final medium HNO_3 / peroxide	GI
Wet digestion - open system without HF —diacid (HNO_3, $HClO_4$)	GJ
Wet digestion - open system without HF — triacid (HNO_3, H_2SO_4, $HClO_4$)	GK
Others	ZZ

Table 6. ASPAC's method indicating codes for instrumental and/or analytical finishes (IA-MIC) to allow laboratories to record the instrumental and/or analytical finishes associated with each plant test/element reported in this ILPP. A separate ASPAC Code (see Table 5) is used to identify relevant preparation/extraction/digestion techniques.

Instrumental and/or analytical finish	ASPAC IA-MIC Code
AAS-ETA: [Atomic Absorption Spectrophotometry Electro-Thermal Atomisation] background correction, without chemical modifier	01
AAS-ETA with deuterium background correction, without chemical modifier	02
AAS-ETA with Zeeman background correction, without chemical modifier	03
AAS-ETA with pulsed hollow cathode lamp background correction, without chemical modifier	04
AAS-ETA without background correction, with chemical modifier	05
AAS-ETA with deuterium background correction, with chemical modifier	06
AAS-ETA with Zeeman background correction, with chemical modifier	07
AAS-ETA with pulsed hollow cathode lamp background correction, with chemical modifier	08
AAS-Flame, without background correction, using air-acetylene	09
ASS – carbon rod –graphite furnace	10
AAS-Flame with deuterium background correction, using air-acetylene	11
AAS-Flame with Zeeman background correction, using air-acetylene	12
AAS-Flame with pulsed hollow cathode lamp background correction, using air-acetylene	13
AAS-Flame without background correction, using N_2O-acetylene	14
AAS-Flame with deuterium background correction, using N_2O-acetylene	15
AAS-Flame with Zeeman background correction, using N_2O-acetylene	16
AAS-Flame with pulsed hollow cathode lamp background correction, using N_2O-acetylene	17
Chromatography	18
Cold vapour technology	19
Flame emission	20
Gravimetric	21
Hydride technology and similar	22
ICP-AES	23
ICP-MS	24
Infrared — near-range (NIR)	25
Infrared — mid-range (MIR)	26
Ion selective electrode	27
Ion chromatography	28
Neutron activation analysis	29
Spectrophotometry (manual)	30
Spectrophotometry (auto; segmented flow, FIA, DA, etc.)	31
Titrimetric	32
Turbidimetric / or Nephelometric	33
Voltammetry (direct)	34
Voltammetry (stripping)	35
X-ray fluorescence	36
Dumas (e.g., Leco)	37
Others (specify)	38

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Aluminium (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	1.14	102	72.3	13.5	519	278	53.2	6.67	728	59.2	70.1	200 ††
8888	DE-23		117	83.5	14.3	545	303	53.7		654	59.6	65.4	119
10156	GI-23	1.7	75.7	55.4	11.3	396	252	54.9	8.34	550	48.7	60.2	122
10173	DN-24	1.16	127	82.8	13.7	490	267	60.8	5.97	656	53.8	63.5	169 ††
11079	DE-23					529	270	56.2	11.7 ††				
21043	GJ-23	6.61 †	104	59.5	17.2	415	274	36.8	4.63	591	48.1	56.7	105
21088	DE-23					360	224	46.1	5.51	585	42	64.4	128
21100	DE-24	0.766	53.8	74.5	15	228	135 †	32.8	11.5 ††	222 ††	20.2	25.6 ††	70.4 †
21138	DE-23		119	79.9	14	474	272	50.9		667	48.4	62.6	167 ††
21178	DE-23	5.25 †	85	72.7	11.4	326	254	48	6	440	38	45.7	110
21229	GI-23	15.5 †	92.6	67.9	19.5	247	238	43.4	8.15	525	48.8	55.4	112
21230	DE-23	0.838	63.6	53.5	7.34	192	185	35.2	5.29	337	31.7	46.8	78.2
21232	DE-23	1.82	116	71.9	17.8	468	280	47.5	9.69 †	647	43.3	57.5	135
50004	DE-23	1.34	105	66.8	15.5	242	172	33.6	5.67	665	44.1	53.8	144
50005	GJ-23	4.33 †	91.5	76.1	13.9	376	236	42	13.3 ††	555	59.6	70.7 †	119
50011	DE-23	1.96	99.5	62.6	12.7	338	258	43.2	6.52	560	48.5	54.8	114
50012	DN-23	1.7	91	62	11	370	233	40.8	5.35	622	46.1	54.8	127
50014	DE-23	12.5 †	95	77.7	9.33	540	296	55.7	8.55	736	55	73.3 †	145
50017	DE-23	7.55 †	113	78.2	17.5	330	208	38.5	1.32 †	497	33.9	47.6	110
50018	DE-23	15.6 †	91.2	67.5	7.9	235	242	41.2	3.96	481	44.3	57.6	102
50020	GI-23		84.4	69.9	10.1	332	264	57.5	6.02	367	56.7	56.2	4.27 ††
50021	GJ-23	12.3 †	124	74.3	24.2 †					582	56	64	114
50024	GJ-23	0.4	90.3	62.3	13.3	306	222	40.2	1.85	490	37.9	54.4	102
50027	DN-23	0.3	110	70.2	12.6	278	225	43.5	4.9	576	49.6	60.8	125
50029	AD-23	0.553	61.3	42.2 ††	6.93	269	187	31	4.43	403	25.4	30.6 ††	77.3
50037	DE-23	0.81	78.2	63	11.2	234	240	41.4	3.98	480	44.5	57.2	101
52283	GJ-23	21.7 †	102	80.7	15.8	276	232	43.5	10.9 †	578	45.4	57.9	116
52491	GI-23	0.655	75	61.2	13.8	140	106 †	25.6	1.65 †	300	20.8	29.4 ††	65.3 ††
52495	GI-24	0.346	53	57	9.03	159	143 †	29.9	4.81	235 ††	26.7	36.9 †	73

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Boron (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	0.804	3.27	61.8	7.14	77.7	23	17.7	12.3	49.6	10.7	7.36	52.7
8888	DE-23	1.49	3.61	64.5	7.53	76.6	19.4 †	17.7	12.2	46	11.1	6.77	48.8 †
10156	GI-23	0.119	0.791 ††	53.8	5.08 †	75.1	21.6	18.6	12.5	38.5 ††	11	8.87 ††	39.8 ††
10173	DN-24	1.07	3.46	62.2	7.68	75.6	23.1	17.9	12.1	46.3	11	7.28	50.3
11079	DE-23					79.6	23.6	17.5	12.2				
20204	GJ-23	4.75 †	5.94 ††	22.5 ††	7.4	65.2	22.7	18	15.3 ††	50.3	9.7	7.9 †	51.8
21043	GJ-23	16.4 †	10.3 ††	47.9 †	15.7 †	79.7	26 †	19.4	13.9	55.1	17.8 ††	13.3 ††	59.1 ††
21088	DE-23					68.4	22	16.2	11	51.2	11.5	7.23	56.8 ††
21100	DE-24	0.766	3.04	67.9	7.23	82.2	25.4 †	19.3	14.4 †	43.6	10	6.07	51.4
21138	DE-23		3.1	62.9	7.06	73.4	22.9	18.6	12.4	54.4	12 †	7.19	58.8 ††
21178	DE-23	1.55	3.65	60.1	5.7	70	19.9 †	14.5 ††	9.2 ††	52	11.8	6.75	56.3 ††
21229	GI-23	2.09	4.02	66.9	7.1	78.5	23.6	18	11.3	49.7	10.1	6.75	52
21230	GG-23	1.36	2.92	50.6	6.16	69.5	21.9	17.3	12	42.3 †	9.91	7.4	45.9 ††
21232	DE-23	0.072	1.98 †	52.1	5.94	65.9	23.6	15.7	10.9	47	9.9	7.3	53.1
50004	DE-23	1.35	3.89	60.8	8.11	79.6	24.6	18.5	12.5	50	10.2	6.59	51.9
50005	GJ-23	1.13	3.08	41.3 ††	7.46	69.8	23.2	18.1	12.6	49.8	15.5 ††	7.22	52.1
50008	AD-23	2.6 †	3.3	56.4	8.7	75.3	25.8 †	21.9 ††	15.9 ††	45.7	6.2 ††	3 ††	41.8 ††
50011	DE-23	1.16	3.2	58.2	6.85	77.4	22.5	18.3	11.5	48.4	10.4	7.04	51.8
50012	DN-23	2.9 †	4	55	6.8	71.6	20.8 †	17.3	11.1	47.4	10.5	6.44	51.4
50014	DE-23	2.15	1.09 ††	63.3	4.77 †	77.7	22.8	17.5	12.6	49.4	10.2	6.87	52.9
50017	DE-23	7.93 †	6.5 ††	62.3	7.25	67	20.6 †	17.5	11	50.3	12.4 ††	4.52 ††	52.7
50018	DE-23	3.66 †	3.57	61.9	7.28	72.5	23.2	17.1	11.3	49.1	10.5	6.48	51.9
50020	GI-23	0.814	3.11	65.5	6.99	76.5	23.4	16.6	10.8	52.5	16.3 ††	11.1 ††	58.1 ††
50024	DE-23	0.36	1.59 ††	60.2	5.41	72.8	23.7	16.8	11.5	51.1	11.1	5.5 †	53.6
50025	GJ-23	3.23 †	4.55 †	53.6	8.54	84	27.3 †	20 †	12.3	56.6 ††	10.4	5.34 †	64.4 ††
50027	DN-23	1.18	3.78	58.2	6.16	67.7	22	15.6 †	10.3	47.6	10.3	6.73	52.2
50029	AD-23	1.06	2.98	59.5	8.74	80.8	25.2 †	19.7	13.3	49.5	10.7	3.8 ††	51.6
50032	DE-30	1.07	7.7 ††	55	6.03	75	25.3 †	17.8	2.3 ††	46.2	9.66	9.45 ††	51
50037	DE-23	0.721	3.34	63.8	8.14	72.1	23.1	17	11.3	49.2	10.4	6.46	51.9
52283	GJ-23	13.6 †	19.9 ††	56.6	8.1	46.8 ††	23.2	22.3 ††	9.71 †	49.1	25.1 ††	8.83 ††	53.2
52491	GI-23					80.5	18.1 †	18.5	12.1				
52494	GG-23	1.24	3.3	58.4	6.52	70.8	22	17.2	11.4	46.9	10.5	6.63	52.2
52495	GI-24	1.13	3.31	64.5	6.89	72.4	23.2	17.1	12.4	46.6	10.5	6.67	53.3
52508	AE-23	5.77 †	13.3 ††	70.2	17.2 †	57.6 ††	10.6 †	4.68 ††		38.5 ††	3.62 ††		39.1 ††

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Cadmium (µg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-24	5.09	23.8	13.3	4.51	7.7	238	21.1	4.65	270	13.1	3.47	408
10156	GI-23	6.9	9.53 ††	0.001 ††	0.00070		203			606 ††	379 ††	396 ††	759 ††
10173	DN-24	4.14	24.2	8.21	1.63	6.65	236	36.1	1.66 ††	278	15.7	4.97	418
11079	DE-23					20 ††	239	40	16 ††				
20204	GJ-23	10	361 ††	309 ††	14.5	17.6 ††	246	25.3	13.8 ††	271	12.3	14	370
21088	DE-23					7.9	238	27.1	3.9	288	16	13.2	451
21100	DE-24	3.44	24.8	7.06	8.48	11.5	202	23.6	5.73	238	21.5	37.8 ††	411
21138	DE-24						194			261	28.2	30.8 ††	376
21178	DE-24	5.5	21	10	5	5.5	205	19	3 ††	264	16	10	400
21230	DE-24	5.67	21.1	7.73	9.61	7.44	214	13.8	5.19	258	21.4	14.5	386
50004	DE-24	2.48	25.6	9.34	3.71	10.6	296	59.8 ††	5.28	275	15.9	8.8	422
50005	GJ-23	12.3	27.7	19.6 ††	7.73	20.1 ††	232	30.4	15.3 ††	268	7.66 ††	14.6	394
50011	DE-24	7.98	30	12	6.65	7.6	245	26.6	5.27	281	17.5	6	417
50012	DN-24	1.1	16	26 ††	10	50 ††	220	40	50 ††	190 ††	50 ††	40 ††	470 ††
50014	DE-24	7.73	19.3	8.4	9.07	10.5	248	122 ††	0.8 ††	288	27.7	11.9	406
50018	DE-24	417 †	227 ††	23.4 ††	223 †	6.4	239	31.6	5.81	254	18.6	5.65	348 ††
50020	GI-23	22.2 †	35.1 ††	54 ††	34.7 †	143 ††	365 †	198 ††	104 ††	220 ††	11.3	10	240 ††
50024	GJ-23	5	23.5	4	21.3 †	10.2	330 †	42.4	4.6	237	2 ††	1	326 ††
50037	DE-24	2.95	18.9	1.64	5.59	6.32	242	31.1	5.84	258	18.8	5.68	350 ††
52495	GI-24	6.05	23.2	10.8	9.8	9.25	246	25.8	2.67 ††	278	18.6	16	426
52528	GK-11									1350 ††	950 ††	750 ††	1450 ††

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Calcium (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	0.046	0.328	2.39	0.065	0.418	1.05	0.619	0.151	1.12	0.33	0.313	2.31
8888	DE-23	0.048	0.336	2.36	0.067	0.42	1.07	0.64	0.16	1.06	0.31	0.3	2.19
10156	GI-23	0.449 †	0.323	2.15	0.065	0.41	1.02	0.69 ††	0.16	1.18 ††	0.358 ††	0.319	2.37 †
10173	DN-24	0.047	0.379	2.3	0.072	0.41	1.02	0.612	0.148	1.19 ††	0.34	0.31	2.41 ††
10181	GF-23	0.048	0.332	2.39	0.07	0.421	1.13 †	0.629	0.153	1.11	0.32	0.321	2.23
11079	DE-23					4.75 ††	1.13 †	6.73 ††	1.69 ††				
20204	GJ-23	0.049	0.283	1.73 ††	0.066	0.413	1.02	0.636	0.196 ††	1.04	0.283	0.301	2.17
21043	GJ-23	0.045	0.307	2.12	0.068	0.414	1.05	0.624	0.152	1.06	0.314	0.299	2.35
21088	DE-23					0.376	0.99	0.57	0.14	1.02	0.309	0.295	2.23
21100	DE-24	0.0558 †	0.369	2.54	0.081 †	0.433	1.1	0.636	0.168	1.04	0.316	0.3	2.24
21138	DE-23	0.0435	0.337	2.38	0.0631	0.363	0.949	0.594	0.139	1.15 †	0.336	0.319	2.41 ††
21178	DE-23	0.0435	0.332	2.34	0.0626	0.419	1.06	0.638	0.136	1.03	0.334	0.284	1.94 ††
21190	AD-09	0.0734 †	0.418 ††	2.81 ††	0.123 †	0.375	0.97	0.57	0.117 †	1.23 ††	0.377 ††	0.362 ††	2.62 ††
21193	GJ-11									0.94 ††	0.28 †	0.26 ††	1.43 ††
21229	GI-23	0.0442	0.322	2.24	0.0635	0.401	1	0.607	0.141	1.05	0.312	0.301	2.26
21230	DE-23	0.042	0.277	1.79 ††	0.0591	0.381	0.968	0.584	0.143	0.943 ††	0.291	0.277	1.92 ††
21232	DE-23	0.043	0.331	2.22	0.073 †	0.44	1.03	0.647	0.178 †	1.03	0.28 †	0.3	2.22
21234	GH-09									1	0.28 †	0.3	2.24
50004	DE-23	0.048	0.377	2.7 ††	0.071	0.432	1.07	0.623	0.156	1.18 ††	0.337	0.34 ††	2.26
50005	GJ-23	0.0454	0.298	2.43	0.0633	0.377	1.05	0.605	0.0994 ††	1.06	0.295	0.302	2.26
50006	GE-11	0.63 †	0.271	0.394 ††	0.301 †	0.751 ††	1.31 †	1.05 ††	0.295 ††	1.77 ††	0.869 ††	1.05 ††	2.36 †
50008	GJ-23	0.047	0.311	2.16	0.064	0.39	1	0.576	0.137	1.07	0.31	0.298	2.14
50011	DE-23	0.047	0.303	2.26	0.064	0.407	1	0.604	0.149	1.07	0.318	0.299	2.22
50012	DN-23	0.0413	0.302	2.06	0.0611	0.418	1.01	0.633	0.148	1.06	0.31	0.306	2.2
50014	DE-23	0.043	0.315	2.24	0.063	0.403	0.981	0.594	0.151	1.11	0.311	0.32	2.26
50017	DE-23	0.0457	0.311	2.08	0.0628	0.405	1.03	0.612	0.15	0.993	0.312	0.282	2.12
50018	DE-23	0.0483	0.348	2.62 †	0.0684	0.393	1.05	0.606	0.143	1.09	0.32	0.315	2.2
50020	GI-23	0.0542 †	0.381	2.71 ††	0.0801 †	0.404	0.962	0.576	0.134	0.998	0.32	0.313	2.05 †
50021	GJ-23	0.05	0.342	1.93	0.071					1.02	0.303	0.286	2.15
50024	GJ-23	0.043	0.317	2.22	0.062	0.432	1.06	0.643	0.16	1.09	0.325	0.331	2.27
50025	GJ-23	0.0445	0.311	2.15	0.0633	0.385	0.972	0.566	0.138	1.03	0.304	0.291	2.22
50027	DN-23	0.045	0.342	2.27	0.062	0.415	1.04	0.62	0.153	1.05	0.302	0.3	2.17
50029	AD-23	0.05	0.347	2.23	0.0767 †	0.433	1.03	0.638	0.153	1.06	0.298	0.31	2.1
50032	DE-11	0.053	0.33	2.28	0.073 †	0.435	1.03	0.625	0.17	1	0.305	0.285	2.16
50037	DE-23	0.0463	0.301	2.32	0.067	0.395	1.03	0.602	0.14	1.08	0.321	0.313	2.21
52283	GJ-23	0.048	0.352	2.25	0.065	0.426	1.03	0.606	0.143	1.08	0.312	0.306	2.24
52387	DE-14	0.04	1.34 ††	1.5 ††	0.06	0.307 ††	0.75 †	0.465 ††	0.115 ††	0.87 ††	0.26 ††	0.24 ††	0.24 ††

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Calcium (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
52491	GI-23	0.0469	0.34	2.25	0.0645	0.385	1.02	0.591	0.138	1.05	0.319	0.297	2.2
52494	GG-23	0.04	0.3	2.06	0.059	0.376	0.96	0.573	0.136	1.01	0.3	0.284	2.1
52495	GI-24	0.049	0.36	2.37	0.0649	0.4	1.15 †	0.602	0.158	1.07	0.335	0.31	2.28
52508	AE-23	0.063 †	0.329	2.38	0.0918 †	0.344 ††	0.927 †	0.594	0.138	1.03	0.271 ††	0.299	1.83 ††

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Carbon (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
22	CA-37	46.3	44	42	43.7	51.5	45.8	50.3	45.5	45.6	43.4	42	40.2
8888	CA-37					52.1 ††	46.4	50.5	46.2	44.5	41.9 †	41.1	38.4 ††
10156	CA-37	47	44.2	42.7	44.2	51.4	45.6	50.1	45.6	45.6	43.5	41.9	40.5
10173	CA-37	47.3	44.2	43	44.5	51.7	45.9	50.5	46.1	44.9	42.3	41.4	40.2
10181	CA-37	47	43.9	42.7	44.4	52.4 ††	46.9 †	51 †	46.8 ††	44.6	42.3	41	39.6
11079	CA-37					50.3 ††	44.6	49.2 ††	44.1 ††				
20204	CA-37	46.4	43.1	41.5	43.2	51.6	45.4	50.3	45.5	44.6	42.9	41.6	39.9
21100	CA-37	48.4 †	45.5 ††	44.1 †	45.9 †	54.3 ††	47 †	52.4 ††	47.4 ††	42.8 ††	40.9 ††	39.9 †	38.4 ††
21138	CA-37	46.6	43.5	42.9	41.6 †	51.3	45.6	49.9	44.4 ††	45.6	43.2	42.1	40.9
21229	CA-37	45.8	43.4	41.7	43.3	51.2	45.5	50.1	45.4	44.5	42.4	41.5	39.9
21230	CA-37	44.2 †	41.9 ††	40 ††	41.6 †	51.2	45.3	50.1	45.7	44.8	43	41.7	40.2
21232	CA-37					48.4 ††	44.1 †	46.9 ††	42.1 ††	42.6 ††	40.2 ††	39.5 ††	37.4 ††
50004	CA-37	45.4	42.6 †	41.1	42.7	51.5	45.7	50.5	45.6	44.4	42.3	41.2	39.8
50005	CA-37	46.6	44.3	42.4	43.9	51.4	45	50.1	45	44.7	42.9	42	40.4
50008	CA-37	46.9	44	42.4	44.2	51.8	45.9	50.4	45.8	45.1	43.1	41.7	40.1
50011	CA-37	46.8	44.6	42.4	43.9	51.2	45.3	50.2	45.4	45.1	43.3	42.3	40.5
50012	CA-37	46	43	41.5	43.1	51.5	45.1	50.7	45.2	46.1	43.7	42.8	41.4 ††
50014	CA-37	47.1	44.2	42.8	44.4	51.9	45.7	50.5	45.8	42.7 ††	40.5 ††	39.9 †	40.4
50017	CA-37	46.5	43.9	42.3	43.8	51	45.6	49.6 †	45	45.2	43.1	41.6	40.2
50018	CA-37	44.9 †	42.5 †	40.4 ††	42.4	51.2	45.1	50	45.6	45.7	43	42.4	40.9
50021	CA-37	47	44.7	42.5	44.4	51.3	45.2	50.5	45.4	43.8	41.8 †	41	39.5
50024	CA-37	47	43.8	42.8	44.4	51.6	45.6	50.4	46	45.4	43.3	42.3	40.8
50029	CA-37	44.4 †	42.3 ††	40.3 ††	42	49.5 ††	43.7 †	48.8 ††	43.7 ††	42.9 ††	40.7 ††	39.9 †	38.7 ††
50032	CA-37	47.1	43.9	42.9	44.1	51.6	45.1	50	43.9 ††	45.6	43.2	42.3	40.8
50037	CA-37	46.2	43.6	42.2	43.6	51.2	45.1	50.1	45.7	45.7	43	42.5	40.9
52283	CA-37	45.8	42 ††	40.5 ††	42	52.5 ††	44.8	50	45.6	44.4	41.2 †	44.5 ††	39.9
52491	CA-37	45.9	43.7	41.7	43.3	51.3	45.1	50.5	45.1	44.6	42.6	41.8	40.1
52495	CA-37	46.6	43.7	42.5	44.3	51.4	45.4	50.4	45.3	45.3	43.2	42	40.5

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Chloride (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	BA-32	517	7660	3840	1070	349	1600	2410	1650	9310	18300	5180	7050
8888	BB-18	515	8240	4390	1240	540	1620	2390	1490	8400 ††	16300	4690 †	6290 †
10173	BA-27	600	7700	3900	1200	300	1500	2400	1800	9300	18100	5200	7000
20204	BB-27	647	5170 ††	2600 †	1040	0.042 †	0.144 †	0.247 ††	0.247 ††	9230	15800	4950	7240
21043	BB-31	512	7060	3560	933	378	1450	2310	1490	9250	18300	5200	6980
21088	BB-31					830 ††	2150 †	2850 ††	1830	1050 ††	1850 ††	596 ††	853 ††
21100	BB-31	507	7040	5150 ††	854	222	1500	2330	1480	1.22 ††	2.03 ††	0.776 ††	1.07 ††
21138	BA-32	393	743 ††	3420	1070	345	1500	2330	1780	9120	18000	5100	7000
21178	BB-28	437	6930	3450	891	260	1360	2170 †	1310	8650 †	17200	4760 †	6630
21229	BB-31	527	7350	3690	988	444	1480	2350	1460	9330	18100	5250	7170
21230	BB-28	454	7840	3870	999	361	1400	2410	1530	10000 ††	19100	5510 †	7510
21232	BB-31	500	6500	2500 ††	1000	7.65 †	25.3 †	41.4 ††	25.1 ††	792 ††	1590 ††	470 ††	543 ††
50005	BB-32	967 †	5980 †	305 ††	1010	418	1550	2370	326 ††	9320	17500	5070	6990
50011	BB-31	399	7620	3940	971	418	1610	2550	1600	9180	17100	5090	7200
50012	BB-31	654	737 ††	4240	1140	207	1480	2390	1460	8840 †	15400 †	5280	7220
50014	BB-31	600	7700	3600	1000	600	1600	2500	1600	9700 †	18700	5500 †	7600 †
50017	BB-31	424	9710 ††	5290 ††	1140	547	1620	2450	1580	9290	18000	5070	7200
50018	BB-32	380	7080	3190	795 †	280	1520	2470	1680	9210	18100	5140	6960
50020	BA-31	1730 †	6150 †	3900	1860 †	1960 ††	2390 †	2560	2500 ††	7060 ††	14700 †	4320 ††	5750 ††
50027	BB-32	240 †	8030	3750	1050	110	1150 †	2090 ††	1370	9230	18200	5040	7140
50029	BB-31	539	6800	4760 †	1320 †	889 ††	1820 †	2830 ††	1480	8880 †	15900	5830 ††	7580
50032	BB-31	520	7370	4500	1050	184	1600	2450	1470	8200 ††	14100 †	5900 ††	7000
50037	BB-32	543	7680	3800	1080	279	1530	2460	1690	9210	18100	5140	6960
52494	BA-32	510	7570	3640	1150	412	1470	2250	1610	8100 ††	16500	4670 †	6490

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Cobalt (µg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
22	DE-24	17.1	98.5	33	170	78.9	112	25.4	157	355	602	123	1430
8888	DE-24	30	100	35	175	90	112	30	159	388	619	143	1550
10156	GI-23	11.8	65.6	0.007 ††	0.00013 †	20 ††	75.1 †		105 ††	368	613	137	1410
10173	DN-24	22.3	98.3	31.2	172	81	129	36.2	152	401	638	136	1620
20204	GJ-23					75.8	117	33.6	122 ††	362	645	128	1510
21088	DE-23					76	147 †	35	144	394	621	132	1480
21100	DE-24	29.1	120	1 ††	200	87.5	147 †	36.9	161	390	637	139	1480
21138	DE-24	21.9	99	33	183	68.5	106	26.4	142	411	679	139	1540
21178	DE-24	18	93	25	164	73	116	27	142	314 ††	515 ††	112	1220
21230	DE-24	44.6 †	126	115 ††	198	82.9	142	38.6	159	398	626	133	1540
50004	DE-24	27.1	148	40.8	256 †	85	119	27.7	163	432	702 ††	138	1750
50005	GJ-23	1.22 †	52.2 ††	4.58 ††	178	46.4 ††	120	34.9	124 ††	365	495 ††	127	1480
50011	DE-24	19.5	107	28.9	187	79.4	131	37.5	158	359	588	123	1530
50012	DN-23	19	69	24	140	20 ††	30 †	20	90 ††	70 ††	160 ††	60 ††	1070 ††
50014	DE-24	21.3	93	25.1	181	84	113	27	154	398	600	132	1480
50018	DE-24	818 †	357 ††	406 ††	297 †	81.6	124	30.9	145	378	610	97 ††	1350
50020	GI-23				47.5 †	609 ††	606 †	450 ††	559 ††	3740 ††	2150 ††	1590 ††	6610 ††
50024	GJ-23	20	102	114 ††	177	99.4 ††	156 †	41.5	185 ††	382	596	155	1410
50027	DN-23	51 †	109	23	157	39 ††	118	68 ††	203 ††	397	590	195 ††	1510
50029	AD-23	27.5	102	33	226	87.8	112	28.7	166	334 ††	572	113	1320
50037	DE-24	34	155	210 ††	185	81.2	125	31	146	375	612	96 ††	1350
52495	GI-24	20.6	109	25.5	180	65.1 ††	120	19.9	155	379	643	130	1630
52508	AE-23	116 †	228 ††	243 ††	383 †								

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Copper (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	5.14	3.59	7.3	8.13	5.35	2.23	7.5	4.41	11.9 †	4.97	6.12	142
8888	DE-23	5.32	3.68	7.45	8.55	6.43	2.77	7.95	4.58	11.9 †	4.99	6.1	133
10156	GI-23	30.6 †	25.4 ††	6.19	10.6 †	7.12 ††	3.3 †	9.65 ††	5.05 ††	12.7 †	5.56 ††	6.2	124
10173	DN-24	5.07	3.35	5.36 ††	8.13	6.07	2.36	7.22	4.22	13 ††	5.58 ††	6.34	138
11079	DE-23					6.56	3.19 †	7.64	4.6				
20204	GJ-23	6.07 †	4.08	6.05	8.42	5.29	2.36	6.98	8 ††	11.1	4.96	6.3	134
21043	GJ-23	4.62	3.19	6.53	7.35	6.33	2.81	7.65	5.25 ††	11	4.68	5.65	127
21088	DE-23					5.59	2.38	7.29	4.39	11.8	4.92	5.98	135
21100	DE-24	5.12	3.71	7.56	8.44	6.52	3.57 †	7.97	4.61	11.2	4.69	5.66	128
21138	DE-23	5.4	3.8	7.81	8.9	5.86	2.25	7.75	4.36	13.1 ††	4.79	6.64 ††	149
21178	DE-23	4.78	3.61	7.31	8.87	6.13	2.65	7.46	4.24	11.2	4.88	5.83	123
21190	AD-13	3.09 †	3.54	8.39	8.79	8.05 ††	5.2 †	9.25 ††	6.47 ††	13.7 ††	3.79 ††	3.62 ††	138
21193	GJ-11									11	4.85	7.81 ††	111 ††
21229	GI-23	5.33	3.5	7.09	8.4	5.95	2.6	7.45	4.03	11.5	4.84	5.77	135
21230	DE-23	4.63	3.14	6.79	7.43	5.68	2.72	7.45	4.1	10.8	4.6	5.45	124
21232	DE-23	5.68	3.81	7.86	8.57	6.38	2.76	7.73	4.31	10.8	4.1 †	5.5	135
21234	GH-09									13.4 ††	5.23	7.57 ††	145
50004	DE-23	5.14	3.77	7.3	8.63	6.46	2.55	7.56	4.67	11.1	4.74	5.42	132
50005	GJ-23	5.67	3.99	7.33	8.03	6.35	2.61	7.34	4.74 †	11.1	4.93	5.95	124
50008	GJ-23	4.91	3.6	6.74	8.01	5.77	2.8	7.05	4.14	10.7	4.45	5.74	127
50011	DE-23	5.39	3.37	6.69	8.02	5.64	2.73	7.42	4.38	10.6	4.61	5.63	139
50012	DN-23	4.7	3.3	6.6	7.6	5.77	2.44	7.06	4.03	11.4	4.42	5.56	130
50014	DE-24	5.3	3.39	7.24	8.76	6.48	2.62	7.77	4.45	11.8	4.56	5.95	130
50017	DE-23	5.78	4.52 ††	8.67 ††	9.02	5.79	2.39	7.22	4.23	11.8	4.92	5.77	133
50018	DE-23	5.92	4.14	7.87	9.33 †	5.97	2.68	7.32	4.17	11.2	4.63	5.41	136
50020	GI-23	4.81	2.98	5.84	7.86	5.55	1.69 †	6.2 ††	3.51 ††	9.83 †	3.97 †	5.08	124
50021	GJ-23	5.12	3.74	6.88	8.22					11	11.8 ††	4.4 ††	114 †
50024	GJ-23	4.85	3.41	6.97	8.15	5.81	2.27	7.04	4.08	11.1	4.56	5.73	149
50025	GJ-23	6.07 †	3.82	6.62	9.22	5 †	0.532 †	7.71	2.18 ††	11.7	2.29 ††	4.17 ††	169 ††
50027	DN-23	4.96	3.72	7.28	7.88	5.9	2.66	7.31	4.2	11.8	4.52	5.47	134
50029	AD-23	0.0578 †	1.74 ††	4.99 ††	8.84	5.98	2.52	7.74	4.27	11.1	1.84 ††	2.21 ††	121
50032	DE-11	4.93	3.67	7.67	8.03	6.3	2.7	7.4	3.9	12.6 †	5.2	6.5 †	145
50037	DE-23	4.83	3.4	7.1	8.25	5.94	2.64	7.36	4.15	11.2	4.65	5.4	138
52283	GJ-23	6.08 †	3.98	7.78	7.97	6.13	2.79	0.36 ††	4.13	11.3	5.03	5.79	134
52387	DE-09	4.93	3.72	7.74	7.92	4.83 ††	1.71 †	4.51 ††	0.5 ††	14.7 ††	5.72 ††	5.56	149
52491	GI-23	5.12	3.59	6.85	8.26	5.8	3.03	7.28	4.02	11.2	4.02 †	5.01	135
52494	GG-23	4.43	3.36	6.98	7.44	6.1	2.5	7.7	4.2	11.4	4.69	5.56	136

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Copper (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
52495	GI-24	5.02	3.68	7.3	8.15	5.87	2.58	7.39	4.16	11.7	4.88	5.88	142
52508	AE-23	4.58	2.86 ††	6.68	7.86	5.44	1.98 †	5.97 ††	3.72 †	11	1.92 ††	2.83 ††	119

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Iron (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	35.1	75.9	92.8	70.8	219	294	49.7	48	448	75.3	119	328 †
8888	DE-23	38.4	81.1	103	75.6	235	296	55.3	48.1	414	72.4	120	258
10156	GI-23	37.9	80.5	100	74.4	224	329	77.7 ††	51.3	408	73.5	114	247
10173	DN-24	39.2	94.8 †	151 ††	74.4	226	987 †	68.9 ††	49.5	409	74	120	297
11079	DE-23					234	334	56.3	62.5 ††				
20204	GJ-23	57.9 †	69.6	93.7	68.4	217	271	55.8	66.5 ††	421	56.7 †	116	259
21043	GJ-23	28.1 †	71.6	100	61.3 †	204	299	48.1	44.6	434	69.7	111	279
21088	DE-23					209	1130 †	51.6	46.3	434	69.7	120	250
21100	DE-24	28.3 †	46.3 ††	81.5 ††	55.4 †	223	799 †	58.6	55.4 †	278 ††	28.3 ††	71.6 ††	159 ††
21138	DE-23	35.5	84.2	107	73.3	203	264	52.9	47.9	474	75.9	126	286
21178	DE-23	35.9	78.8	94.2	73.9	211	347	52.1	45.4	412	70	109	221
21190	AD-13	38.8	82.9	101	77.8	202	426 †	58.9	50.6	475	68.6	103	235
21193	GJ-11									353 †	59.3	106	144 ††
21229	GI-23	38.2	76.8	94.3	74.9	200	309	54.4	46.1	411	73.5	118	248
21230	GG-23	5.81 †	30.4 ††	66.6 ††	9.82 †	186	215	49.6	6.71 ††	381	46.9 ††	110	138 ††
21232	DE-23	56.7 †	92	116 ††	83.9 †	216	236	51.6	45.7	226 ††	33.4 ††	60.6 ††	149 ††
21234	GH-09									548 ††	82.8 †	144 ††	335 ††
50004	DE-23	38.1	86.3	100	78.5	216	219	53.3	50.9	512 ††	79.3	141 ††	309 †
50005	GJ-23	51.7 †	127 ††	143 ††	73.9	217	301	56.2	47.5	423	91.3 ††	110	253
50008	GJ-23	34.2	76.5	95.3	71	203	1220 †	53	48	420	70.1	112	250
50011	DE-23	35.7	76.7	94.3	70.7	226	303	54.1	51.1	420	76.5	114	263
50012	DN-23	38	77	94	65 †	204	409 †	52.2	44.4	407	69	116	264
50014	DE-23	33.6	70.7	99	68.2	194	215	44.8	44	440	63.1	114	278
50017	DE-23	35.2	82.6	106	72.6	193	244	47.6	43.7	390	61.7	104	255
50018	DE-23	33.9	80.5	98.6	77	204	292	50.8	47.6	496 †	70.4	124	248
50020	GI-23	41.7	74.2	109	72.9	225	398	52.7	48.7	389	74.2	123	209
50021	GJ-23	43.7 †	85.3	96.6	77.4					420	72.3	114	266
50024	GJ-23	32.6	82.8	90.8	66.3	216	270	49.9	45.9	482 †	73.2	130	222
50025	GJ-23	40.4	79.9	98.9	85.2 †	196	304	53.7	50.4	417	64.9	107	240
50027	DN-23	36.9	85.4	102	73.4	220	293	55.6	50.3	457	74.2	122	274
50029	AD-23	32.1	39 ††	67.6 ††	77.7	128 ††	220	43.6 †	47.2	290 ††	41.6 ††	81.3 ††	156 ††
50032	DE-11	35.7	86	103	74	220	301	55.3	42.1	432	81	127	240
50037	DE-23	35.5	77	96.7	75.8	202	296	51.2	47.4	494 †	70.2	125	250
52283	GJ-23	36.5	80.3	110	71.3	181	315	53.7	47.1	407	66.8	118	259
52387	DE-09	31.1	71.5	88.1	59.4 †	190	899 †	50.2	43.7	387	69.6	113	241

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Iron (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
52491	GI-23	36	73.4	89.3	72.6	145 ††	3850 †	41.4 ††	39.3 †	376	68.2	111	218
52494	GG-23	29.9	56.2 ††	80.9 ††	61.1 †	175	192	44.5 †	44.2	319 ††	56.9 †	101	193 †
52495	GI-24	35.5	67.3	98.1	70.5	172	252	44.5 †	46.8	324 ††	64.6	111	215
52508	AE-23	49.4 †	88.6	93.5	101 †	191	248	50.2	42.9	357	61.6	96.9 †	178 †
52528	GK-11									370	71	94 ††	226

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Lead (µg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
10156	GI-23	103 †	2.39 ††	0.103 ††	0.00028	187	180	53.2		1100 †	461 †	492 †	487 †
10173	DN-24	0.825	75.8	245	12.3	165	161	58.4	1.64	419	37.3	44.5	62.7
20204	GJ-23	1870 †	6070 ††	10 ††	16	124	192	118 †	118 †	434 †	117 †	37 †	55
21088	DE-23					178	259 †	92 †	51 †	420	27	84.1 †	102 †
21100	DE-24	32.7	53.3	219	31	153	156	59.3	10.3	329 †	2.49	12.5 †	30.6 †
21138	DE-24		124	246		127	143			407			
21178	DE-24	36	82.5	293	42	155	145	58	12	396	36	48	60
21230	DE-24	9.29	75	228	18.7	143	179	76	9.33	478 †	48	49.7	68.4
50004	DE-24	5.17	101	322	15.6	177	171	71.8	6.98	396	33.6	38.8 †	57
50005	GJ-23	66.7 †	386 ††	164	17.9	262 †	152	73.4	40.2 †	412	112 †	28.1 †	50.1 †
50011	DE-24	7.46	99	285	25.7	212	223 †	68.2	40.2 †	404	48.4	52.5	69
50012	DN-23	130 †	120	120 ††	100 †	20 †	40 †	20 †	20 †	120 †	160 †	1 †	220 †
50014	DE-24	7.6	73.1	279	16.7	177	170	70.3	4.4	463 †	35	50.3	66
50018	DE-24	1180 †	295 ††	341	253 †	176	160	62.4	10.7	398	47.3	50.8	60.3
50020	GI-23	0.612	0.371 ††	0.183 ††	0.401								
50024	GJ-23	52 †	79	306	5	211	185	63	2	486 †	150 †	145 †	317 †
50037	DE-24	10.1	73.5	243	15.3	172	161	61.8	10.7	396	47.1	51.1	60.3
52495	GI-24	0.761	73.9	279	9.14	134	167	63.2	2.03	398	30.7	38.5 †	65.3
52528	GK-11									756 †	350 †	1950 †	1950 †

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Magnesium (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	0.122	0.212	0.383	0.102	0.202	0.333	0.082	0.141	0.309	0.241	0.158	1.29
8888	DE-23	0.124	0.213	0.388	0.106	0.2	0.31	0.08	0.14	0.28	0.22	0.15	1.15
10156	GI-23	0.108	0.193	0.337	0.0926 †	0.2	0.32	0.1 ††	0.14	0.3	0.234	0.152	1.17
10173	DN-24	0.125	0.239 ††	0.396	0.11 †	0.21	0.332	0.0848	0.138	0.325	0.245	0.16	1.29
10181	GF-23	0.126	0.219	0.426 †	0.106	0.201	0.343	0.085	0.142	0.317	0.238	0.159	1.28
11079	DE-23					1.93 ††	3.05 †	0.766 ††	1.29 ††				
20204	GJ-23	0.118	0.214	0.362	0.101	0.204	0.312	0.089	0.142	0.298	0.211	0.158	1.13
21043	GJ-23	0.11	0.185 ††	0.34	0.092 †	0.184	0.293	0.075	0.128	0.287	0.222	0.148	1.23
21088	DE-23					0.174	0.295	0.075	0.121	0.281	0.226	0.148	1.16
21100	DE-24	0.137 †	0.237 ††	0.436 ††	0.115 †	0.214	0.334	0.0899	0.153 ††	0.296	0.242	0.159	1.26
21138	DE-23	0.12	0.211	0.39	0.103	0.175	0.286	0.0781	0.129	0.315	0.246	0.162	1.28
21178	DE-23	0.115	0.204	0.374	0.099	0.186	0.292	0.0795	0.126	0.27	0.217	0.132 ††	0.974 ††
21190	AD-13	0.131	0.228 ††	0.427 †	0.109	0.193	0.312	0.0834	0.131	0.331 †	0.246	0.151	1.26
21193	GJ-11									0.28	0.22	0.15	1.21
21229	GI-23	0.121	0.207	0.378	0.102	0.193	0.314	0.0808	0.128	0.296	0.231	0.156	1.2
21230	DE-23	0.113	0.187 ††	0.33 †	0.0919 †	0.181	0.305	0.0681 ††	0.119	0.268	0.211	0.142	1.08
21232	DE-23	0.112	0.208	0.376	0.104	0.186	0.302	0.081	0.128	0.31	0.22	0.17	1.26
21234	GH-09									0.27	0.19 ††	0.14	1.1
50004	DE-23	0.119	0.214	0.456 ††	0.103	0.208	0.319	0.082	0.143	0.361 ††	0.268 ††	0.187 ††	1.35
50005	GJ-23	0.115	0.189 †	0.355	0.0998	0.195	0.315	0.0793	0.129	0.283	0.213	0.151	1.24
50006	GE-11	0.4 †	0.198	0.303 ††	0.277 †	0.244 ††	0.379 †	0.111 ††	0.169 ††	1.05 ††	0.896 ††	0.874 ††	2.83 ††
50008	GJ-23	0.118	0.212	0.385	0.104	0.201	0.342	0.092 †	0.141	0.305	0.23	0.156	1.26
50011	DE-23	0.123	0.199	0.385	0.099	0.196	0.308	0.081	0.131	0.292	0.238	0.155	1.31
50012	DN-23	0.103 †	0.18 ††	0.34	0.0893 †	0.183	0.291	0.0845	0.126	0.29	0.218	0.148	1.2
50014	DE-23	0.114	0.201	0.375	0.098	0.189	0.293	0.079	0.137	0.308	0.228	0.16	1.2
50017	DE-23	0.112	0.202	0.375	0.0945 †	0.182	0.293	0.077	0.121	0.259 †	0.217	0.138	1.08
50018	DE-23	0.122	0.218	0.375	0.105	0.187	0.31	0.082	0.131	0.29	0.231	0.155	1.23
50020	GI-23	0.134	0.239 ††	0.463 ††	0.119 †	0.191	0.296	0.0774	0.122	0.289	0.246	0.169	1.12
50021	GJ-23	0.121	0.21	0.342	0.105					0.295	0.228	0.153	1.14
50024	GJ-23	0.117	0.206	0.363	0.101	0.205	0.314	0.087	0.145	0.302	0.234	0.168	1.14
50025	GJ-23	0.117	0.187 ††	0.358	0.099	0.184	0.296	0.0778	0.128	0.274	0.218	0.146	1.13
50027	DN-23	0.122	0.214	0.378	0.101	0.192	0.305	0.0876	0.132	0.293	0.23	0.155	1.22
50029	AD-23	0.13	0.213	0.372	0.11 †	0.202	0.308	0.085	0.135	0.295	0.22	0.142	1.25
50032	DE-11	0.124	0.216	0.393	0.103	0.21	0.325	0.085	0.145	0.305	0.233	0.155	1.23
50037	DE-23	0.114	0.202	0.371	0.103	0.186	0.311	0.0818	0.13	0.293	0.232	0.154	1.22
52283	GJ-23	0.106	0.206	0.397	0.095	0.184	0.311	0.081	0.129	0.297	0.249	0.154	1.22

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Magnesium (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
52387	DE-09	0.12	0.21	0.37	0.1	0.205	0.33	0.095 ††	0.135	0.41 ††	0.31 ††	0.22 ††	1.66 ††
52491	GI-23	0.114	0.208	0.374	0.0998	0.185	0.317	0.0787	0.127	0.288	0.226	0.149	1.24
52494	GG-23	0.095 †	0.178 ††	0.322 †	0.084 †	0.178	0.289	0.077	0.123	0.279	0.22	0.143	1.15
52495	GI-24	0.123	0.217	0.409	0.102	0.19	0.326	0.0805	0.136	0.296	0.242	0.16	1.22
52508	AE-23	0.152 †	0.206	0.425 †	0.133 †	0.163 ††	0.287	0.0719	0.126	0.295	0.211	0.135 ††	1.04 †

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Manganese (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	45.4	25.8	45.2	12.2	309	48.7	12.8	22.3	45.1	58.6	203	143
8888	DE-23	46	25.3	44.4	12.7	351 ††	49.5	13	22.4	43.9	56.9	215	140
10156	GI-23	42	24.1	43	11.8	311	49.9	15.2 ††	22.1	43.5	54.7 †	186	138
10173	DN-24	47.3	28.7 †	46.2	13.2	324	51.5	13.2	21.4	45.4	57.6	205	142
11079	DE-23					313	49.3	13.2	22.6				
20204	GJ-23	43.2	24.6	37.3 ††	12.1	206 ††	46.7	13.3	14.3 ††	44.3	40.2 ††	189	128 ††
21043	GJ-23	44.1	32.1 ††	62.1 ††	15.3 †	280	62.2 †	10.4 ††	22.9	62.2 ††	68.8 ††	188	216 ††
21088	DE-23					285	53.1	12.2	20.4	44.9	57.8	201	142
21100	DE-24	45.1	26.6	47.9	12.7	332	51.6	13.6	21.8	42.4	54.7 †	194	144
21138	DE-23	45.8	26.4	48.1	12.6	278	46.3	12.5	20.8	47.6 ††	61.4 †	209	150 †
21178	DE-23	45.8	26.5	47.3	12.6	290	45.3	12.3	20.3	43.2	55.8	183	129 †
21190	AD-13	36.9 †	21.2 ††	39.8	9.97 †	275	43.3	7.62 ††	16.7 ††	46.8	57.9	172 †	153 ††
21193	GJ-11									46.7	61.3 †	201	128 ††
21229	GI-23	46.1	25.5	43.6	12.9	303	47.9	12.9	20.6	42.5	58.1	199	138
21230	GG-23	42	21.2 ††	37.7 ††	10.5 †	285	47.9	11.7	19.9	39.4 ††	51.9 ††	180	122 ††
21232	DE-23	44	25.2	43.5	12.1	271	48.5	12.7	20.5	45.1	52.2 ††	204	147 †
21234	GH-09									59.1 ††	64.5 ††	193	188 ††
50004	DE-23	46.7	24.9	43.9	12	298	50.5	12.4	21.9	50 ††	61.4 †	240 ††	164 ††
50005	GJ-23	49.5 †	27.1	46.6	12.6	300	48.8	12.5	22	43.6	58.2	197	139
50008	GJ-23	43.5	24.4	43.8	12	288	48	11.9	19.8	42.9	54.4 †	198	135
50011	DE-23	46.8	25.2	44.8	12.3	303	48	12.5	21.6	43.7	59.6	196	142
50012	DN-23	43	25	44	12	292	46	12.6	20.8	45.1	57.1	201	145
50014	DE-23	43.3	24.5	45.1	11.7	278	45	11.6	21	44.2	51.9 ††	191	139
50017	DE-23	46.6	27.4	50.1 †	12.5	274	42.9	11.4	19.7	44.9	58.6	198	141
50018	DE-23	45.9	25.5	44.2	11.8	295	49.2	12.5	21.4	43.9	57.9	212	138
50020	GI-23	49.6 †	28.7 †	54 ††	14.1 †	317	47.7	11.8	20.4	47.2	63.4 ††	220	154 ††
50021	GJ-23	46.4	26.9	44.6	13.2					44.2	56.8	190	138
50024	GJ-23	43.5	23.2	43.3	11.9	298	46.9	12.6	21.4	45.2	56.5	211	145
50025	GJ-13	44.8	24.7	44	12.8	263	42.8	11.2	19	42.5	54.1 †	193	139
50027	DN-23	43.7	26.6	45.9	12.3	327	49.8	12.5	20.7	46.2	57.3	203	143
50029	AD-23	51.8 †	25.7	39.6	14.6 †	311	47	13.1	22	41.6	49.1 ††	163 ††	131 †
50032	DE-11	44.3	24	46	11.6	295	40.3 †	13.7	13.6 ††	43.9	57.4	172 †	137
50037	DE-23	44.3	24.5	42.8	11.9	293	49.6	12.6	21.2	44	57.7	211	139
52283	GJ-23	42	25.1	46.7	12.3	244 †	49.2	12.3	20.8	44.2	56.8	201	142
52387	DE-09	39.6 †	22.9	40.9	11.1	279	42.1 †	6.21 ††	12.1 ††	44.9	56.1	189	139
52491	GI-23	43.5	25.2	43.2	12	277	67.6 †	11.8	19.6	44.3	58.4	196	144
52494	GG-23	38.3 †	22.7	39.6	10.8 †	271	45.1	11.7	19.3	38.9 ††	50.5 ††	178	129 †

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Manganese (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
52495	GI-24	46.5	26.8	48.2	12.3	295	50.3	12.2	21	42.9	58.4	192	143
52508	AE-23	50.6 †	20.7 ††	36.8 ††	14 †	275	40.7 †	9.34 ††	18.3	37.7 ††	42.1 ††	137 ††	107 ††

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Molybdenum (µg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
22	DE-24	246	557	246	2480	1060	62.5	50.2	907	322	331	9750	6310
8888	DE-24	265	585	220	2700	1050	61		896	314	309	8610	5390
10156	Not					176 ††			25.4 ††				
10173	DN-24	256	650	204	2750	1070	63.9	61.7	929	370 ††	329	9660	6420
11079	DE-23					945 ††	132 †		812				
20204	GJ-23	2240 †	1650 ††	2900 ††	1970 †	1040	82.5	46.8	704 ††	309	396 ††	8900	5820
21088	DE-23					1030	84	64	884	294	318	9430	5930
21100	DE-24	276	551	174	2530	1150 ††	95.5 †	71.4	939	301	297	9240	5950
21138	DE-24	300	649	241	3130 †						419 ††	9870	
21178	DE-24	239	555	196	2530	1050	63	58	880	315	323	9600	6220
21230	DE-24	199	442 ††	167	2140 †	1080	77.4	69.7	846	321	318	9440	6030
50004	DE-24					822 ††	52.2	228 ††	596 ††	150 ††	171 ††	3050 ††	4080 ††
50005	GJ-23	283	495	178	2360	909 ††	60.3	60.8	790 ††	306	236 ††	9090	5430
50011	DE-24	267	574	201	2470	1140 ††	79.9	71	921	317	326	9030	6380
50012	DN-23	460 †	600	250	2600	1070	130 †	390 ††	1260 ††	160 ††	100 ††	9020	5360
50014	DE-24	240	507	183	2680	1070	49.9	42.9	873	367 ††	287	9310	5700
50018	DE-24	618 †	689 ††	218	2290	1060	66.8	60.7	907	258 ††	293	8220	5220
50020	GI-23	663 †	830 ††	557 ††	2500	700 ††			655 ††			867 ††	4230 ††
50024	GJ-23	275	505	154	2460	1330 ††	70	67	1170 ††	224 ††	277	9260	5660
50027	DN-23	466 †	532	13 ††	2500	899 ††	1 †	1 ††	825	313	406 ††	8690	5820
50029	AD-23	57.8 †	374 ††	5.67 ††	2600	1060	40	68	866	289	224 ††	6300 ††	5160
50037	DE-24	258	576	176	2590	1060	67	60.2	904	260 ††	296	8220	5210
52495	GI-24	243	559	186	2470	1000	58.8	51.5	867	311	310	9070	6190

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Nitrate Nitrogen (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	BA-31	0.001	0.001	16.1	8.24	0.663	3.03	3.05	4.65	0.001 ††	10.5	0.001	3660
8888	BB-18	15	20 ††	45 ††	35 †			70 ††		20 †	30 †		3430
10173	BB-31					7	8	13	53 ††	14	6	6	3570
20204	BB-30	0.5	132 ††	2720 ††	5	3	6.1	6.5	4	13	1600 ††	7	3130
21088	BB-31					2.5	2.5	2.5	25 ††	6.9	2	0.05	3170
21100	BB-31	8	4.9	7.55 †	5.05	6.3	9.68	9.9	8.99	12.2	5.4	2.95	2420 ††
21178	BB-31	0.86	2	27 †	0.9	6.9	4.1	53.6 ††	1.8	32.7 ††	12	1	3150
21229	BB-31	5.13	4.5	16	2.85	6.7	13.2	16.5 †	6.5	26.4 ††	20.7	10.7	3150
21232	BB-31	4.65	13.1 ††	40.2 ††	11.4	0.141	0.199	0.129	0.129	26.8 ††	21.5 †	24.2 ††	3260
50005	BA-30	1.01	2.61	12.4	3.3	2.94	5.09	6.02	1.01	12.2	5.38	5.03	3020
50011	BB-31	4.92	5.32	19.1	3.18	4.62	5.78	7.67	7.59	8.9	4.1	3.4	3360
50012	BB-31	0.8	3.3	18	1.1	2.42	5.18	4.91	4.02				
50017	BB-31	6.07	3.95	19.5	3	4.41	9.23	3.69	3.96	10.9	25 †	5.56	3310
50020	BA-31					25 ††	27.1 †	18.1 †	61.2 ††	3.65 †			305 ††
50021	ZZ-31	10	3.9	17.2	3.65	3.7	7.47	4.85	12.2	12	7.57	4.93	2900
50025	BB-31	27.5 †	20 ††	30 †	18.3 †	0.1	0.1	0.1		47.5 ††	55 ††	21.3 ††	3750
50027	BB-31	9	7	21	10	1	8	5	3	9	8	8	3280
50029	BB-31	6.77	5.89	21	8.13	6.66	14.8	13.9	13.8	14.5	4.44	2.48	3310
50032	BB-31	4.5	32.5 ††	47 ††	8.3	4.55	20.4 †	10.1	13.4	120 ††	160 ††	91 ††	4140 ††
52494	BA-31	3.42	4.09	15.7	0.735	7.16	10.6	3.32	6.66	10.3	10.4	1.8	3060

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Nitrogen (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	CA-37	2.11	0.848	2.72	3.96	2	0.978	1.84	3.77	2.82	1.67	2.63	3.74
8888	CA-37	2.08	0.9	2.66	3.9	2.01	1.07	1.84	3.53	2.71	1.58	2.47	3.57
10156	CA-37	2.13	0.86	2.73	4.02	1.97	0.99	1.84	3.78	2.86	1.71	2.65	3.83
10173	CA-37	2.09	0.86	2.74	3.96	1.98	1.07	1.84	3.72	2.8	1.59	2.56	3.77
10181	CA-37	2.19	0.9	2.81	4.09	2.09	1.06	1.93	3.92	2.82	1.64	2.62	3.78
10181	GF-31	2.06	0.764 †	2.68	4	1.84 ††	0.932	1.69 ††	3.56	2.75	1.54	2.57	3.56
11079	CA-37					1.95	1	1.82	3.6				
20204	CA-37	2.05	0.82	2.64	3.84	1.99	0.955	6.5 ††	3.75	2.79	1.64	2.59	3.75
21043	CA-37	2.15	0.868	2.78	4.05	2.1 †	1.03	1.94	3.92	2.81	1.6	2.6	3.75
21088	CA-37					1.71 ††	1.3 †	1.69 ††	3.34 ††	2.8	1.68	2.55	3.76
21100	CA-37	2.12	0.862	2.76	4.03	2.11 †	1	1.94	3.89	2.74	1.57	2.68	3.62
21138	CA-37	2.06	0.6 ††	2.68	4.02	2.09	1.17 †	2.01 ††	3.81	2.84	1.61	2.57	3.74
21190	GE-38	1.98	0.647 ††	2.49	3.78	1.96	1.12 †	1.75	3.43 †	2.74	1.58	2.56	3.55 †
21193	GE-32									3.21 ††	1.61	3.02 ††	5.71 ††
21229	GE-31	2.09	0.85	2.61	3.82	2	0.98	1.81	3.62	2.76	1.61	2.63	3.61
21229	CA-37	2.09	0.86	2.58	3.87	2.01	1.05	1.82	3.65	2.79	1.69	2.65	3.71
21230	CA-37	1.98	0.781	2.56	3.76	1.96	0.945	1.82	3.76	2.74	1.56	2.56	3.72
21232	CA-37	1.95 †	0.844	2.55	3.64 †	2.03	0.971	1.78	3.5	2.73	1.53	2.5	3.65
21234	GE-32									2.5 ††	1.42 ††	2.33 ††	3.27 ††
50004	CA-37	2.04	0.885	2.63	3.79	2.06	1.1	1.93	3.74	3.1 ††	1.76 ††	2.86 ††	4.24 ††
50005	CA-37	2.04	0.844	2.63	3.9	2.02	0.978	1.85	3.75	2.79	1.62	2.64	3.75
50008	CA-27	2.12	0.834	2.74	4.04	2	1	1.84	3.8	2.84	1.62	2.61	3.79
50011	CA-37	2.06	0.897	2.69	3.95	2	1.01	1.87	3.71	2.85	1.67	2.66	3.79
50012	CA-37	2.07	0.843	2.66	3.9	2	1.01	1.89	3.6	2.78	1.69	2.6	3.79
50012	GE-31	1.99	0.8	2.51	3.7 †	1.88 ††	0.904	1.76	3.37 ††				
50014	CA-37	2.15	0.865	2.78	4.05	1.98	0.984	1.84	3.78	2.67	1.56	2.51	3.79
50017	CA-37	2.22	0.802	3.18 ††	4.92 †	2.07	0.974	1.95 †	3.62	2.91	1.7	2.69	3.88
50018	CA-37	2.16	0.933	2.71	3.97	2	0.992	1.87	3.84	2.89	1.64	2.64	3.97 †
50020	CA-37	2	0.852	2.6	4.2 †	1.95	1.04	1.81	3.58	2.7	1.61	2.56	3.61
50021	CA-37	2.1	0.78	2.8	4.19	1.89 †	0.86 †	1.77	3.73	2.92	1.59	2.73	3.99 †
50024	CA-37	2.1	0.908	2.75	4.03	2.04	1.13 †	1.9	3.79	2.97 †	1.78 ††	2.71	3.89
50027	CA-37	2.08	0.97 ††	2.71	3.99	2.03	1.18 †	1.99 ††	3.68	2.82	1.75 ††	2.76	3.8
50029	CA-37	2.01	0.734 ††	2.67	3.98	1.89 †	0.82 †	1.74	3.64	2.62 †	1.58	2.33 ††	3.49 †
50032	CA-37	2.1	0.869	2.78	3.96	2	0.975	1.86	3.61	2.85	1.68	2.68	3.82
50037	CA-37	2.13	0.876	2.71	4.03	2	0.994	1.84	3.85	2.9	1.65	2.64	3.98 †
52283	CA-37	2.06	0.937	2.63	3.86	1.96	1.01	1.82	3.49	2.82	1.38 ††	2.63	3.75

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Nitrogen (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
52387	CA-37	2.22	1.17 ††	2.88	4.19	1.89 †	1.18 †	1.9	3.71	2.65	1.56	2.42 ††	3.51 †
52491	CA-37	2.17	0.909	2.76	3.94	1.94	1.05	1.81	3.51	2.8	1.61	2.62	3.77
52494	CA-37	1.89 †	0.715 ††	2.48	3.57 †	1.8 ††	0.881	1.73 †	3.35 ††	2.69	1.58	2.51	3.61
52495	CA-37	2.12	0.846	2.76	4.05	2.01	0.949	1.88	3.78	2.85	1.68	2.63	3.73
52508	GE-38	2.04	0.832	2.54	3.85	2.03	1.27 †	1.95 †	3.72	2.89	1.76 ††	2.7	3.67

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Phosphorus (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	0.414	0.172	0.178	0.294	0.139	0.057	0.166	0.349	0.133	0.206	0.292	0.316
8888	DE-23	0.402	0.179	0.183	0.301	0.14	0.05 †	0.17	0.36	0.13	0.19	0.29	0.3
10156	GI-23	0.366	0.165	0.175	0.271	0.16 ††	0.07	0.21 ††	0.39 ††	0.12	0.177	0.25	0.29
10173	DN-24	0.388	0.196 ††	0.193	0.297	0.142	0.0619	0.174	0.344	0.148 ††	0.206	0.298	0.339
10181	GF-31	0.412	0.17	0.184	0.296	0.138	0.0668	0.163	0.349	0.136	0.189	0.293	0.329
11079	DE-23					1.35 ††	0.55 †	1.53 ††	3.27 ††				
20204	GJ-23	0.391	0.178	0.174	0.286	0.15	0.062	0.159	0.346	0.136	0.176	0.28	0.321
21043	GJ-23	0.383	0.167	0.171	0.275	0.14	0.064	0.049 ††	0.347	0.13	0.189	0.276	0.311
21088	DE-23					0.13	0.0628	0.158	0.321	0.123	0.188	0.27	0.296
21100	DE-24	0.428	0.189 †	0.202 ††	0.312 †	0.147	0.057	0.176 †	0.371	0.121	0.18	0.259	0.298
21138	DE-23	0.39	0.167	0.18	0.291	0.124	0.0579	0.166	0.314	0.139	0.21 †	0.304 †	0.331
21178	DE-23	0.375	0.167	0.175	0.273	0.131	0.055	0.158	0.315	0.122	0.183	0.239 ††	0.265 ††
21193	GJ-30									0.125	0.183	0.316 ††	0.43 ††
21229	GI-23	0.379	0.174	0.185	0.282	0.135	0.0624	0.169	0.324	0.136	0.192	0.287	0.32
21230	DE-23	0.378	0.146 ††	0.162	0.258 †	0.125	0.0465 †	0.158	0.319	0.118	0.173	0.261	0.276
21232	DE-23	0.389	0.178	0.179	0.299	0.138	0.07	0.169	0.337	0.13	0.17	0.29	0.32
21234	GH-30									0.07 ††	0.12 ††	0.19 ††	0.19 ††
50004	DE-23	0.469 †	0.167	0.17	0.262 †	0.146	0.064	0.167	0.351	0.164 ††	0.232 ††	0.373 ††	0.398 ††
50005	GJ-23	0.421	0.208 ††	0.212 ††	0.287	0.135	0.0625	0.161	0.332	0.132	0.206	0.275	0.312
50008	GJ-23	0.401	0.18	0.187	0.297	0.137	0.061	0.162	0.339	0.134	0.192	0.284	0.322
50011	DE-23	0.419	0.171	0.173	0.279	0.139	0.06	0.162	0.332	0.129	0.189	0.273	0.312
50012	DN-23	0.347	0.157 †	0.156	0.253 †	0.131	0.055	0.163	0.323	0.132	0.182	0.274	0.306
50012	GE-31	0.36	0.168	0.16	0.27	0.139	0.0599	0.167	0.336				
50014	DE-23	0.393	0.17	0.178	0.282	0.13	0.054	0.152	0.345	0.135	0.188	0.286	0.302
50017	DE-23	0.413	0.171	0.174	0.286	0.121	0.049 †	0.146 †	0.304	0.136	0.186	0.288	0.326
50018	DE-23	0.448 †	0.198 ††	0.191	0.335 †	0.131	0.0618	0.162	0.336	0.128	0.191	0.276	0.302
50020	GI-23	0.38	0.177	0.188	0.283	0.14	0.0561	0.154	0.316	0.127	0.184	0.279	0.295
50021	GJ-23	0.365	0.173	0.166	0.281					0.132	0.19	0.272	0.307
50024	GJ-23	0.357	0.168	0.17	0.263 †	0.142	0.062	0.167	0.344	0.135	0.189	0.299	0.322
50025	GJ-23	0.378	0.165	0.166	0.285	0.13	0.05 †	0.158	0.328	0.13	0.18	0.273	0.307
50027	DN-23	0.38	0.18	0.175	0.286	0.13	0.0608	0.162	0.323	0.132	0.182	0.268	0.307
50029	AD-23	0.348	0.182	0.177	0.287	0.14	0.0667	0.168	0.283 ††	0.143	0.207	0.273	0.302
50032	DE-30	0.398	0.167	0.177	0.285	0.127	0.0572	0.165	0.336	0.121	0.174	0.249 †	0.289
50037	DE-23	0.386	0.167	0.176	0.292	0.132	0.0614	0.163	0.333	0.129	0.192	0.278	0.301
52283	GJ-23	0.396	0.173	0.187	0.285	0.125	0.061	0.161	0.328	0.133	0.201	0.276	0.312
52387	DE-30	0.29 †	0.14 ††	0.15 ††	0.23 †	0.114	0.056	0.128 ††	0.285 ††	0.11 ††	0.17	0.23 ††	0.26 ††
52491	GI-23	0.366	0.179	0.176	0.282	0.125	0.0639	0.157	0.313	0.129	0.191	0.281	0.316

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Phosphorus (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
52494	GG-23	0.328 †	0.155 †	0.162	0.25 †	0.127	0.058	0.157	0.314	0.126	0.185	0.265	0.301
52495	GI-24	0.391	0.18	0.185	0.281	0.129	0.0626	0.156	0.336	0.128	0.193	0.28	0.33
52508	AE-30	0.333 †	0.176	0.186	0.264	0.117	0.0479 †	0.131 ††	0.297	0.117	0.209 †	0.24 †	0.24 ††

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Potassium (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	0.386	1.69	1.59	0.92	0.645	0.535	1.59	0.979	0.433	1.7 †	2.48	5.25
8888	DE-23	0.389	1.7	1.59	0.94	0.67	0.51	1.68	1.02	0.42	1.58	2.34	4.76
10156	GI-23	0.335	1.48	1.37	0.794	0.67	0.53	1.8 ††	1	0.37	1.36 ††	1.93 ††	3.87 †
10173	DN-24	0.397	1.88 †	1.58	0.96	0.633	0.511	1.56	0.942	0.425	1.61	2.31	5.06
10181	GF-23	0.423	1.8	1.75 †	0.979 †	0.694	0.595 †	1.71	1.04	0.44	1.65	2.5	5.19
11079	DE-23					4.16 ††	3.61 †	1.18 ††	5.88 ††				
20204	GJ-23	0.363	1.28 ††	1.22 ††	0.85	0.59	0.525	1.6	1.01	0.438	1.72 †	2.21	4.88
21043	GJ-23	0.372	1.59	1.5	0.863	0.63	0.53	1.57	0.954	0.418	1.6	2.26	3.41 †
21088	DE-23					0.491 ††	0.451 †	1.15 ††	0.715 ††	0.4	1.58	2.27	4.95
21100	DE-24	0.463 †	1.87 †	1.8 ††	1.05 †	0.715	0.592 †	1.77 †	1.13 †	0.4	1.6	2.38	5.03
21138	DE-23	0.365	1.55	1.47	0.879	0.544	0.469 †	1.46	0.863	0.391	1.48 †	2.12	4.62
21178	DE-23	0.368	1.69	1.52	0.869	0.647	0.541	1.58	0.952	0.368	1.56	2.05	4.13 †
21190	GE-09	0.376	1.7	1.58	0.954	0.586	0.514	1.46	0.859	0.412	1.58	2.26	4.88
21193	GJ-11									0.376	1.46 †	2.08	4.56
21229	GI-23	0.377	1.63	1.51	0.899	0.632	0.526	1.62	0.933	0.399	1.56	2.35	4.97
21230	GG-23	0.354	1.44	1.41	0.801	0.6	0.51	1.54	0.907	0.369	1.43 †	2.12	4.68
21232	DE-23	0.355	1.67	1.41	0.859	0.581	0.502 †	1.37 †	0.766	0.41	1.45 †	2.33	4.8
21234	GH-20									0.45	1.52	2.26	4.4 †
50004	DE-23	0.452 †	1.8	1.79 †	1 †	0.665	0.532	1.6	0.986	0.433	1.79 ††	2.75 ††	5.31
50005	GJ-23	0.42	1.56	1.45	0.856	0.622	0.539	1.53	0.856	0.412	1.51	2.18	4.74
50006	GE-11	5.13 †	6.23 ††	7.97 ††	8.75 †	1.77 ††	1.44 †	3.96 ††	2.34 ††	0.271 ††	0.962 ††	1.34 ††	2.62 †
50008	GJ-23	0.357	1.59	1.53	0.87	0.634	0.53	1.56	0.928	0.425	1.56	2.29	5.21
50011	DE-23	0.375	1.53	1.41	0.868	0.639	0.53	1.58	0.939	0.393	1.6	2.31	5.13
50012	DN-23	0.319 †	1.43	1.45	0.671 †	0.598	0.495 †	1.46	0.898	0.387	1.49	2.08	4.75
50014	DE-23	0.362	1.6	1.53	0.864	0.664	0.526	1.59	0.993	0.431	1.61	2.48	5
50017	DE-23	0.371	1.56	1.52	0.822	0.573	0.474 †	1.46	0.855	0.407	1.57	2.25	4.91
50018	DE-23	0.357	1.64	1.56	0.865	0.549	0.53	1.56	0.872	0.495 ††	1.58	2.23	4.88
50020	GI-23	0.374	1.66	1.64	0.922	0.561	0.458 †	1.4 †	0.781	0.329 ††	1.41 †	2.1	4.11 †
50021	GJ-23	0.4	1.55	1.39	0.88					0.521 ††	1.58	1.82 ††	3.13 †
50024	GJ-23	0.365	1.59	1.5	0.85	0.665	0.558 †	1.65	0.985	0.44	1.64	2.48	5.28
50025	GJ-23	0.41	1.74	1.61	0.914	0.633	0.543	1.55	0.923	0.419	1.6	2.19	4.94
50027	DN-23	0.382	1.64	1.53	0.922	0.643	0.55	1.51	0.975	0.406	1.43 †	2.15	5.01
50029	AD-23	0.315 †	1.59	1.52	0.843	0.558	0.47 †	1.7	0.878	0.442	1.49	2.12	5.09
50032	DE-11	0.377	1.72	1.59	0.913	0.655	0.525	1.64	0.98	0.418	1.61	2.4	4.88
50037	DE-23	0.342	1.57	1.64	0.821	0.546	0.528	1.58	0.871	0.496 ††	1.59	2.24	4.9
52283	GJ-23	0.489 †	1.94 ††	1.79 †	0.892	0.644	0.534	1.58	0.888	0.411	1.77 †	2.26	4.86

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Potassium (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
52387	DE-09	0.34	1.34 ††	1.32 †	0.85	0.56	0.63 †	1.84 ††	1.07	0.42	1.42 †	2.18	4.69
52491	GI-23	0.375	1.69	1.54	0.896	0.583	0.52	1.52	0.88	0.404	1.6	2.32	5.01
52494	GG-23	0.254 †	1.27 ††	1.18 ††	0.631 †	0.48 ††	0.429 †	1.37 †	0.701 ††	0.434	1.46 †	1.95 ††	4.53
52495	GI-24	0.399	1.73	1.7	0.907	0.64	0.54	1.58	0.97	0.385	1.59	2.3	5.11
52508	AE-23	0.394	1.65	1.46	0.805	0.458 ††	0.388 †	0.449 ††	0.385 ††	0.39	1.5	2.21	4.23 †

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Selenium (µg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-24	49.8	77.4	577	1290	4.95	25	29.4	295	48.4	51.7	224	713
8888	DE-24	50	85	530	1530	30	20	41	289	28	55	219	629
10156	GI-23	139		0.562 ††	0.0012 †			847 ††	1450 ††				
10173	DN-24	53.8	75.8	480	1360	10.9	44.8	28	274	14.9	18.3 ††	146	516
20204	GJ-23	90	195 ††	550	1310	10	30.5	40.5	2 ††	39.4	554 ††	220	681
21088	DE-23					502 ††	231 †	500 ††	468 ††	128 ††	493 ††	169	786
21100	DE-24	188 †	56	351	912 †	42.6	106 †	83.4 ††	360	78	18.8 ††	79.4	476
21138	DE-24	49	66	446	1220		23.6	34.5	254	36.9	37	191	520
21178	DE-24	57	75	486	1350	11	28	40	275	82	121 ††	262	778
21230	DE-24	100	151 ††	623	1880	19.7	60.2 †	141 ††	350	53.9	53.4	230	683
50004	DE-24	21.4	0.1 ††	276 ††	1620	556 ††	117 †	43.3	329	32.9	35.1	110	310
50005	GJ-23	171 †	23.2	653	1310	58 ††	29.5	46.8	44.5 ††	43.9	220 ††	232	763
50011	DE-24	49.5	74.3	514	1410	18.4	32.9	45.2	293	40.1	58.9	221	725
50012	DN-23	230 †	1000 ††	1100 ††	2000 †	100 ††	100 †	740 ††	850 ††	770 ††	870 ††	500 ††	500
50014	DE-24	73	93	503	1540	20.5	35.5	38	300	113 ††	58	243	717
50018	DE-24	204 †	251 ††	696	1300	33.8	34	39.1	346	50.1	43.2	74	558
50020	GI-23		0.951 ††	3.21 ††	0.402 †								
50024	GJ-23	109	79	606	1480	20	41	59 ††	408	316 ††	232 ††	1010 ††	1060 ††
50037	DE-24	14	34	576	1060	33.5	33.3	39.6	340	49.6	43	73	562
52495	GI-24	57.7	200 ††	592	1460	3.5	28.2	61.3 ††	272	59.4	59.4	197	677

Lab. Code #	Method Codes	Plant sample identification and values for NOT ASSESSABLE 2017: Silicon (%Si) NOT ASSESSABLE											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
10156	GI-23					0.07	0.06 †	0.02	0.01				
21100	DE-24	0.0417	0.201	0.162	0.0341 †	0.0512	0.0426	0.0365 ††	0.0321 ††	0.0389 †	0.0792	0.127	0.0336
21138	DE-23	0.0144	0.226	0.214	0.00447					0.115 †	0.148 ††	0.214	0.0571
21178	DE-23	0.0077	0.005	0.007	0.00237	0.062	0.079 †	0.012	0.0014	0.08	0.2 ††	0.22	0.042
50004	DE-23	0.015	0.115	0.101	0.003	0.061	0.049	0.016	0.005	0.075	0.082	0.114	0.044
50005	DE-23	0.0113	0.295	0.307	0.00607	0.0513	0.0444	0.0211	0.00171	0.0646	0.0753	0.0444	0.0355
50008	ZZ-23	0.017	1.45 ††	2.48 ††	0.015	0.288 ††	0.235 †	0.028	0.008	0.422 ††	1.01 ††	3.66 ††	0.14 ††
50018	DB-31	0.0214	1.13 †	2.14 ††	0.00857	0.0398	0.0456	0.0131	0.012	0.0781	0.065	0.165	0.0419
50020	GI-23	0.00544	0.009	0.011	0.004	0.0058	0.008 †	0.00267	0.001	0.0213 †	0.0375	0.038	0.0155 †
50037	DB-31	0.0214	1.34 ††	2.52 ††	0.009	0.0396	0.0451	0.0139	0.0118	0.0784	0.067	0.164	0.0421

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Sodium (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	24.2	194	57.7	8.97	233	625	526	111	15200	7430	40.8	82
8888	DE-23		235	105 †		200	600	500		14200	6800		
10156	GI-23	30.5	203	55.8	14.4	267	672 †	645 ††	126 †	11100 †	5690 ††	79.3 ††	93.3
10173	DN-24	30.9	262	64.1	11.4	221	601	523	105	14400	6830	46.7	76
11079	DE-23					259	584	511	127 †				
20204	GJ-23	10 †	220	75	10	0.0158 ††	0.054 †	0.0478 ††	0.008 ††	13600	6420	45	84
21043	GJ-23	53.6 †	236	130 ††	33.7 †	0.022 ††	0.056 †	0.049 ††	0.011 ††	14900	7090	60.3 †	85.3
21088	DE-23					204	584	528	106	12900	6480	49.2	67.3
21100	DE-24	30	233	64.8	11.4	261	688 †	603 ††	135 ††	15100	6980	46.7	61.8
21138	DE-23		204	53.4		206	564	512	101	14700	7210	40.7	67.4
21178	DE-23	23.2	205	58.8	8.45	220	591	539	105	12300	6400	43.1	74.9
21190	AD-09	27.8	221	70.9	13.3	267	602	579	144 ††	12800	7150	7 ††	8 ††
21193	GJ-11									1.42 ††	0.656 ††	0.476 ††	0.0099 ††
21229	GI-23	24.2	196	39.1	1.26 †	230	605	523	102	14200	7100	38.2	66.7
21230	DE-23	18.1	168	45.4	4.55	223	582	518	111	13300	6470	49.5	59.3
21232	DE-23	100 †	250	170 ††	80 †	255	580	520	150 ††	15500	6310	40	60
50004	DE-23	24.7	206	61	11.5	258	686 †	578	158 ††	15100	6990	76 ††	139 ††
50005	GJ-23	30.8	227	71.5	10.6	241	613	520	125 †	13700	6680	43.7	73.5
50006	GE-11	1340 †	376 ††	692 ††	552 †	0.364 ††	0.862 †	0.706 ††	0.056 ††	15.6 ††	7.85 ††	0.622 ††	0.67 ††
50008	GJ-23	40 †	237	85	27.5 †	240	630	540	130 †	13800	6770	115 ††	125 ††
50011	DE-23	23.2	218	56.3	9.39	236	625	511	116	14100	7080	48.5	67.8
50012	DN-23	22	170	49	8.3	205	555	496	102	14200	6760	42	60
50014	DE-23	10 †	177	0.194 ††	0.175 †	237	617	550	103	12900	7250	70 ††	90
50017	DE-23	27.7	261	76.4	13.7	213	586	526	106	11300 †	6810	53.8	78.3
50018	DE-23	41.6 †	222	164 ††	35.9 †	201	612	501	96.2	13800	6980	47.3	68.7
50020	GI-23		227	68.1		182	489 †	419 ††	82.9 †	12400	6640	160 ††	162 ††
50021	GJ-23	41.5 †	213	65.4	25.4 †					10300 ††	5800	55.6	91.4
50024	GJ-23	26.6	204	70.5	29 †	223	611	526	110	14500	6930	43	69
50025	GJ-23	0.00625 †	0.023 ††	0.012 ††	0.00575 †	162	532 †	460	58 ††	13100	6440	16.7 ††	56.7
50027	DN-23	26	213	62	12	223	578	499	103	13500	6480	50	82
50029	AD-23	10 †	200	200 ††	10	200	600	500	100	14400	6150	16.7 ††	98.3
50032	DE-11	28	228	67	12	232	612	531	113	11200 †	5660 ††	46	67
50037	DE-23	26.5	196	86.4	18.9 †	202	609	498	95.6	13800	6980	47.4	68.6
52283	GJ-23	91.9 †	296 ††	123 ††	13.8	254	600	527	108	13900	7960 ††	43.9	78.1
52387	DE-09	50.5 †	256	149 ††	107 †	223	545 †	453 †	87.2 †	12600	6300	22.4 ††	72.9

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Sodium (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
52491	GI-23	26.6	257	174 ††	55.2 †	200	583	481	92.8	13400	6750	33.3 †	49.5
52494	GG-23	21.2	232	89.5	16.2	199	556	548	100	12300	6900	53.1	92.8
52495	GI-24	23.9	213	57.8	8.7	210	575	481	102	13300	7100	44.4	61.6
52508	AE-23	62 †	197	52.1	47.3 †	188	506 †	455 †	48.7 ††	13400	5790 †	252 ††	262 ††

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Sulphur (%w/w)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	0.19	0.114	0.172	0.186	0.261	0.086	0.138	0.195	0.22	0.201	0.186	0.54
8888	DE-23	0.192	0.118	0.172	0.192	0.26	0.07 †	0.14	0.2	0.21	0.19	0.19	0.52
10156	GI-23					0.25	0.08	0.14	0.17	0.14 ††	0.132 ††	0.124 ††	0.223 ††
10173	DN-24	0.177	0.125	0.178	0.189	0.239	0.084	0.13	0.184	0.222	0.196	0.182	0.571 ††
11079	DE-23					2.46 ††	0.81 †	1.26 ††	1.8 ††				
20204	GJ-23	0.177	0.118	0.17	0.18	0.247	0.085	0.137	0.188	0.206	0.129 ††	0.175	0.511
21043	GJ-23	0.162	0.099	0.148	0.158 †	0.255	0.09	0.134	0.19	0.207	0.183	0.17	0.528
21088	DE-23					0.226	0.0824	0.122	0.167	0.214	0.193	0.179	0.512
21100	CA-37	0.188	0.122	0.17	0.184	0.251	0.0877	0.139	0.192	0.199	0.179	0.159	0.457 ††
21138	DE-23	0.195	0.12	0.18	0.195	0.23	0.0878	0.132	0.184	0.219	0.196	0.186	0.542
21178	DE-23	0.168	0.104	0.158	0.167	0.223	0.0734 †	0.119	0.164	0.189	0.175	0.152	0.443 ††
21229	GI-23	0.185	0.115	0.167	0.183	0.253	0.0875	0.137	0.181	0.208	0.187	0.175	0.501
21230	GG-23	0.156	0.095 †	0.15	0.158 †	0.229	0.0843	0.129	0.172	0.191	0.172	0.16	0.429 ††
21232	DE-23	0.183	0.115	0.171	0.189	0.237	0.088	0.134	0.186	0.21	0.17	0.18	0.52
50004	DE-23	0.172	0.108	0.161	0.172	0.238	0.098 †	0.131	0.171	0.235 ††	0.2	0.206 ††	0.585 ††
50005	GJ-23	0.178	0.109	0.154	0.18	0.253	0.0852	0.131	0.183	0.202	0.183	0.174	0.512
50008	GJ-23	0.185	0.115	0.18	0.191	0.263	0.07 †	0.127	0.184	0.218	0.19	0.18	0.525
50011	DE-23	0.186	0.109	0.163	0.185	0.243	0.083	0.129	0.184	0.197	0.183	0.169	0.518
50012	DN-23	0.166	0.103	0.151	0.163	0.229	0.0757 †	0.129	0.174	0.201	0.175	0.17	0.489
50014	DE-23	0.18	0.108	0.169	0.173	0.223	0.074 †	0.116 †	0.176	0.207	0.172	0.174	0.487
50017	DE-23	0.191	0.116	0.171	0.182	0.225	0.075 †	0.12	0.17	0.211	0.186	1.86 ††	0.527
50018	DE-23	0.192	0.124	0.185	0.197	0.238	0.0871	0.131	0.18	0.204	0.182	0.173	0.52
50020	GI-23	0.177	0.116	0.177	0.18	0.239	0.0807	0.121	0.161	0.194	0.176	0.168	0.481
50021	GJ-23	0.188	0.119	0.168	0.187					0.199	0.176	0.165	0.496
50024	GJ-23	0.161	0.114	0.168	0.171	0.243	0.086	0.128	0.177	0.198	0.17	0.167	0.5
50025	GJ-23	0.166	0.108	0.149	0.17	0.222	0.0739 †	0.106 ††	0.14 ††	0.199	0.174	0.163	0.535
50027	DN-23	0.173	0.117	0.171	0.18	0.244	0.0868	0.129	0.173	0.202	0.187	0.177	0.505
50029	CA-37	0.184	0.113	0.158	0.176	0.238	0.0869	0.134	0.183	0.199	0.173	0.165	0.42 ††
50032	DE-30	0.216 †	0.159 ††	0.166	0.187	0.265	0.115 †	0.12	0.165	0.231 ††	0.221 ††	0.159	0.51
50037	DE-23	0.171	0.116	0.169	0.18	0.237	0.0868	0.13	0.179	0.207	0.183	0.174	0.519
52283	GJ-23	0.178	0.117	0.182	0.186	0.237	0.086	0.133	0.184	0.206	0.194	0.174	0.511
52491	GI-23	0.186	0.131	0.192	0.199	0.259	0.115 †	0.143	0.178	0.188	0.173	0.16	0.468 †
52494	GG-23	0.147 †	0.096 †	0.143	0.15 †	0.228	0.081	0.126	0.171	0.192	0.173	0.159	0.481
52495	CA-37	0.219 †	0.145 ††	0.187	0.191	0.229	0.0751 †	0.113 †	0.15 ††	0.209	0.166	0.17	0.507
52508	GJ-30	0.0703 †	0.032 ††	0.044 ††	0.108 †	0.173 ††	0.0728 †	0.0894 ††	0.0995 ††	0.184 ††	0.162	0.103 ††	0.503

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Zinc (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	ASP 1702-2	ASP 1702-3	ASP 1702-4	ASP 1705-1	ASP 1705-2	ASP 1705-3	ASP 1705-4	ASP 1708-1	ASP 1708-2	ASP 1708-3	ASP 1708-4
22	DE-23	23.5	35.4	15.6	40.7 †	48 ††	8.49	18.7	26.2	29	17.3	25.2	39.4
8888	DE-23	23	36.4	16.6	40.4 †	49.3 ††	10.2 †	27.3 ††	25.2	26	14.8	22.1	35.5
10156	GI-23	18.4	30.5	16.5	31.2 †	42.9	7.52	18.3	22.9	26.5	16.4	22	37.1
10173	DN-24	20.4	35.5	13.9	37	93.8 ††	8.32	17.6	24.3	28.3	16.2	24.6	40.8
11079	DE-23					47.8 ††	8.66	18.5	25.4				
20204	GJ-23	25.1	34.8	21.9 ††	37.2	43.3	8.41	18.5	24.2	27.4	26.5 ††	24.7	37.8
21043	GJ-23	19.6	29.7 †	12.7 †	33.7 †	44.4	8.69	16	23.7	24.4	14	20.4	33.9 †
21088	DE-23					43	9.08	17.1	23.6	26.9	15.8	23.1	36.9
21100	DE-24	21.8	36.6	16.5	39.1	50 ††	8.91	18.7	25.4	23.5 †	13.7	20.3	33.9 †
21138	DE-23	20.9	35.6	15.5	37.2	40.9	7.62	16.9	23.9	29.7	17.1	25.6	41.4 †
21178	DE-23	19.9	32.3	15.2	35.8	44.4	8.02	17.1	23.2	25.9	15	20.6	33.3 ††
21190	AD-13	22.4	31.9	15.8	36.7	40.1	6.78 †	14.5 ††	20.6 †	28.2	13.6	20.8	38.3
21193	GJ-11									25.3	15.1	21.9	35.6
21229	GI-23	22.3	34.6	14.2	38.5	44.9	8.73	18	23.7	27.5	15.9	23.5	37.2
21230	DE-23	18.6	27.1 ††	12.3 ††	32.1 †	40.2	8.41	16.4	22.1	23.1 ††	13.6	20.5	32.3 ††
21232	DE-23	19.6	36.5	14.8	36.9	39.3 †	9.64	17.7	22.1	26.3	13.1	22.7	38.6
21234	GH-09									34.9 ††	20.1 ††	29 ††	49.5 ††
50004	DE-23	19.9	31.1	13.1	35.7	47.7 †	8.45	18.1	25.4	24.2	13.9	19.9	34.6
50005	GJ-23	23.1	33.3	14.9	38	44.6	9.01	18	25	27.3	14.7	23.5	36.7
50008	GJ-23	21.2	32.8	14.9	37.4	43.5	10.7 †	18.5	24.8	28	16.8	25	38.2
50011	DE-23	22.1	34.1	15.2	37.9	43.6	8.47	17.6	25.3	26.7	15.7	22.6	38.4
50012	DN-23	19	33	13	34 †	43.2	7.75	17.5	23.8	27.2	15.1	22.5	37
50014	DE-23	21.4	33.2	15.5	36.5	43.1	8.14	16.6	24.2	28.2	15.2	22.8	38.8
50017	DE-23	27.3 †	41 ††	18.4 ††	43.2 †	42.6	7.26	16.4	23	27.9	16.1	24.1	38.8
50018	DE-23	23.5	37.3	15.3	43.1 †	43.2	8.96	17.6	24.2	27.8	15.7	22.9	38.2
50020	GI-23	22.7	37	14.6	39.8	46.1	7.53	17.1	22.3	22.7 ††	13	20.7	31.1 ††
50021	GJ-23	22.5	34.7	15.3	38.3					25.3	16.3	21.5	36.5
50024	GJ-23	21	32.8	15.5	36.4	42.8	7.4	16.3	24	27.2	15.9	25	38.4
50025	GJ-23	23.1	33.2	16	39.7	44.2	12.9 †	21 ††	25.7	25.3	13.9	21.6	35
50027	DN-23	21.9	35.5	14.6	37.7	42.8	8.9	17.2	22.9	27.3	14.6	22.5	38.4
50029	AD-23	23.1	32.1	14.4	42.9 †	47.1 †	8.53	18.9	26.2	26.8	11.2 ††	19.4	38.5
50032	DE-11	20.7	33.3	16.3	36.3	47.2 †	8.49	18.5	24.4	29.4	16.2	24.4	42.2 ††
50037	DE-23	21.4	34.8	15.5	38.8	43.1	8.9	17.5	24.1	27.8	15.8	22.9	38.1
52283	GJ-23	23.2	35.2	17.9 †	36.8	70.4 ††	9.01	17.2	27.2	26.8	16.4	23.8	37.7
52387	DE-09	15.8 †	24.6 ††	12.3 ††	26.8 †	35.2 ††	5.14 †	13.5 ††	19.1 ††	26.8	15.1	22.4	36.2
52491	GI-23	20.7	33.9	16.1	35.8	43.9	8.91	17.4	23.3	26.1	15.2	22.7	35.6

Lab. Code #	Method Codes	Plant sample identification and values for 2017: Zinc (mg/kg)											
		February 2017 (Round 2)				*May 2017 (Round 5)*				*August 2017 (Round 8)*			
		ASP 1702-1	**ASP 1702-2**	**ASP 1702-3**	**ASP 1702-4**	**ASP 1705-1**	**ASP 1705-2**	**ASP 1705-3**	**ASP 1705-4**	**ASP 1708-1**	**ASP 1708-2**	**ASP 1708-3**	**ASP 1708-4**
52494	GG-23	18	29 †	13.8	32.4 †	42	9.2	17.2	22.8	25.4	14.9	21.3	36.4
52495	GI-24	21.4	35.4	15.8	36.6	43.2	8.83	17	23.7	26.1	15.5	22.6	38.4
52508	AE-23	27.9 †	23.3 ††	13.7	45 †	39.6 †	5.65 †	12.9 ††	20.3 ††	28.4	11.8 ††	19.7	40.9
52528	GK-11									25	12 †	54 ††	34 †