AOF Test Check Program
Bimonthly Report
Round 5
September – 2016

Result Receival Dates

Lab Code	Date
A	30/09/2016
B	-
C	22/09/2016
D	30/09/2016
E	07/09/2016
F	-
G	30/09/2016
H	30/09/2016
I	22/09/2016
J	-
K	08/09/2016
L	21/09/2016
M	14/09/2016
N	09/09/2016
O	29/09/2016
Q	-
R	12/09/2016
S	29/09/2016

Discussion of Results

Test Weight

No outliers were observed for this test.

Impurities

Sample 1 – One outlier was identified for Lab **S** with a 0.27 of a percent discrepancy from the lower quartile limit (0.72%).

Sample 2 – Outliers were identified for Lab **O** and **S**. Lab **O** was 0.08, of a percent discrepancy from the lower quartile limit (0.68%). Lab **S** was 0.53 of a percent discrepancy from the upper quartile limit (1.12%).

Sample 3 – No outliers were observed for this test.

Oil Rapid

Sample 1 – One outlier was identified for Lab **I** with a 0.04 of a percent discrepancy from the upper quartile limit (42.51%).

Sample 2 – No outliers were observed for this test.

Sample 3 – Outliers were identified for Lab **N** and **R**. Lab **N** were 0.03 of a percent discrepancy from the lower quartile limit (46.84%). Lab **R** was 0.19 of a percent discrepancy from the upper quartile limit (47.81%).

For samples 1 and 2 the rapid test sat within or very close to results published for solvent extraction. Sample 3 results were the highest oil content in the set and varied by 0.76 percent between NIR and oil extraction mean results, however, maintained similar accuracies through lower variability across laboratories. Results published by lab **N** for sample 3 was close to the reference results, however, all other laboratories displaying outlying data were outside parameters found for solvent extraction variability provided in the next section.

Oil Solvent Extraction

Sample 1 – One outlier was identified for Lab **D** with a 0.56 of a percent discrepancy from the lower quartile limit (40.35%).

Sample 2 – No outliers were observed for this test.

Sample 3 – No outliers were observed for this test.

Standard deviation of each test, with the exception of **D** sample 1, was within the reproducibility for ISO659:2009. 4 of the 6 labs were participating within protocol guidelines outlined by ISO659:2009.

Removal of results submitted by laboratories not participating at the capacity outlined by the method protocol has a minor effect on the mean results. All sample set mean results increased by 0.16 to 0.56% (not stated). The removal of these results also decreased variability by 0.02 to 0.75 (not stated). Decreasing the population of participants to 4 laboratories has the expected increase in error values.

Moisture Oven

Sample 1 – Outliers were identified for Lab **C** and **D**. Lab **C** was 0.36 of a percent discrepancy from the upper quartile limit (6.94%). Lab **D** was 0.04 of a percent discrepancy from the lower quartile limit (6.26%).

Sample 2 – Outliers were identified for Lab **D** and **K** with a 0.04 and 0.50 of a percent discrepancy, respectively, from the lower quartile limit (5.64%).

Sample 3 – One outlier was identified for Lab **D** with a 0.05 of a percent discrepancy from the lower quartile limit (4.63%).

Moisture Rapid

No outliers were observed for this test.

Oleic acid

Sample 1 – One outlier was identified for Lab **S** with a 4.40 of a percent discrepancy from the upper quartile limit (65.29%).

Sample 2 – One outlier was identified for Lab **S** with a 3.49 of a percent discrepancy from the upper quartile limit (64.10%).

Sample 3 – Outliers were identified for Lab **K** and **S**. Lab **K** was 0.53 of a percent discrepancy from the lower quartile limit (68.86%). Lab **S** was 3.87 of a percent discrepancy from the lower quartile limit (6.26%).

Linoleic acid

Sample 1 – Outliers were identified for Lab **D** and **S**. Lab **D** was 0.02 of a percent discrepancy from the upper quartile limit (19.15%). Lab **S** was 0.13 of a percent discrepancy from the lower quartile limit (18.79%).

Sample 2 – One outlier was identified for Lab **S** with a 0.23 of a percent discrepancy from the upper quartile limit (21.72%).

Sample 3 – No outliers were observed for this test.

Linolenic acid

Sample 1 – One outlier was identified for Lab **S** with a 0.98 of a percent discrepancy from the lower quartile limit (8.79%).

Sample 2 – One outlier was identified for Lab **S** with a 1.06 of a percent discrepancy from the lower quartile limit (6.98%).

Sample 3 – One outlier was identified for Lab **S** with a 0.90 of a percent discrepancy from the lower quartile limit (6.04%).

Free Fatty Acid

Sample 1 – No outliers were observed for this test.

Sample 2 – One outlier was identified for Lab **K** with a 0.08 of a percent discrepancy from the upper quartile limit (0.26%).

Sample 3 – One outlier was identified for Lab **K** with a 0.35 of a percent discrepancy from the upper quartile limit (0.25%)

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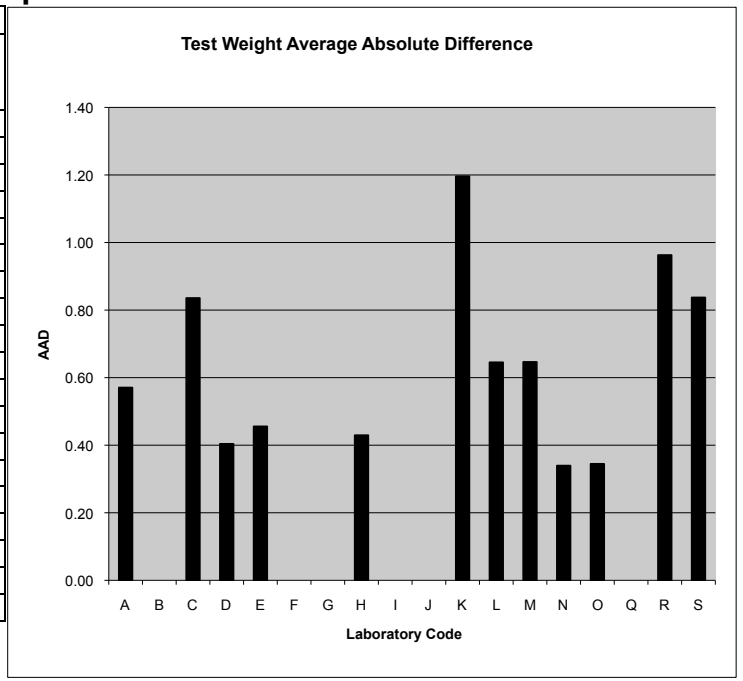
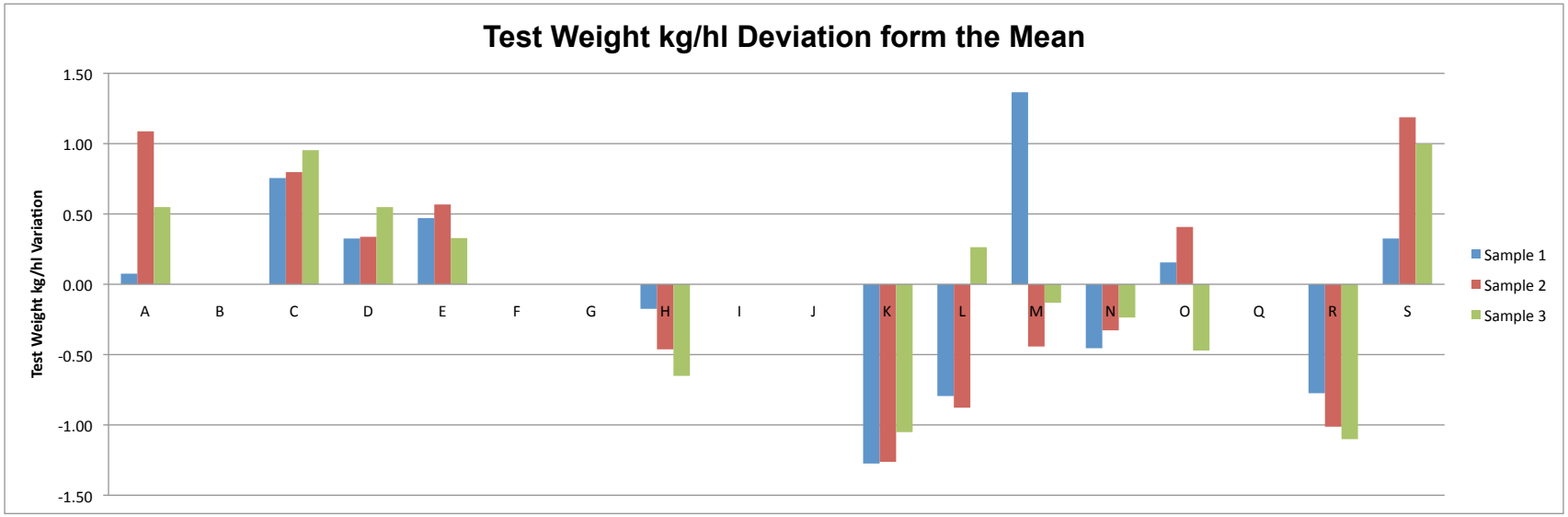
Test Weight kg/hl								
	Sample 1		Sample 2		Sample 3		Mean of Differences	Average Absolute Difference
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean		
A	68.75	0.08	69.25	1.09	68.00	0.55	0.57	0.57
B								
C	69.43	0.76	68.96	0.80	68.41	0.95	0.84	0.84
D	69.00	0.33	68.50	0.34	68.00	0.55	0.40	0.40
E	69.15	0.47	68.73	0.57	67.78	0.33	0.46	0.46
F								
G								
H	68.50	-0.17	67.70	-0.46	66.80	-0.65	-0.43	0.43
I								
J								
K	67.40	-1.27	66.90	-1.26	66.40	-1.05	-1.20	1.20
L	67.88	-0.79	67.29	-0.88	67.72	0.26	-0.47	0.65
M	70.04	1.37	67.72	-0.44	67.32	-0.13	0.26	0.65
N	68.22	-0.45	67.84	-0.33	67.22	-0.24	-0.34	0.34
O	68.83	0.16	68.57	0.41	66.98	-0.47	0.03	0.34
Q								
R	67.90	-0.77	67.15	-1.01	66.35	-1.10	-0.96	0.96
S	69.00	0.33	69.35	1.19	68.45	1.00	0.84	0.84
MEAN	**68.67**		**68.16**		**67.45**			**0.64**
STDEV	**0.74**		**0.84**		**0.72**			





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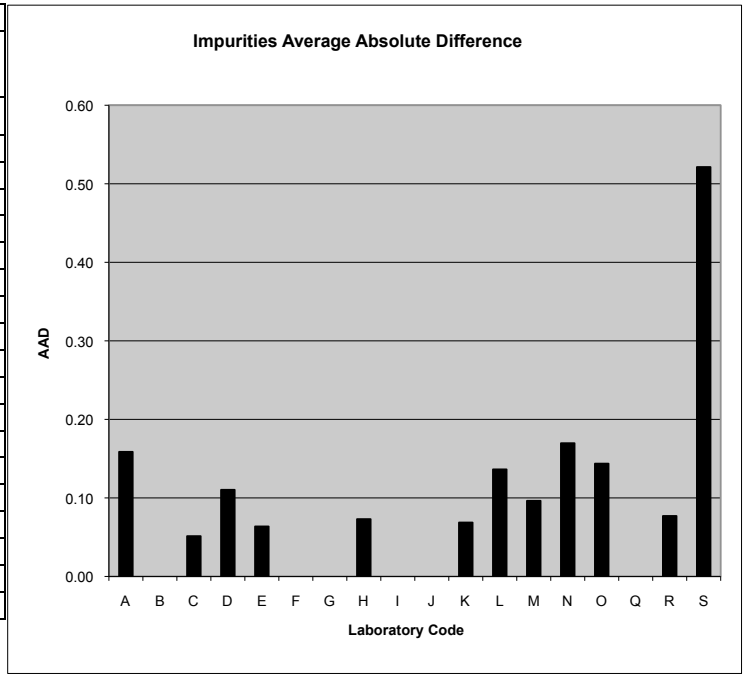
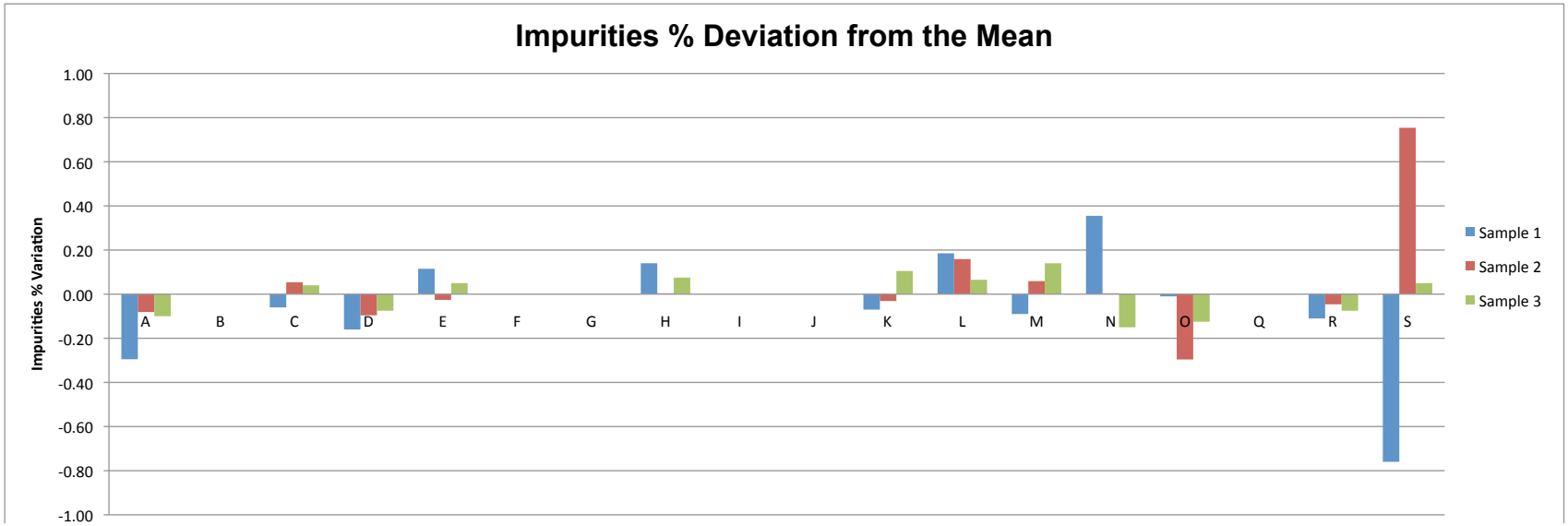
Impurities %								
	Sample 1		Sample 2		Sample 3		Mean of Differences	Average Absolute Difference
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean		
A	0.92	-0.30	0.82	-0.08	0.63	-0.10	-0.16	0.16
B								
C	1.15	-0.06	0.95	0.05	0.77	0.04	0.01	0.05
D	1.05	-0.16	0.80	-0.10	0.65	-0.08	-0.11	0.11
E	1.33	0.12	0.87	-0.03	0.78	0.05	0.05	0.06
F								
G								
H	1.35	0.14	0.90	0.00	0.80	0.08	0.07	0.07
I								
J								
K	1.14	-0.07	0.87	-0.03	0.83	0.11	0.00	0.07
L	1.40	0.19	1.06	0.16	0.79	0.06	0.14	0.14
M	1.12	-0.09	0.96	0.06	0.87	0.14	0.04	0.10
N	1.57	0.36	0.90	0.00	0.58	-0.15	0.07	0.17
O	1.20	-0.01	0.60	-0.30	0.60	-0.13	-0.14	0.14
Q								
R	1.10	-0.11	0.85	-0.05	0.65	-0.08	-0.08	0.08
S	0.45	-0.76	1.65	0.75	0.78	0.05	0.01	0.52
MEAN	**1.21**		**0.90**		**0.73**			**0.14**
STDEV	**0.18**		**0.08**		**0.10**			





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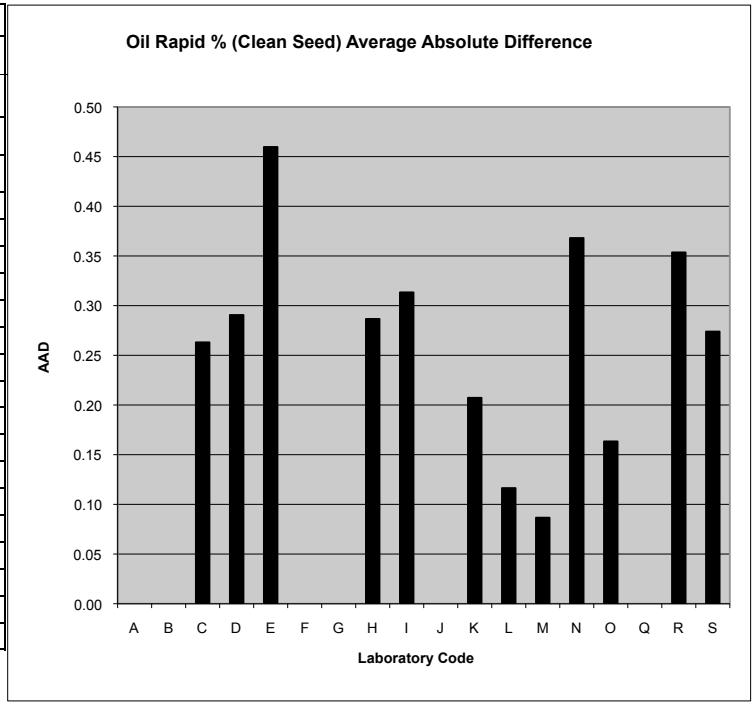
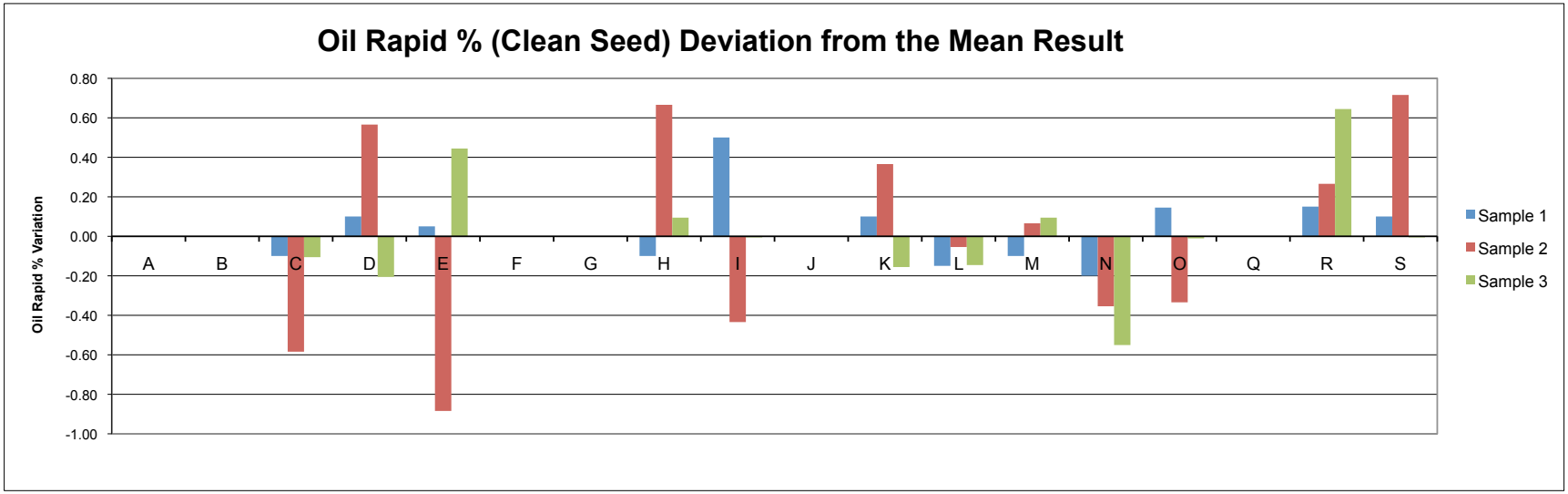
Oil Rapid % (Clean Seed) Deviation from the Mean								
	Sample 1		Sample 2		Sample 3			Average
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean	Mean of Differences	Absolute Difference
A								
B								
C	41.95	-0.10	45.50	-0.58	47.25	-0.11	-0.26	0.26
D	42.15	0.10	46.65	0.57	47.15	-0.21	0.15	0.29
E	42.10	0.05	45.20	-0.88	47.80	0.44	-0.13	0.46
F								
G								
H	41.95	-0.10	46.75	0.67	47.45	0.09	0.22	0.29
I	42.55	0.50	45.65	-0.43	47.35	-0.01	0.02	0.31
J								
K	42.15	0.10	46.45	0.37	47.20	-0.16	0.10	0.21
L	41.90	-0.15	46.03	-0.05	47.21	-0.15	-0.12	0.12
M	41.95	-0.10	46.15	0.07	47.45	0.09	0.02	0.09
N	41.85	-0.20	45.73	-0.35	46.81	-0.55	-0.37	0.37
O	42.20	0.15	45.75	-0.33	47.35	-0.01	-0.07	0.16
Q								
R	42.20	0.15	46.35	0.27	48.00	0.64	0.35	0.35
S	42.15	0.10	46.80	0.72	47.35	-0.01	0.27	0.27
MEAN	**42.05**		**46.08**		**47.36**			**0.27**
STDEV	**0.13**		**0.53**		**0.19**			





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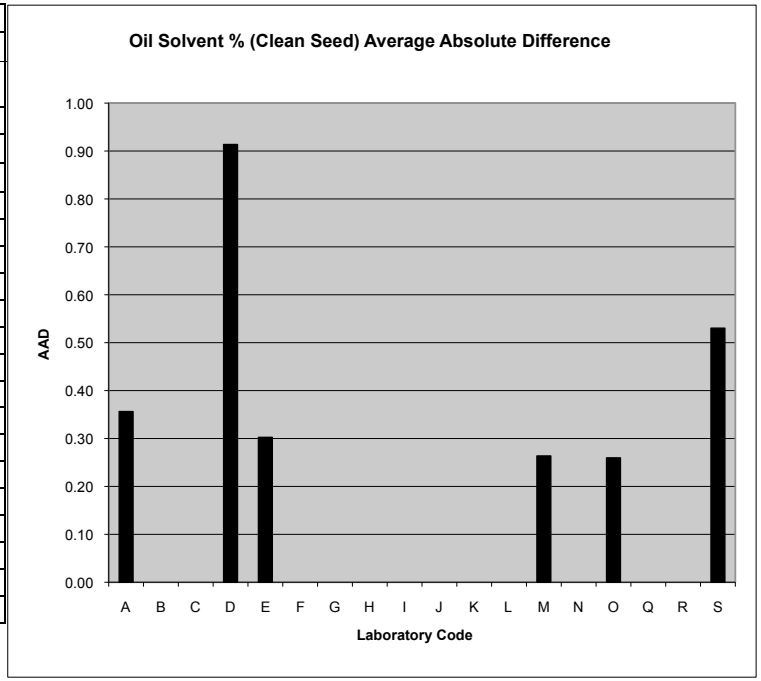
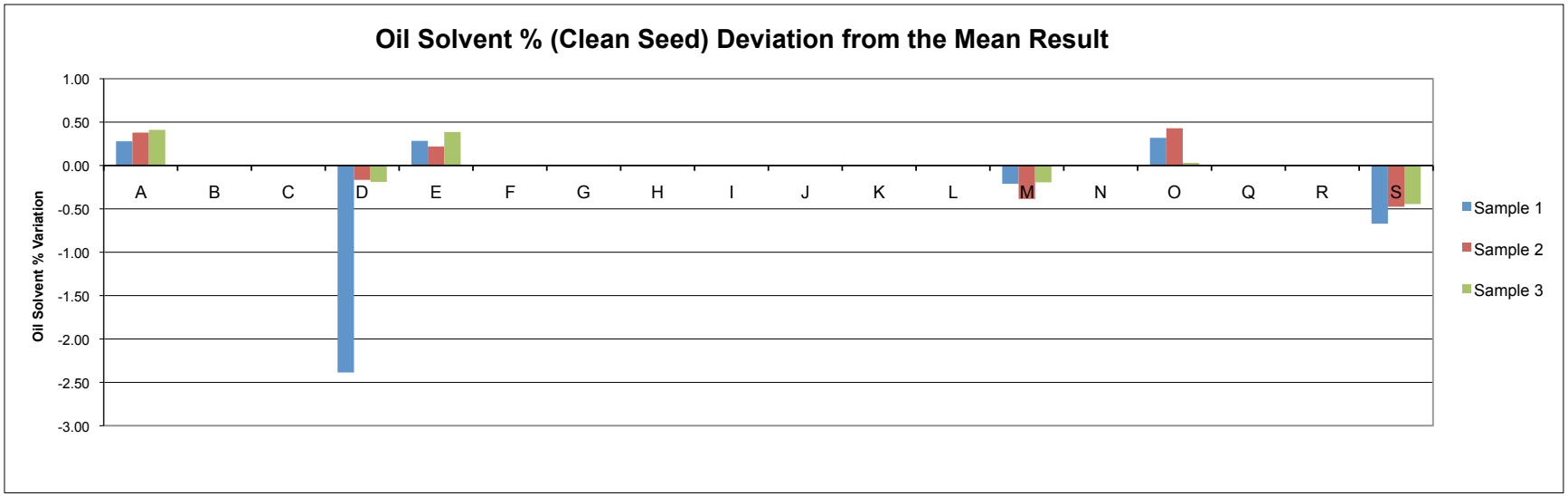
Oil Solvent % (Clean Seed) Deviation from the Mean								
	Sample 1		Sample 2		Sample 3			Average
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean	Mean of Differences	Absolute Difference
A	42.45	0.28	46.06	0.38	47.01	0.41	0.36	0.36
B								
C								
D	39.79	-2.39	45.51	-0.17	46.41	-0.19	-0.91	0.91
E	42.46	0.28	45.90	0.22	46.98	0.39	0.30	0.30
F								
G								
H								
I								
J								
K								
L								
M	41.96	-0.21	45.29	-0.39	46.40	-0.19	-0.26	0.26
N								
O	42.49	0.32	46.11	0.43	46.63	0.03	0.26	0.26
Q								
R								
S	41.50	-0.67	45.20	-0.48	46.15	-0.44	-0.53	0.53
MEAN	42.17		45.68		46.59			0.44
STDEV	0.43		0.39		0.34			





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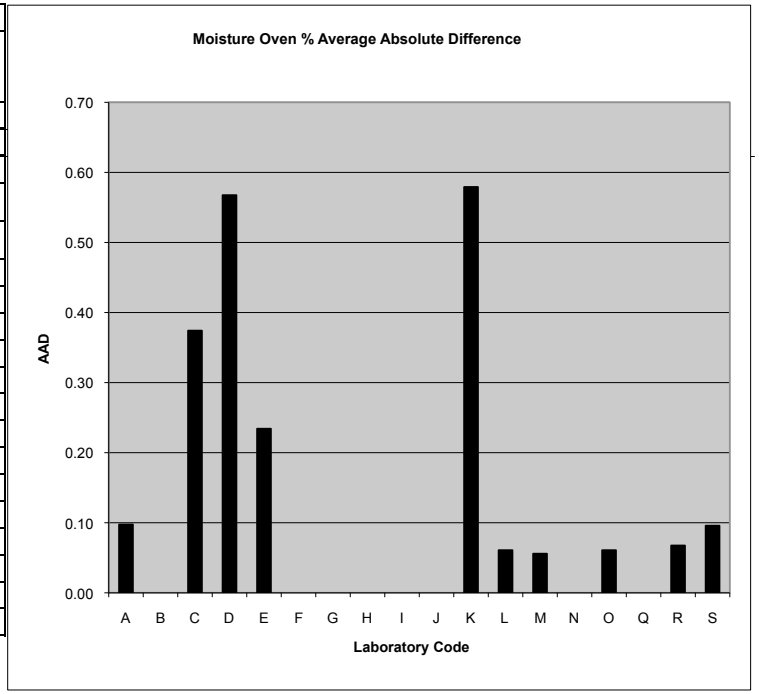
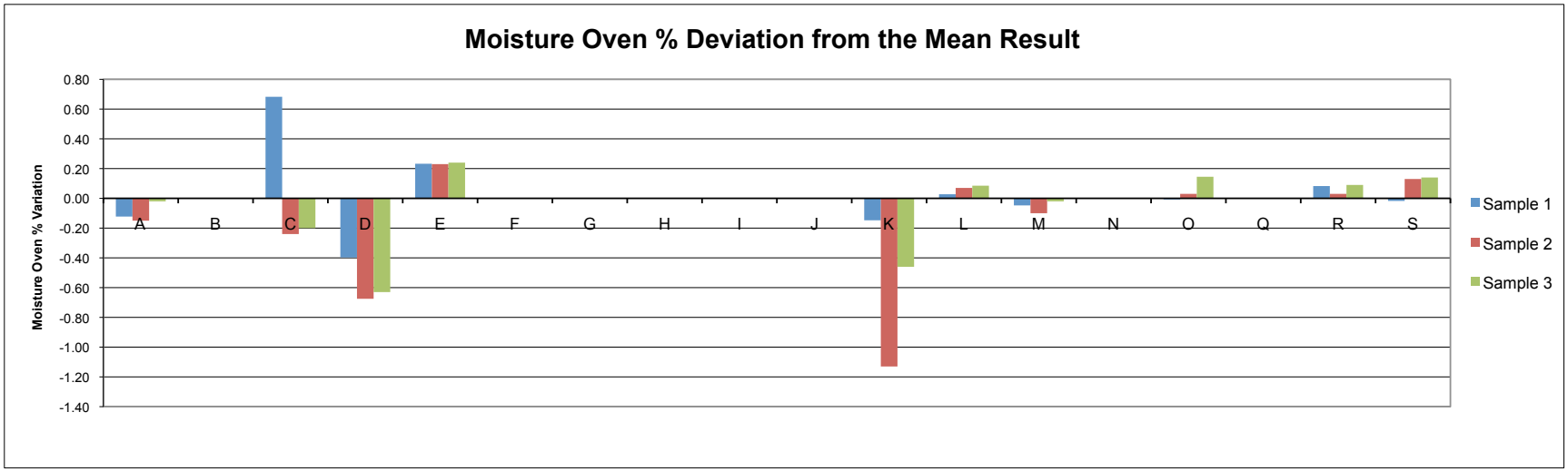
Moisture Oven % Deviation from the Mean								
	Sample 1		Sample 2		Sample 3		Mean of Differences	Average Absolute Difference
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean		
A	6.50	-0.12	6.12	-0.15	5.19	-0.02	-0.10	0.10
B								
C	7.30	0.68	6.03	-0.24	5.01	-0.20	0.08	0.37
D	6.22	-0.40	5.60	-0.67	4.58	-0.63	-0.57	0.57
E	6.85	0.23	6.50	0.23	5.45	0.24	0.23	0.23
F								
G								
H								
I								
J								
K	6.47	-0.15	5.14	-1.13	4.75	-0.46	-0.58	0.58
L	6.65	0.03	6.34	0.07	5.30	0.09	0.06	0.06
M	6.57	-0.05	6.17	-0.10	5.19	-0.02	-0.06	0.06
N								
O	6.61	-0.01	6.30	0.03	5.36	0.15	0.06	0.06
Q								
R	6.70	0.08	6.30	0.03	5.30	0.09	0.07	0.07
S	6.60	-0.02	6.40	0.13	5.35	0.14	0.08	0.10
MEAN	**6.62**		**6.27**		**5.21**			**0.22**
STDEV	**0.12**		**0.15**		**0.21**			





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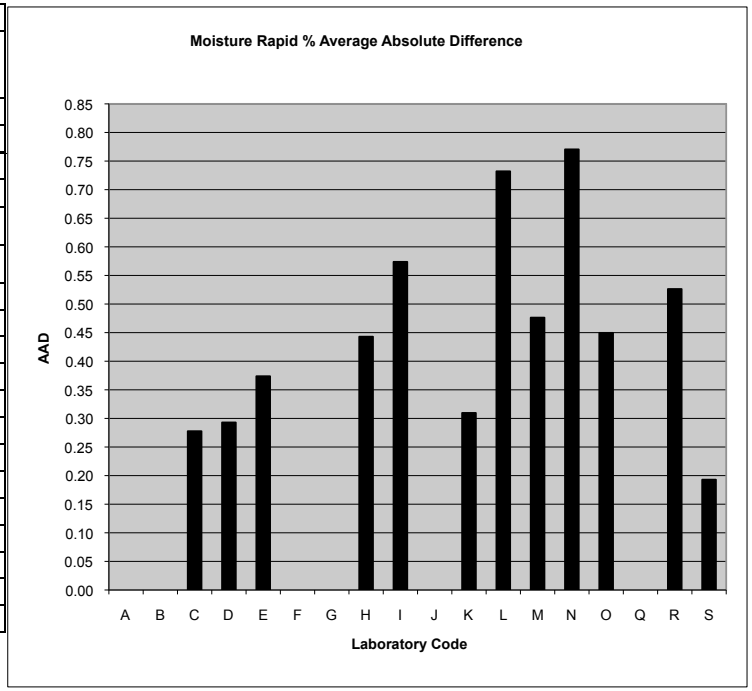
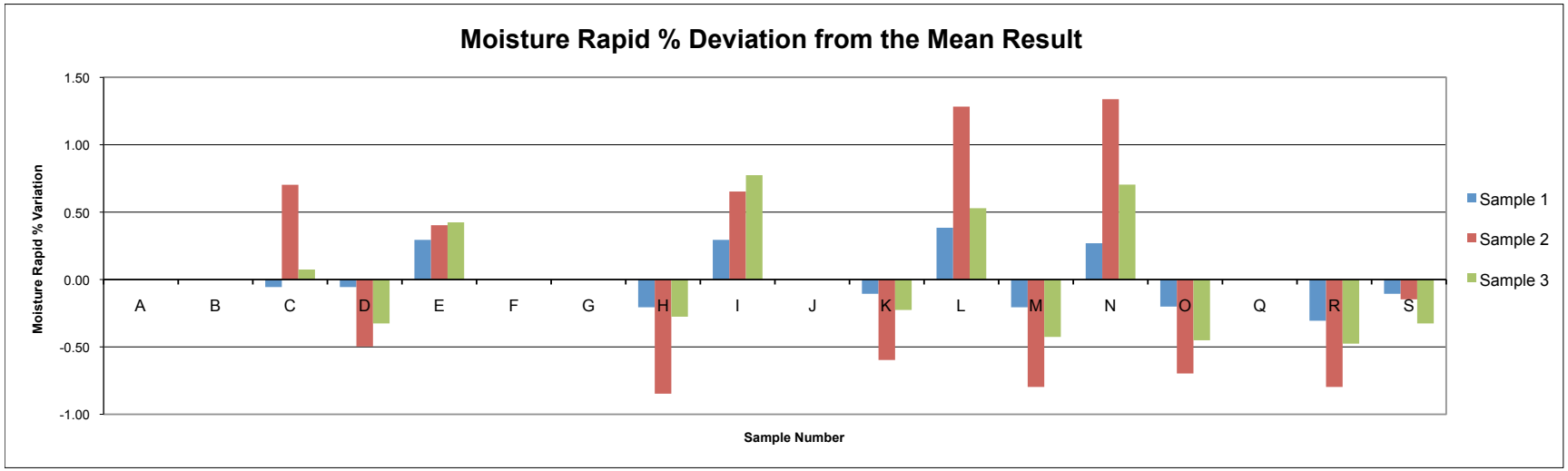
Moisture Rapid % Deviation from the Mean								
	Sample 1		Sample 2		Sample 3		Mean of Differences	Average Absolute Difference
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean		
A								
B								
C	6.40	-0.06	6.60	0.70	5.15	0.07	0.24	0.28
D	6.40	-0.06	5.40	-0.50	4.75	-0.33	-0.29	0.29
E	6.75	0.29	6.30	0.40	5.50	0.42	0.37	0.37
F								
G								
H	6.25	-0.21	5.05	-0.85	4.80	-0.28	-0.44	0.44
I	6.75	0.29	6.55	0.65	5.85	0.77	0.57	0.57
J								
K	6.35	-0.11	5.30	-0.60	4.85	-0.23	-0.31	0.31
L	6.84	0.38	7.18	1.28	5.61	0.53	0.73	0.73
M	6.25	-0.21	5.10	-0.80	4.65	-0.43	-0.48	0.48
N	6.73	0.27	7.24	1.34	5.78	0.70	0.77	0.77
O	6.26	-0.20	5.20	-0.70	4.63	-0.45	-0.45	0.45
Q								
R	6.15	-0.31	5.10	-0.80	4.60	-0.48	-0.53	0.53
S	6.35	-0.11	5.75	-0.15	4.75	-0.33	-0.19	0.19
MEAN	**6.46**		**5.90**		**5.08**			**0.45**
STDEV	**0.24**		**0.83**		**0.48**			





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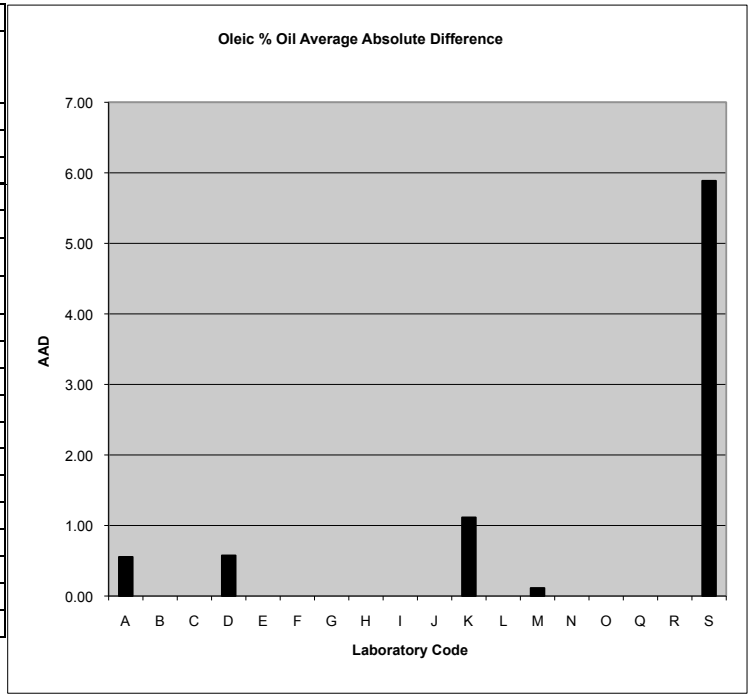
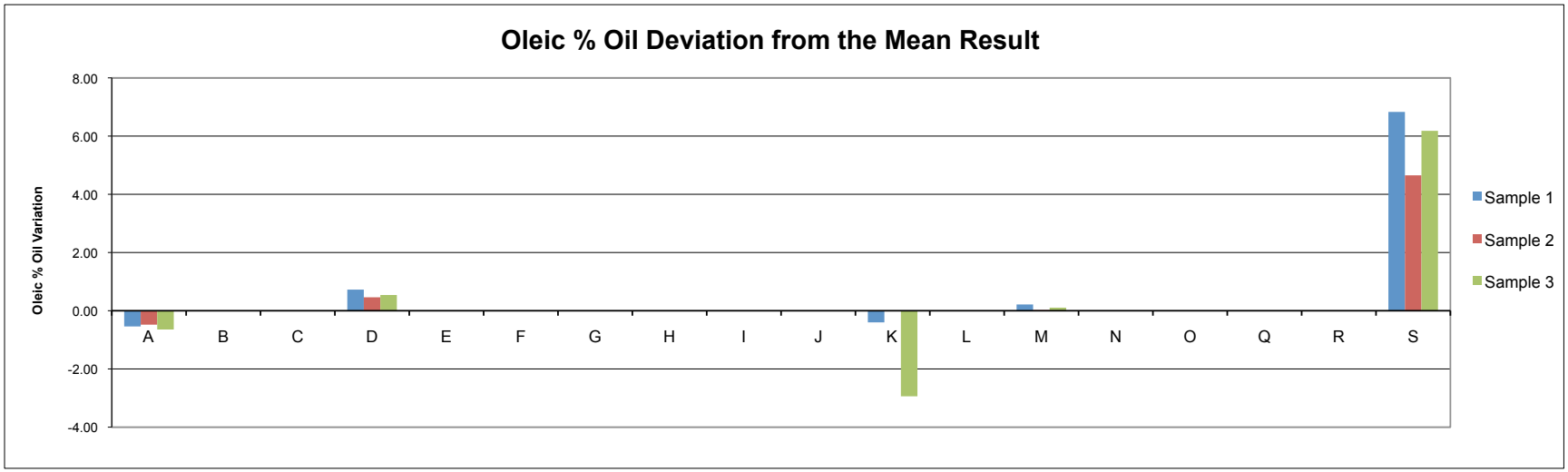
Oleic % Oil Deviation from the Mean								
	Sample 1		Sample 2		Sample 3		Mean of Differences	Average Absolute Difference
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean		
A	62.32	-0.54	62.45	-0.48	70.63	-0.64	-0.55	0.55
B								
C								
D	63.59	0.72	63.39	0.46	71.81	0.54	0.58	0.58
E								
F								
G								
H								
I								
J								
K	62.46	-0.40	62.92	0.00	68.33	-2.94	-1.11	1.11
L								
M	63.08	0.22	62.95	0.02	71.38	0.11	0.11	0.11
N								
O								
Q								
R								
S	69.69	6.83	67.58	4.65	77.45	6.18	5.89	5.89
MEAN	**62.86**		**62.92**		**71.27**			**1.65**
STDEV	**0.58**		**0.38**		**0.60**			





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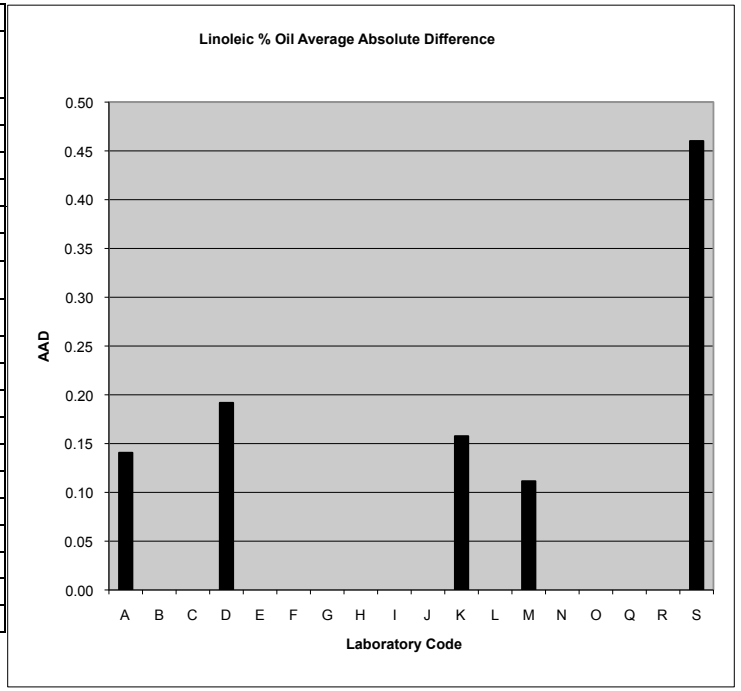
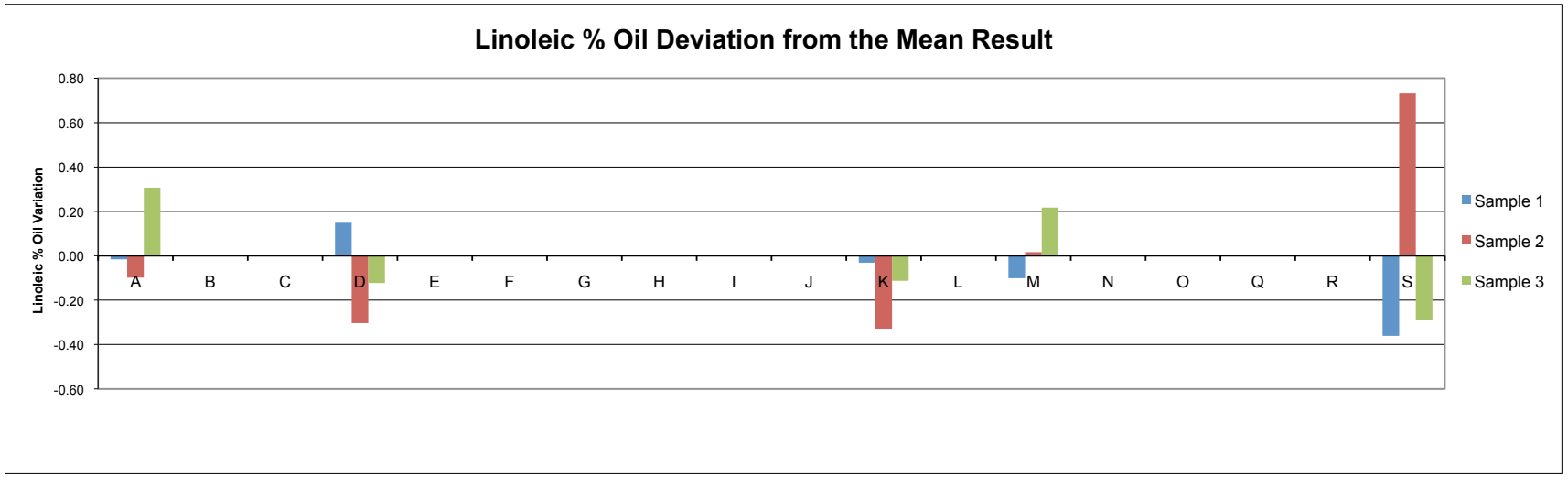
Linoleic % Oil Deviation from the Mean								
	Sample 1		Sample 2		Sample 3		Mean of Differences	Average Absolute Difference
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean		
A	19.01	-0.02	21.12	-0.10	13.85	0.31	0.06	0.14
B								
C								
D	19.17	0.15	20.92	-0.30	13.42	-0.12	-0.09	0.19
E								
F								
G								
H								
I								
J								
K	18.99	-0.03	20.89	-0.33	13.43	-0.11	-0.16	0.16
L								
M	18.92	-0.10	21.24	0.02	13.76	0.22	0.04	0.11
N								
O								
Q								
R								
S	18.66	-0.36	21.95	0.73	13.26	-0.29	0.03	0.46
MEAN	**19.02**		**21.22**		**13.54**			**0.21**
STDEV	**0.19**		**0.50**		**0.25**			





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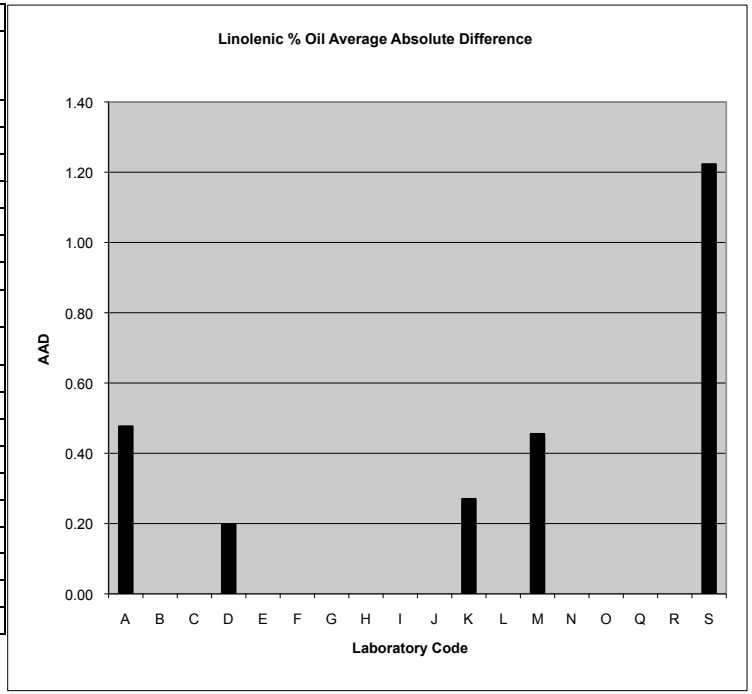
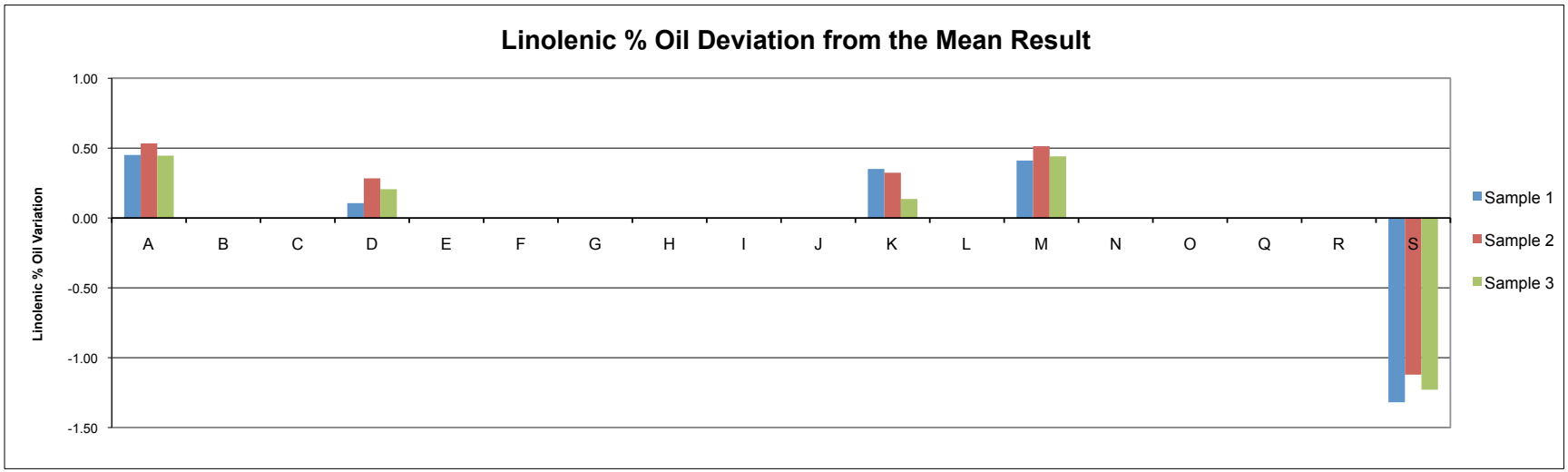
Linolenic % Oil Deviation from the Mean								
	Sample 1		Sample 2		Sample 3		Mean of Differences	Average Absolute Difference
Lab	Result	S1-Mean	Result	S2-Mean	Result	S3-Mean		
A	9.58	0.45	7.57	0.53	6.81	0.45	0.48	0.48
B								
C								
D	9.24	0.11	7.32	0.28	6.57	0.21	0.20	0.20
E								
F								
G								
H								
I								
J								
K	9.48	0.35	7.36	0.32	6.50	0.14	0.27	0.27
L								
M	9.54	0.41	7.55	0.51	6.81	0.44	0.46	0.46
N								
O								
Q								
R								
S	7.81	-1.32	5.92	-1.12	5.14	-1.23	-1.22	1.22
MEAN	**9.13**		**7.04**		**6.36**			**0.52**
STDEV	**0.75**		**0.75**		**0.70**			





Free Fatty Acid % Oil Deviation from the Mean					
	Sample 1	Sample 2	Sample 3	Mean of	Absolute