

1998 Interim North American Proficiency Testing Program

January 4, 1999

4th Quarter Results

Plant ID - 98210

Plant	Sample		Descriptive		Statistics			Lab ID
Analysis	Units	No.	Min	Max	Median	MAD ¹	RMD %	% Values < WL ²
Dry Matter	%	14	80.5	94.5	92.1	1.2	1.3	96.0
NO₃ - N Cd Rd.	mg/kg	20	310.0	1980	487	94	19.3	76.2
NO₃ - N ISE	mg/kg	24	140	1005	580	100	17.2	87.5
NO₃ - N Oth.	mg/kg	6	1	1210	450	123	27.3	60.0
PO₄ - P	mg/kg	17	1170	3530	2656	273	10.3	76.5
SO₄ - S	mg/kg	7	870	26300	2200	853	38.8	83.3
Cl	%	17	0.04	0.915	0.10	0.04	40.0	70.6
TKN	%	40	2.30	3.43	2.79	0.12	4.3	67.5
N- Dry Comb.	%	54	1.38	4.0	2.95	0.09	3.0	80.4
S- Dry Comb.	%	16	0.13	0.66	0.479	0.093	19.4	88.2
Nitric / Perchloric								
P	%	39	0.21	0.54	0.460	0.020	4.3	77.8
K	%	41	1.25	2.34	1.72	0.085	4.9	68.4
Ca	%	41	0.50	1.8	1.41	0.075	5.3	83.8
Mg	%	38	0.031	0.45	0.31	0.011	3.4	77.1
S	%	38	0.06	1	0.475	0.035	7.4	65.7
Na	mg/kg	29	0.1	1100	345	55	15.8	61.5
B	mg/kg	29	25.0	95	38.9	2.1	5.5	69.2
Zn	mg/kg	41	16.0	104	80.4	5.3	6.5	84.2
Mn	mg/kg	38	12	143	125	9.5	7.6	83.3
Fe	mg/kg	38	2	331	214	36	16.7	77.8
Cu	mg/kg	39	5.0	19	12.0	0.8	6.7	80.6
Dry Ash								
P	%	43	0.34	0.56	0.460	0.030	6.5	90.2
K	%	43	0.64	2.29	1.73	0.13	7.5	88.1
Ca	%	44	0.70	1.81	1.44	0.111	7.7	83.7
Mg	%	44	0.20	0.4	0.31	0.021	6.8	86.0
Na	mg/kg	32	0.0	800	330	86	26.1	61.3
B	mg/kg	47	25.4	56	38.1	2.4	6.2	73.9
Zn	mg/kg	44	57.0	96	79.2	4.3	5.4	88.4
Mn	mg/kg	45	92	150	123	8.7	7.1	88.4
Fe	mg/kg	43	90	296	161	33	20.3	87.8
Cu	mg/kg	43	8	40	11.1	1.0	9.0	83.3
Microwave								
P	%	14	0.39	0.55	0.485	0.025	5.2	71.4
K	%	15	0.70	2.30	1.82	0.07	4.1	66.7
Ca	%	15	0.40	1.76	1.37	0.062	4.5	86.7
Mg	%	15	0.10	0.35	0.30	0.023	7.6	86.7
S	%	10	0.2	1	0.475	0.025	5.3	100
Na	mg/kg	13	166	902	326	77	23.6	76.9
B	mg/kg	14	33.0	84	38.6	1.6	4.1	78.6
Zn	mg/kg	14	5.4	89	80.9	6.6	8.1	85.7
Mn	mg/kg	14	57	152	135	16.5	12.3	85.7
Fe	mg/kg	14	5	367	224	28	12.4	78.6
Cu	mg/kg	13	8.972	19	12.6	1.0	7.9	76.9

1 - Values flagged exceed Warning Limits " * " based on 2.5 x MAD (Median Absolute Deviation) and Control Limits " ** " based on 4 x MAD.

2 - Percentage (%) of all reported laboratory values within established Warning Limits.

1998 Interim North American Proficiency Testing Program

January 4, 1999

4th Quarter Results

Plant ID - 98211

Plant	Sample	Descriptive	Statistics					Lab ID
Analysis	Units	No.	Min	Max	Median	MAD ¹	RMD %	% Values < WL ²
Dry Matter	%	16	87.5	94.9	92.5	2.5	2.7	95.2
NO ₃ - N Cd Rd.	mg/kg	24	475.0	5722	4591	679	14.8	68.0
NO ₃ - N ISE	mg/kg	22	2200	16400	5000	460	9.2	95.8
NO ₃ - N Oth.	mg/kg	7	1	5347	4440	2549	57.4	90.0
PO ₄ - P	mg/kg	19	610	1770	1453	120	8.3	70.8
SO ₄ - S	mg/kg	8	140	6948	800	650	81.3	85.7
Cl	%	18	0.82	6.08	4.52	1.01	22.4	75.0
TKN	%	41	0.78	2.88	1.23	0.11	8.5	81.0
N- Dry Comb.	%	55	1.28	1.93	1.47	0.06	4.1	78.4
S- Dry Comb.	%	17	0.01	0.15	0.070	0.020	28.6	70.6
Nitric / Perchloric								
P	%	39	0.16	0.23	0.20	0.010	5.0	83.7
K	%	41	1.70	2.8	2.25	0.088	3.9	86.7
Ca	%	41	0.77	1.2	1.00	0.050	5.0	84.1
Mg	%	38	0.35	0.48	0.43	0.020	4.7	88.4
S	%	38	0.03	0	0.067	0.007	10.3	79.5
Na	mg/kg	30	15400	34400	26640	780	2.9	73.5
B	mg/kg	29	16.8	200	28.9	1.9	6.6	70.0
Zn	mg/kg	40	3	27	15	1.3	8.7	78.0
Mn	mg/kg	38	6	20	13	1.3	9.6	82.5
Fe	mg/kg	38	37	145	87	10	11.7	77.5
Cu	mg/kg	40	2.0	68	4.0	1.0	25.0	80.5
Dry Ash		0						
P	%	44	0.11	0.26	0.20	0.010	5.0	91.7
K	%	44	1.02	2.81	2.27	0.15	6.6	80.9
Ca	%	45	0.33	1.30	0.98	0.080	8.2	83.0
Mg	%	45	0.14	0.5	0.42	0.040	9.5	80.4
Na	mg/kg	31	7088	31430	26800	1800	6.7	79.4
B	mg/kg	48	19.3	40	27.5	1.5	5.3	77.1
Zn	mg/kg	45	8.0	25	14	2.0	14.3	85.4
Mn	mg/kg	46	0.0	17	13	1.2	8.8	83.3
Fe	mg/kg	44	46	167	82	13	15.9	89.1
Cu	mg/kg	44	1.4	16	4.3	0.5	11.4	73.9
Microwave								
P	%	15	0.17	0.24	0.21	0.012	5.7	100.0
K	%	16	0.90	2.90	2.40	0.13	5.4	100.0
Ca	%	16	0.40	1.28	0.99	0.045	4.5	86.7
Mg	%	16	0.20	0.48	0.43	0.011	2.4	93.3
S	%	11	0.1	0	0.070	0.007	9.3	85
Na	mg/kg	14	12300	32500	29100	1311	4.5	100.0
B	mg/kg	15	21.5	47	28.0	2.8	10.0	78.6
Zn	mg/kg	14	7.0	23	14	3.4	24.1	80.0
Mn	mg/kg	15	0	18	14	1.8	13.2	80.0
Fe	mg/kg	15	3	121	91	9	10.1	80.0
Cu	mg/kg	14	2.55	12	4.3	0.5	11.7	71.4

1 - Values flagged exceed Warning Limits " * " based on 2.5 x MAD (Median Absolute Deviation) and Control Limits " * * " based on 4 x MAD.

2 - Percentage (%) of all reported laboratory values within established Warning Limits.

1998 Interim North American Proficiency Testing Program

January 4, 1999

4th Quarter Results

Plant ID - 98212

Plant	Sample		Descriptive		Statistics			Lab ID
Analysis	Units	No.	Min	Max	Median	MAD ¹	RMD %	% Values < WL ²
Dry Matter	%	22	91.8	95.1	93.3	0.7	0.8	89.6
NO ₃ - N Cd Rd.	mg/kg	29	6600	24277	15815	1305	8.3	86.7
NO ₃ - N ISE	mg/kg	30	1410	28000	17420	7800	44.8	96.9
NO ₃ - N Oth.	mg/kg	13	0	18975	15400	15400	100.0	93.8
PO ₄ - P	mg/kg	25	890	2820	2059	82	4.0	83.9
SO ₄ - S	mg/kg	15	333	8217	1650	4709	285.4	86.7
Cl	%	25	0.47	3.15	2.32	0.37	15.9	86.7
TKN	%	48	1.12	4	2.89	0.25	8.7	85.7
N- Dry Comb.	%	62	1.43	4.5	3.95	0.13	3.2	93.1
S- Dry Comb.	%	24	0.11	0.26	0.200	0.022	11.0	95.8
Nitric / Perchloric								
P	%	46	0.31	0.59	0.397	0.013	3.3	84.3
K	%	48	3.83	16.44	9.18	0.603	6.6	86.8
Ca	%	48	1.03	1.9	1.25	0.07	5.5	80.8
Mg	%	45	0.59	1.08	0.70	0.03	4.3	92.2
S	%	45	0.15	0	0.230	0.03	13.0	76.9
Na	mg/kg	36	0.1	2509	1034	117	11.3	85.4
B	mg/kg	36	23.0	142	28.0	2.3	8.2	89.5
Zn	mg/kg	48	33.30	66	49.0	4.5	9.2	91.8
Mn	mg/kg	45	48.2	154	77.0	6.3	8.2	91.7
Fe	mg/kg	45	80	366	231	30.0	13.0	83.3
Cu	mg/kg	47	5.7	48	13.0	0.8	6.2	85.7
Dry Ash								
P	%	51	0.3	0.48	0.382	0.018	4.6	90.7
K	%	51	0.85	12.58	9.25	0.49	5.3	94.4
Ca	%	52	0.50	1.82	1.26	0.07	5.6	79.6
Mg	%	52	0.30	0.9	0.69	0.040	5.8	85.2
Na	mg/kg	39	1.33	1834	1100	217	19.7	90.2
B	mg/kg	55	19.8	198	27.7	1.7	6.0	76.4
Zn	mg/kg	52	39.5	65	46.2	3.3	7.2	89.1
Mn	mg/kg	53	60	96	76.4	3.8	4.9	98.2
Fe	mg/kg	51	3	359	191	30	15.9	94.3
Cu	mg/kg	51	5	25	12.5	1.5	12.0	78.8
Microwave								
P	%	14	0.28	0.44	0.411	0.010	2.4	84.6
K	%	15	4.10	11.80	9.50	0.44	4.6	64.3
Ca	%	15	0.20	1.55	1.26	0.06	4.8	85.7
Mg	%	15	0.30	0.77	0.74	0.02	3.3	100.0
S	%	10	0.1	0	0.230	0.018	7.7	83
Na	mg/kg	13	361	8800	1320	190	14.4	83.3
B	mg/kg	14	21.2	46	27.5	3.3	12.0	84.6
Zn	mg/kg	13	24.6	59	48.5	6.6	13.5	85.7
Mn	mg/kg	14	28	90	76.5	6.2	8.1	92.9
Fe	mg/kg	14	2	258	230	22.4	9.8	78.6
Cu	mg/kg	13	9	22	14.0	1.0	7.1	78.6

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2 - Percentage (%) of all reported laboratory values within established Warning Limits.