

IA ratios for N, P₂O₅ and K₂O in Magruder data

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University of Kentucky**

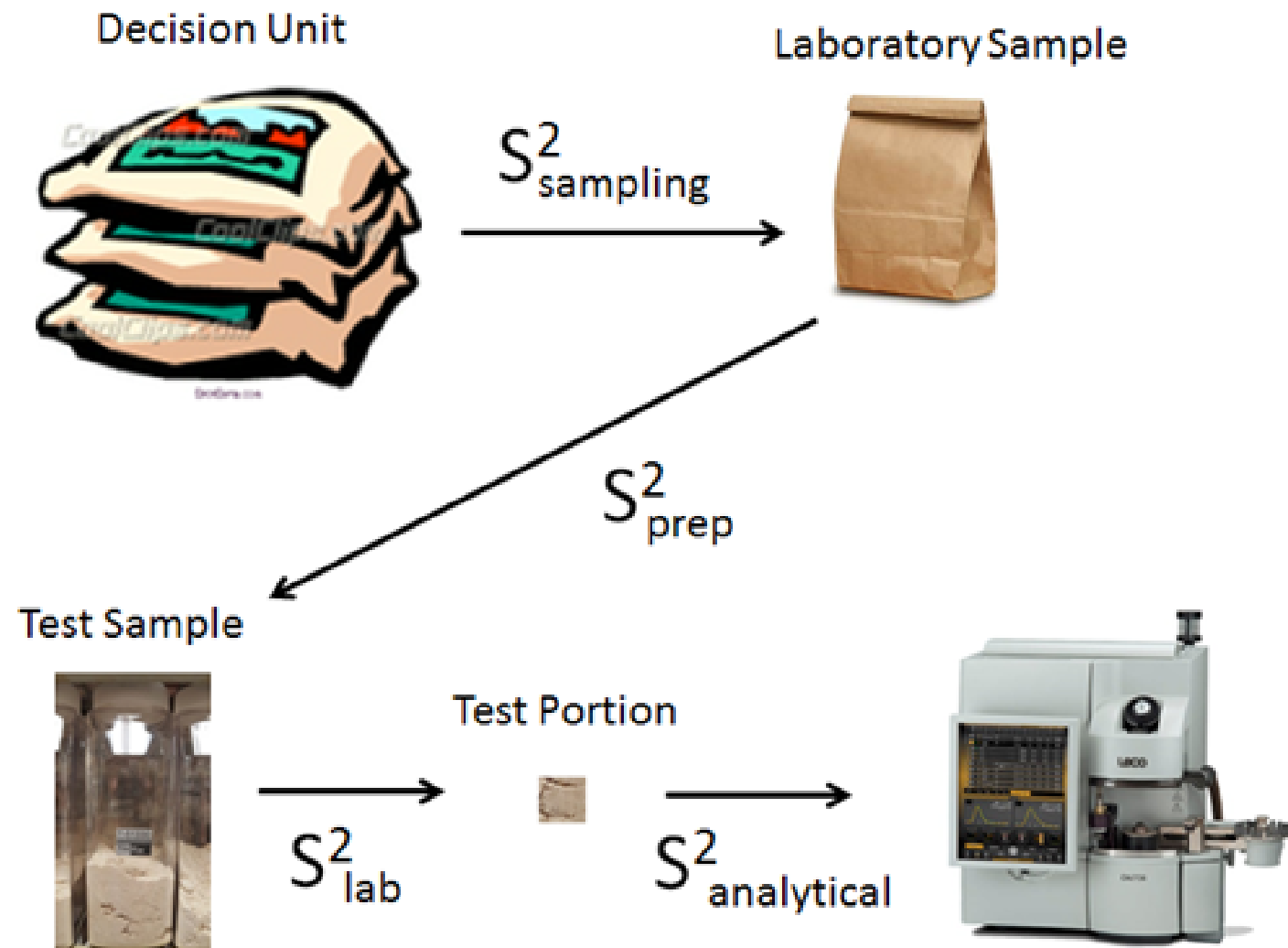
Lab Services Committee
Savannah, GA
Feb 20, 2018



**College of Agriculture,
Food and Environment**
Regulatory Services

Guarantee percent	Nitrogen (N)	Avail. Phosphate (P ₂ O ₅)	Sol. Potash (K ₂ O)
	Investigational Allowance, percent		
04 or less	0.49	0.67	0.41
05	0.51	0.67	0.43
06	0.52	0.67	0.47
07	0.54	0.68	0.53
08	0.55	0.68	0.60
09	0.57	0.68	0.65
10	0.58	0.69	0.70
12	0.61	0.69	0.79
14	0.63	0.70	0.87
16	0.67	0.70	0.94
18	0.70	0.71	1.01
20	0.73	0.72	1.08
22	0.75	0.72	1.15
24	0.78	0.73	1.21
26	0.81	0.73	1.27
28	0.83	0.74	1.33
30	0.86	0.75	1.39
32	0.88	0.76	1.44
34	^	0.79	1.46
36	^	0.83	1.49
38	^	0.86	1.51
40	^	0.90	1.54
42	^	0.93	1.55
44	^	0.96	1.58
46	^	1.00	1.61
48	^	1.03	1.63
50	^	1.07	1.66
52	^	1.10	1.68
54	^	#	1.70
56	^	#	1.73
58	^	#	1.75
60	^	#	1.78
62	^	#	1.80

Figure 1. Diagram of variances in analysis of fertilizer from a Decision Unit.

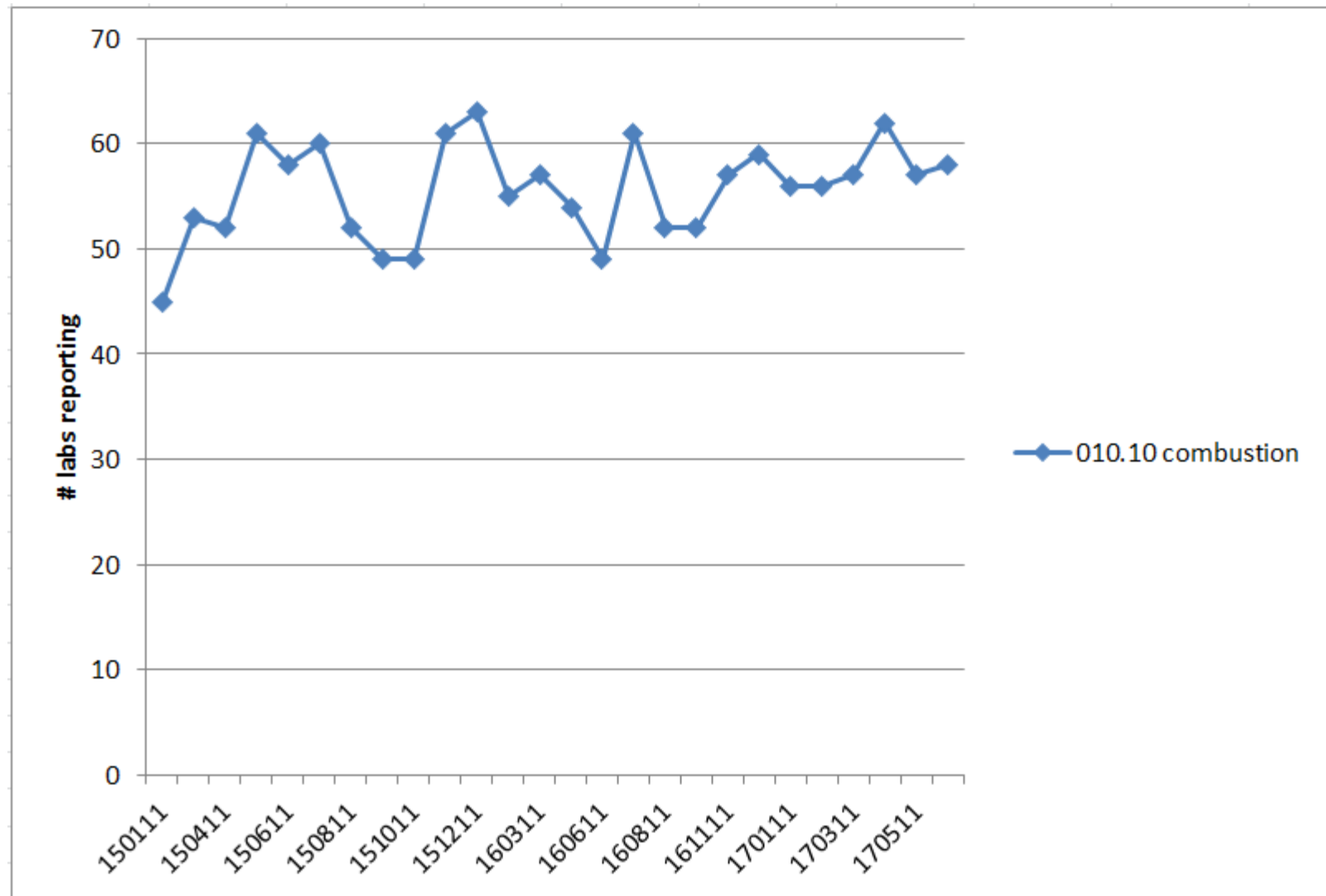


$$\text{IA Ratio} = \frac{\text{Robust \%RSD}}{\text{IA \%RSD}}$$

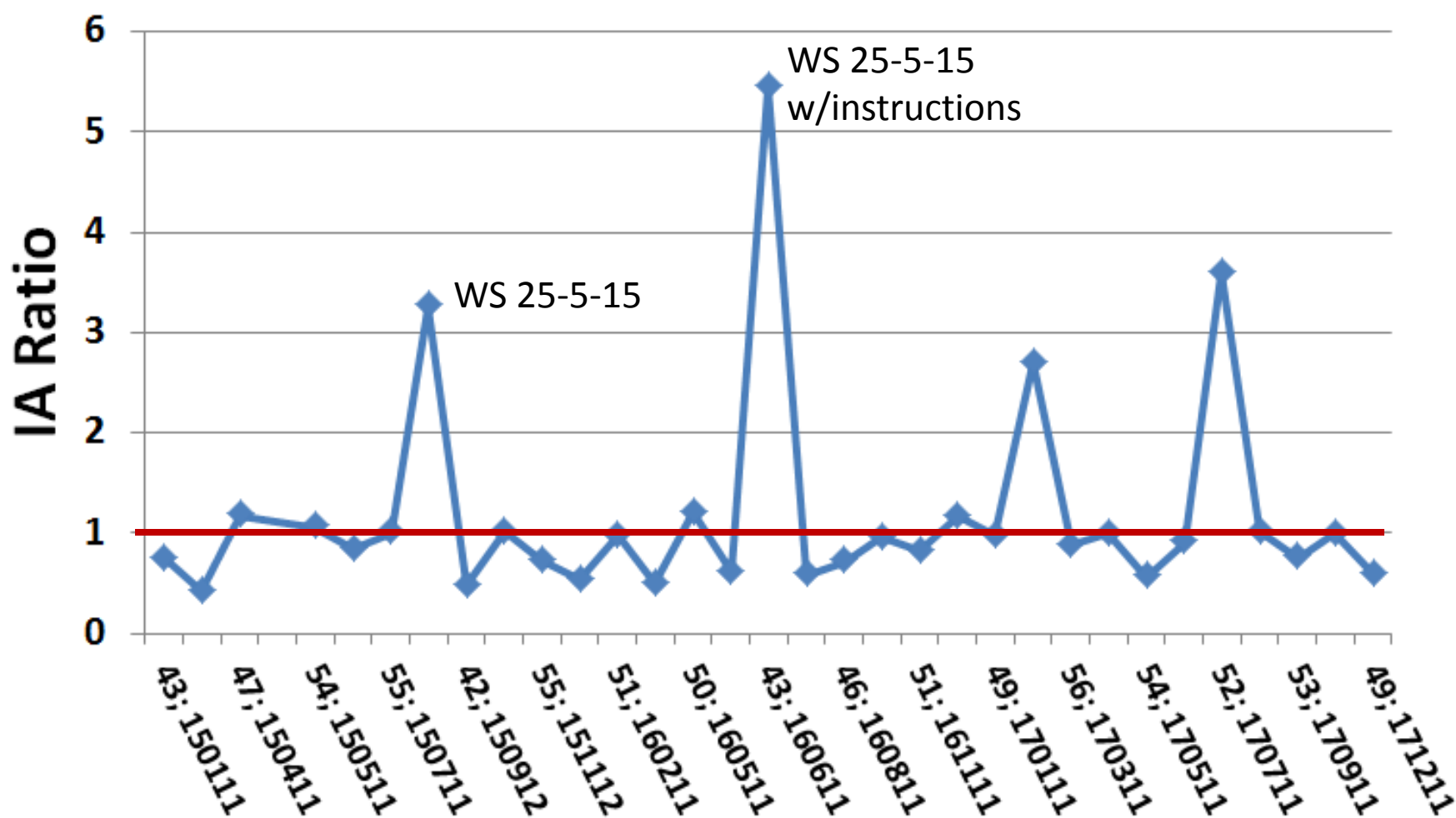
Test Sample

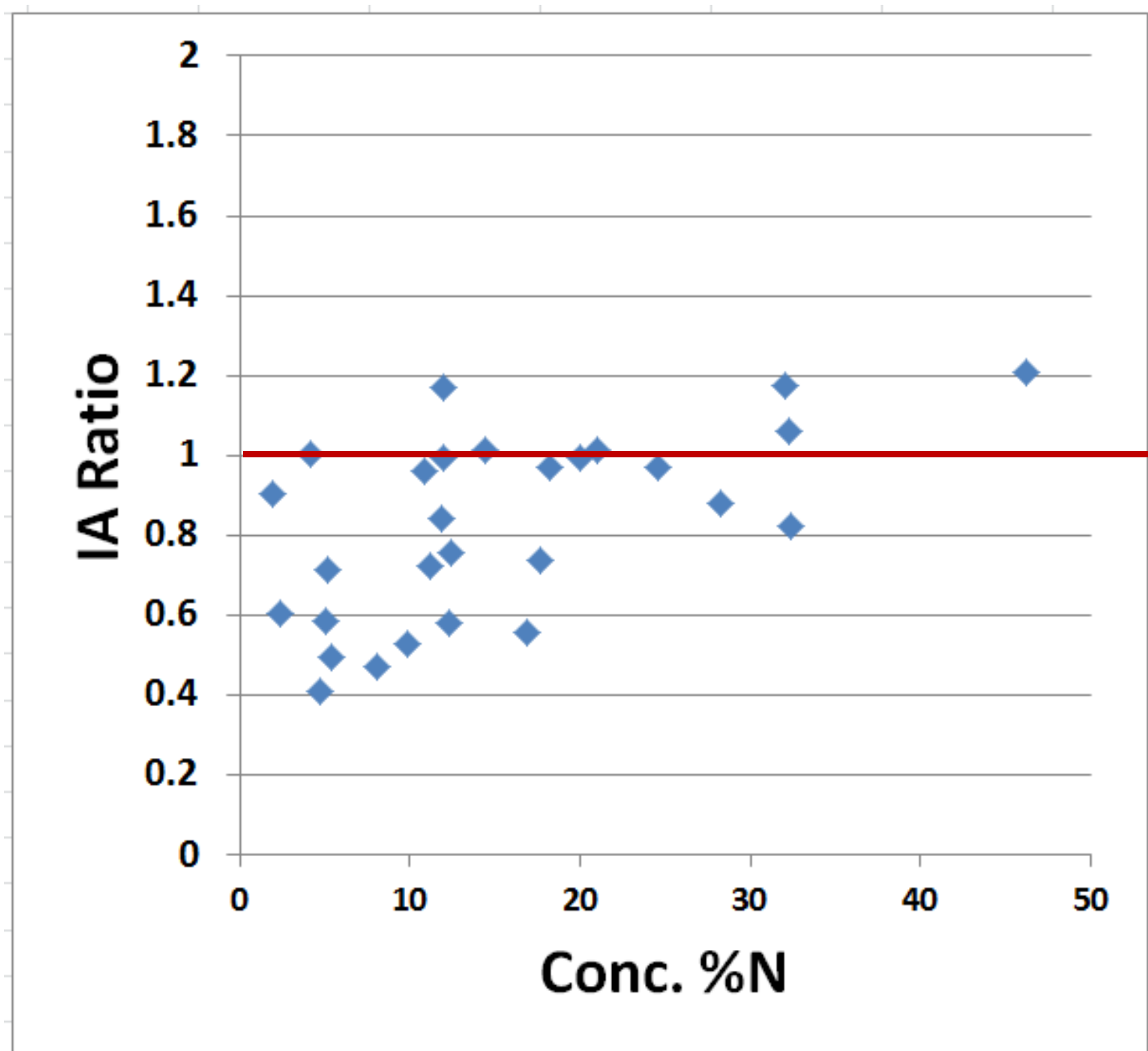


N: # of labs

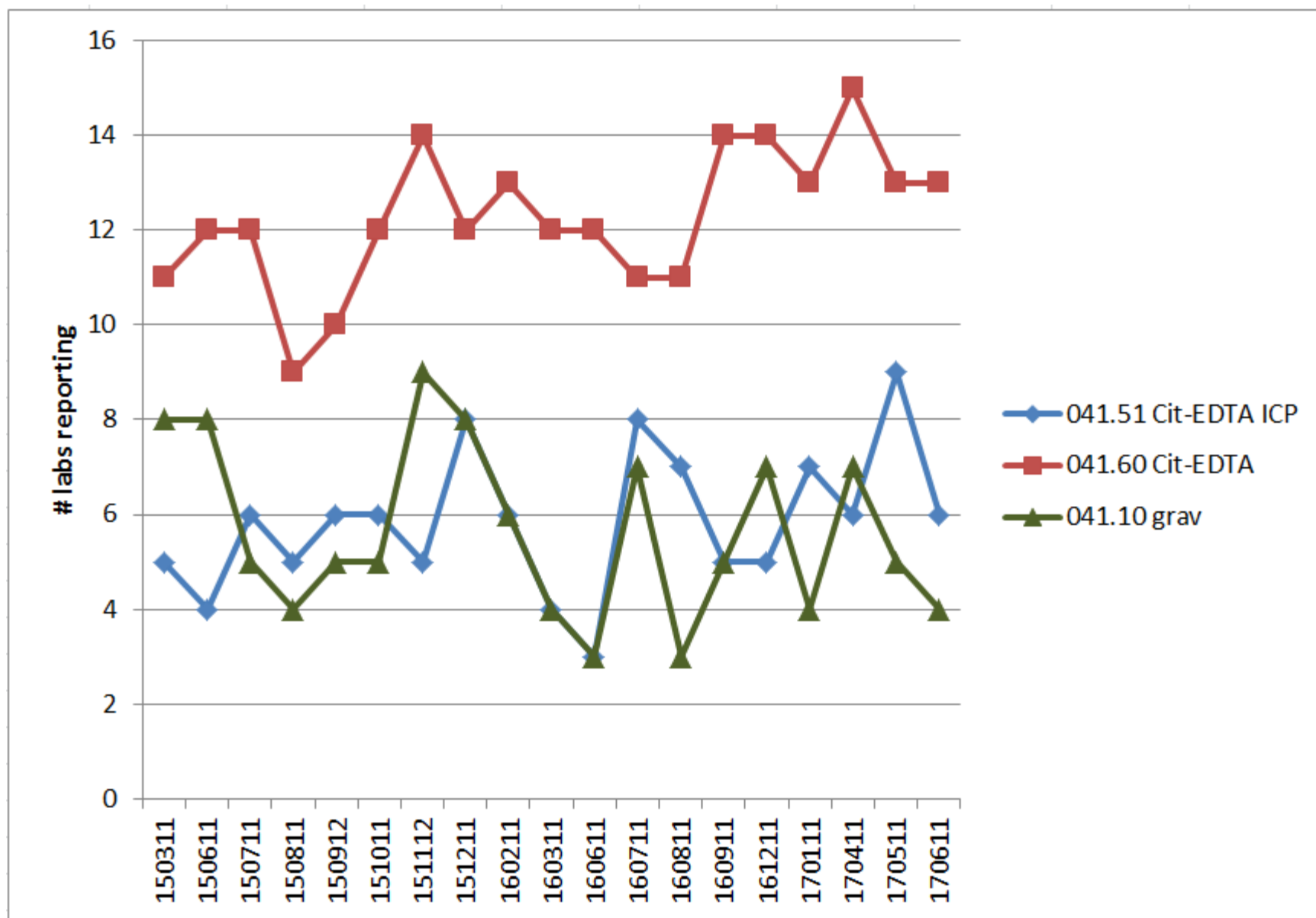


N: 010.10 combustion

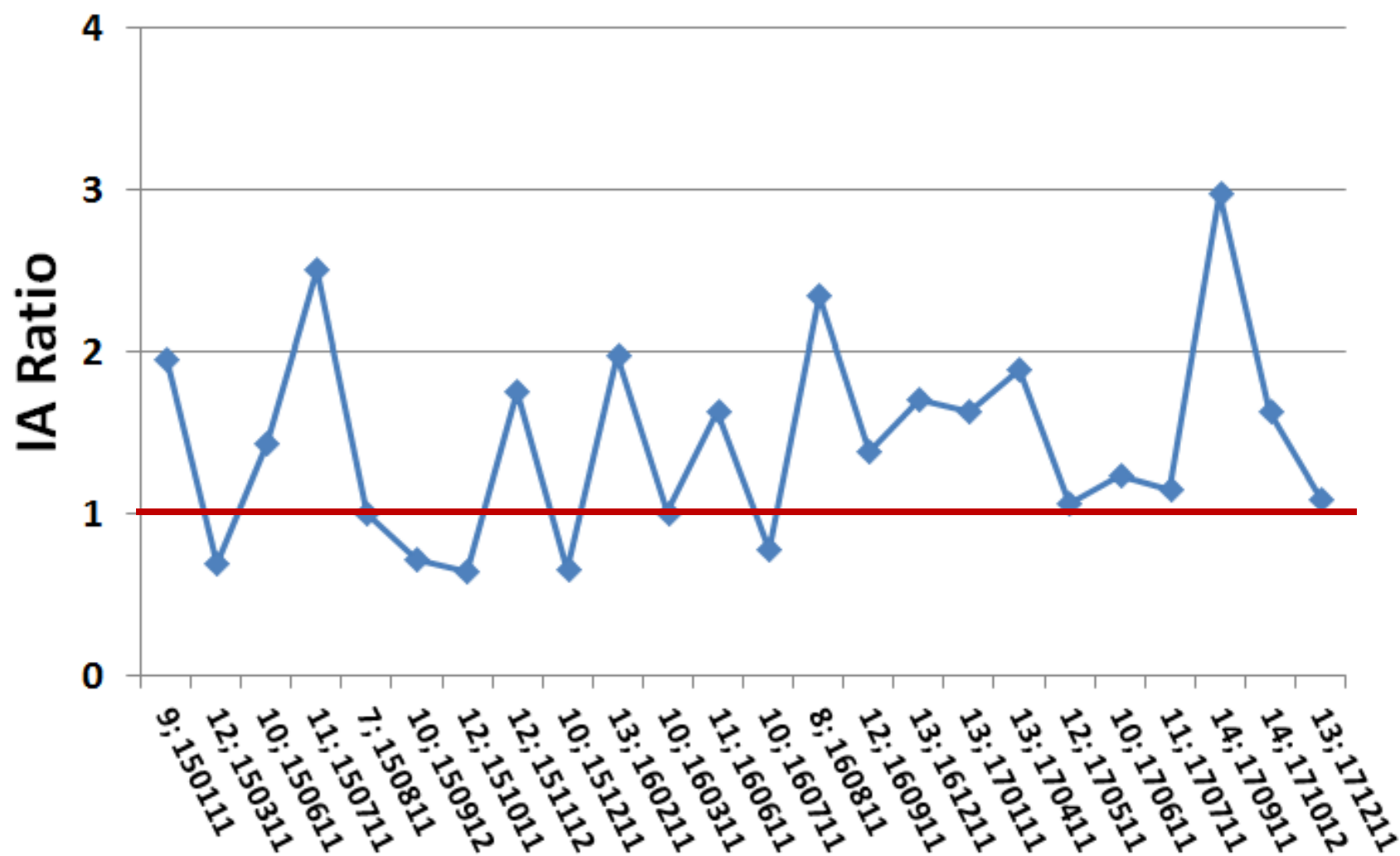




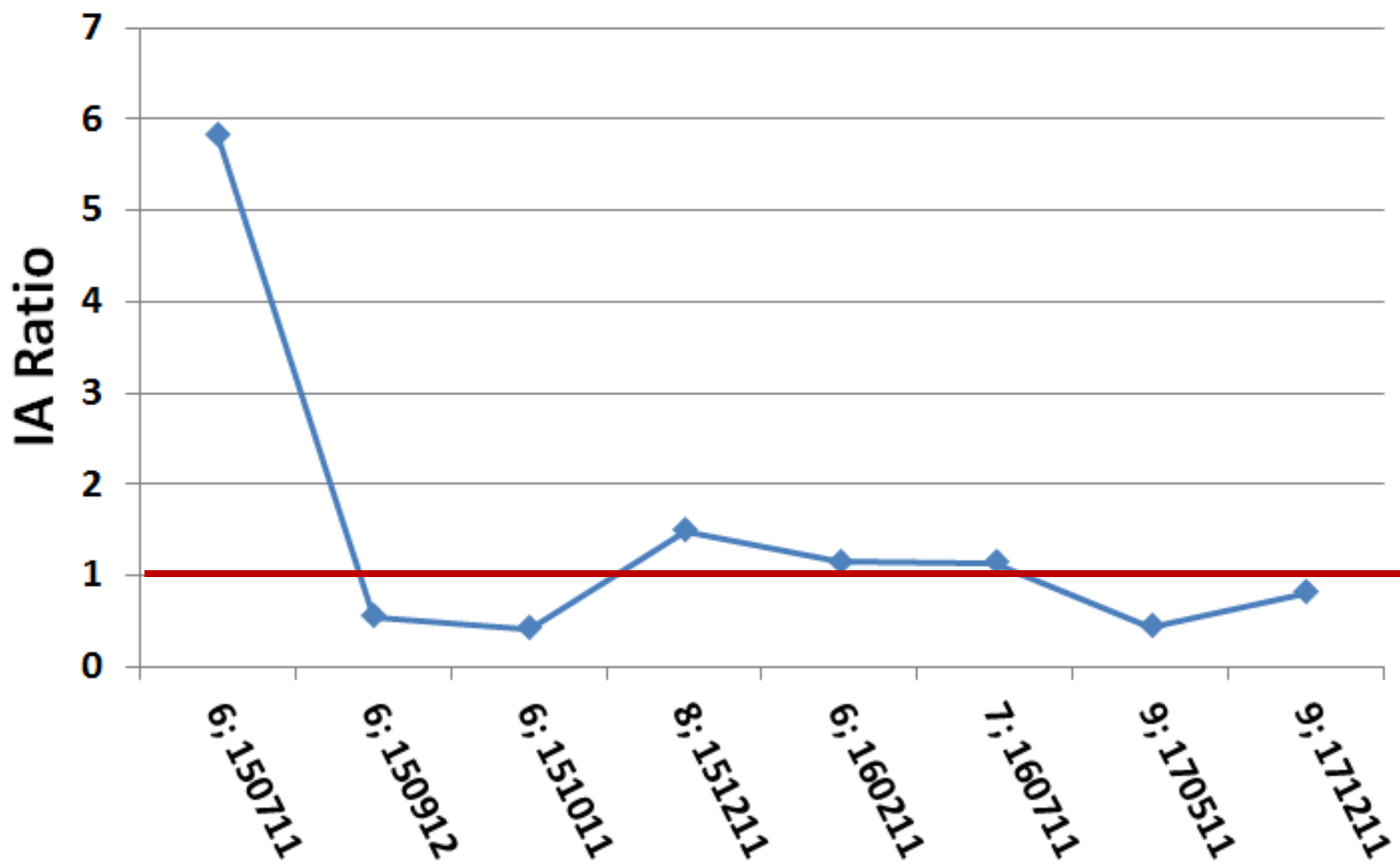
P: # of labs



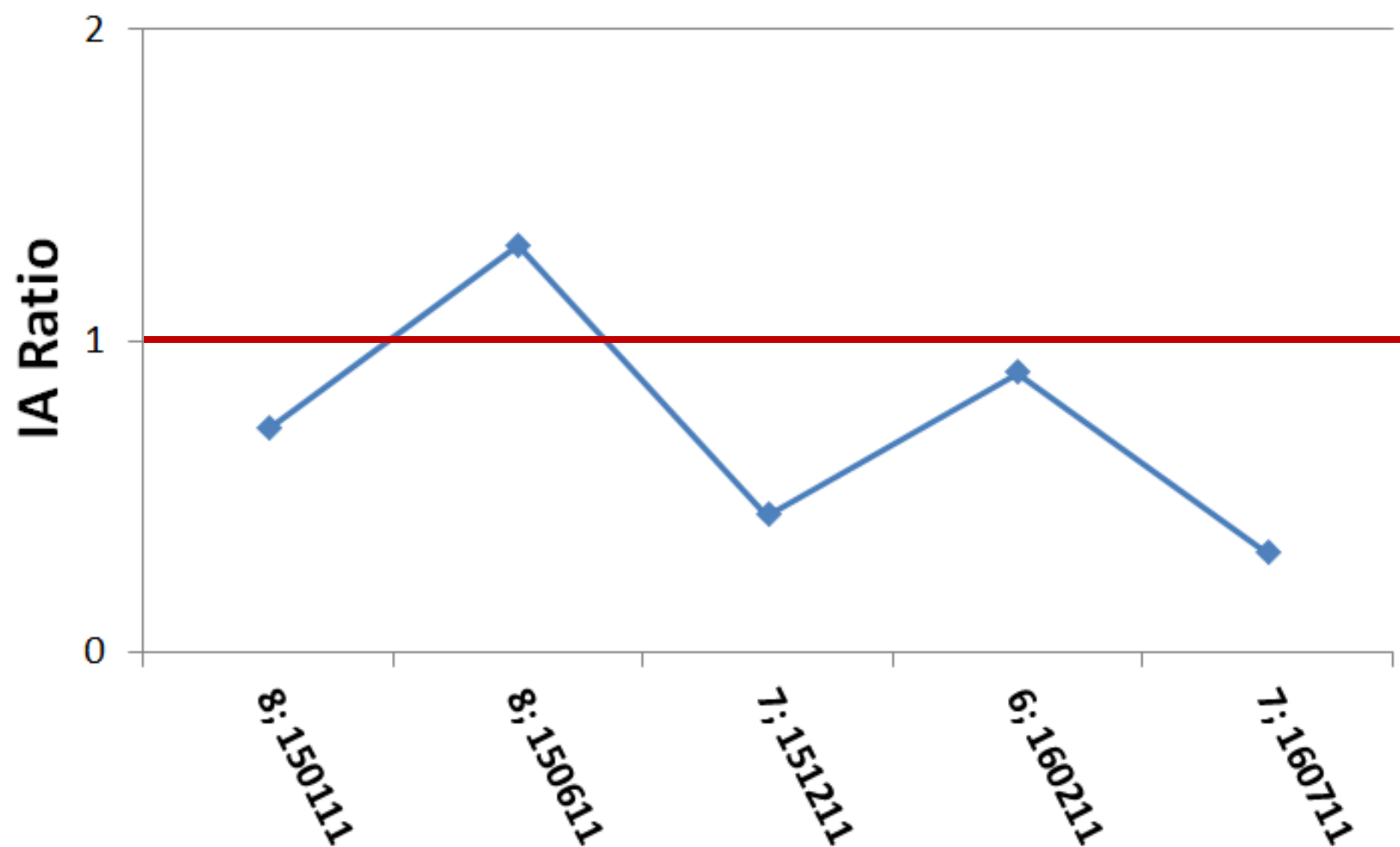
P2O5: 041.60 Cit-EDTA



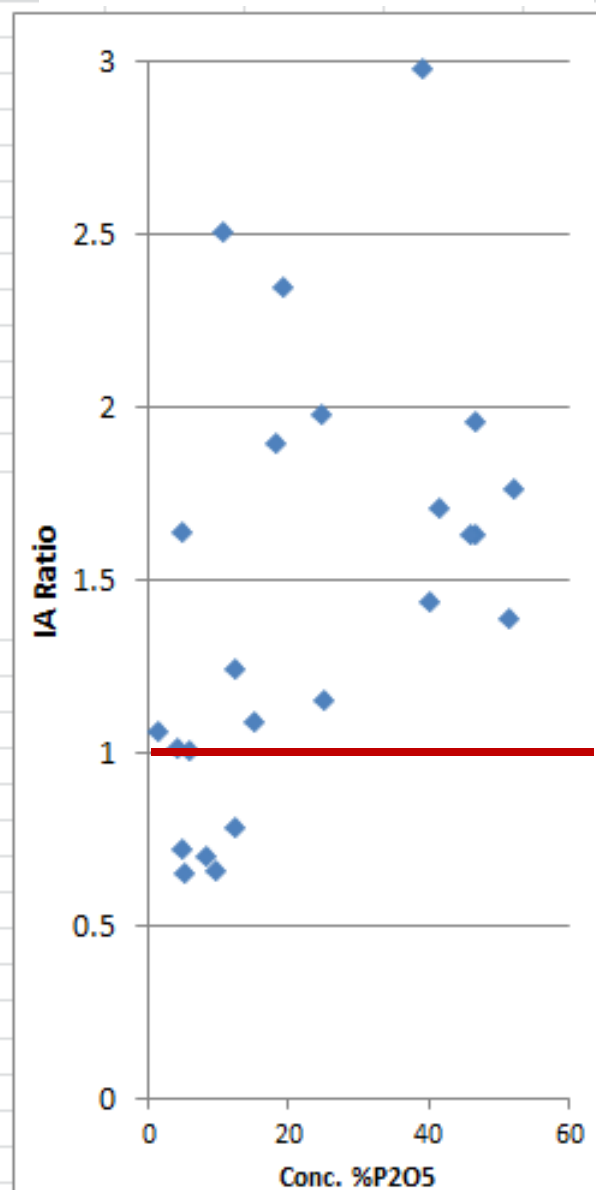
P2O5: 041.51 Cit-EDTA ICP



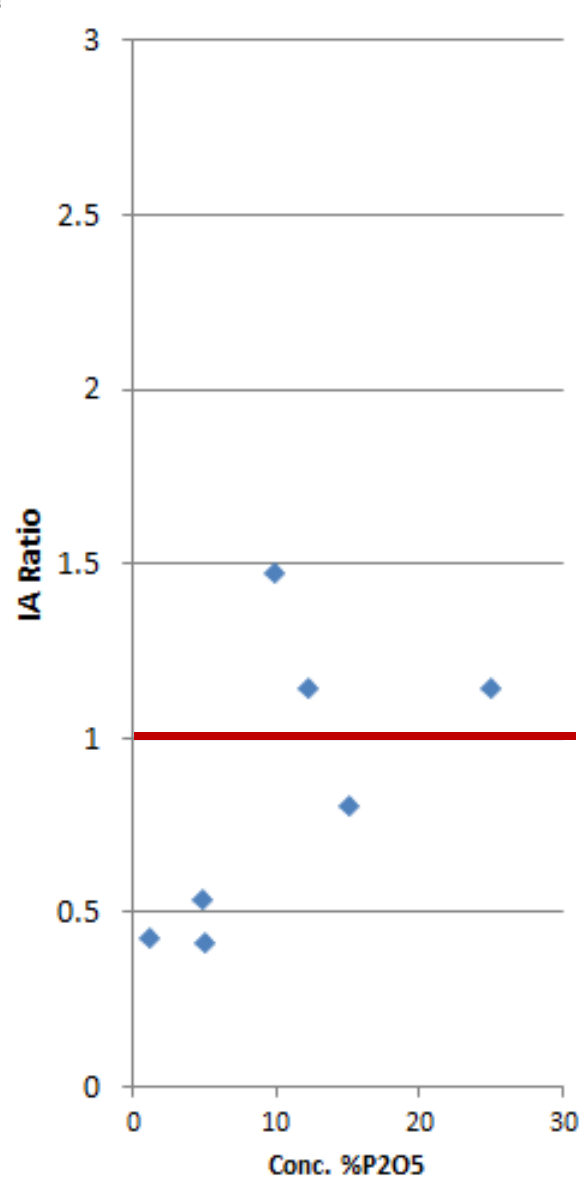
P2O5: 041.10 gravimetric



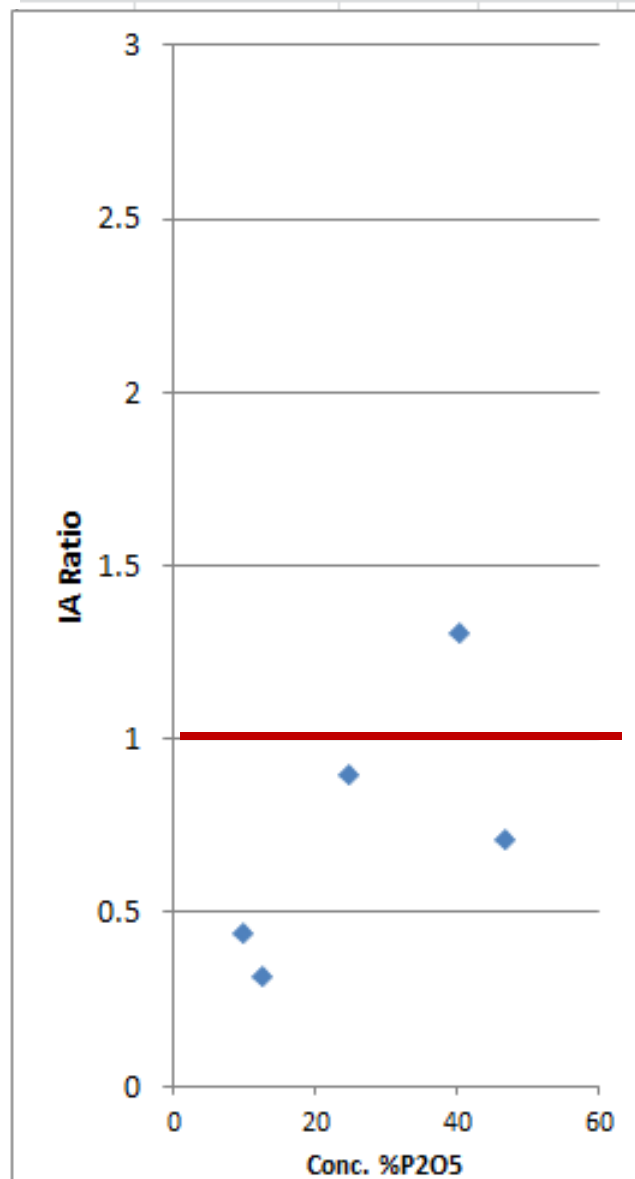
P2O5: 041.60 Cit-EDTA

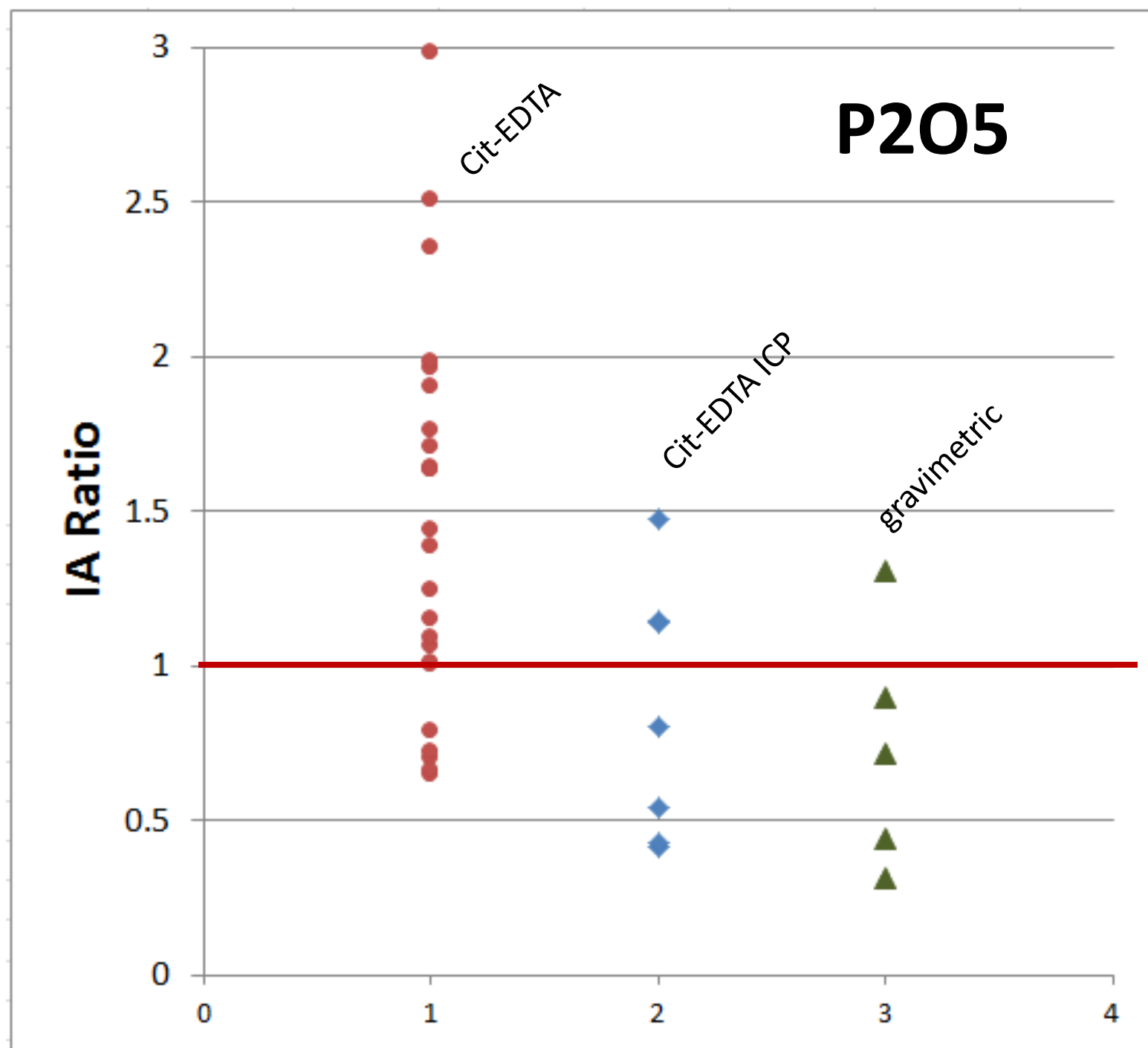


P2O5: 041.51 Cit-EDTA ICP



P2O5: 041.10 gravimetric

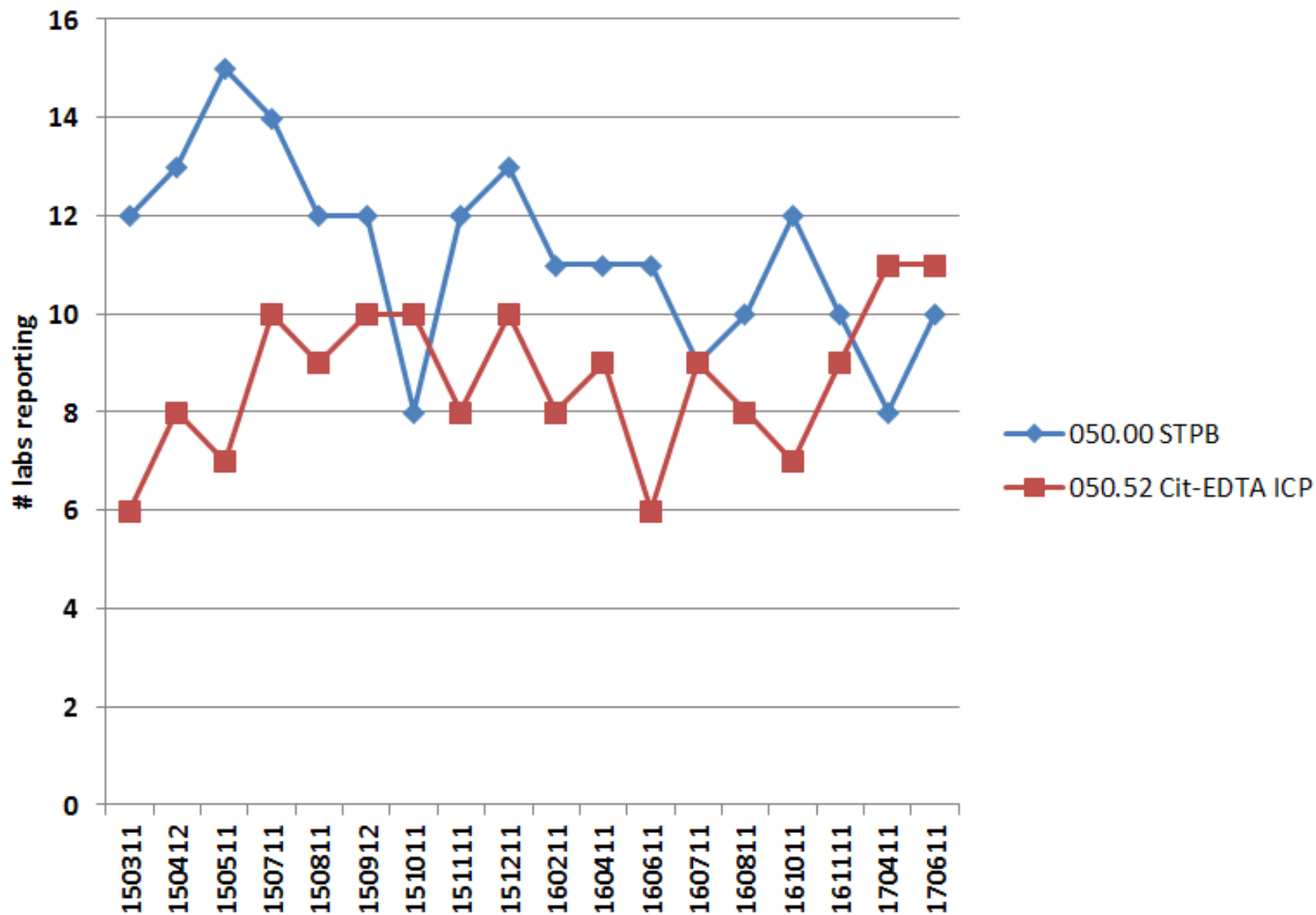




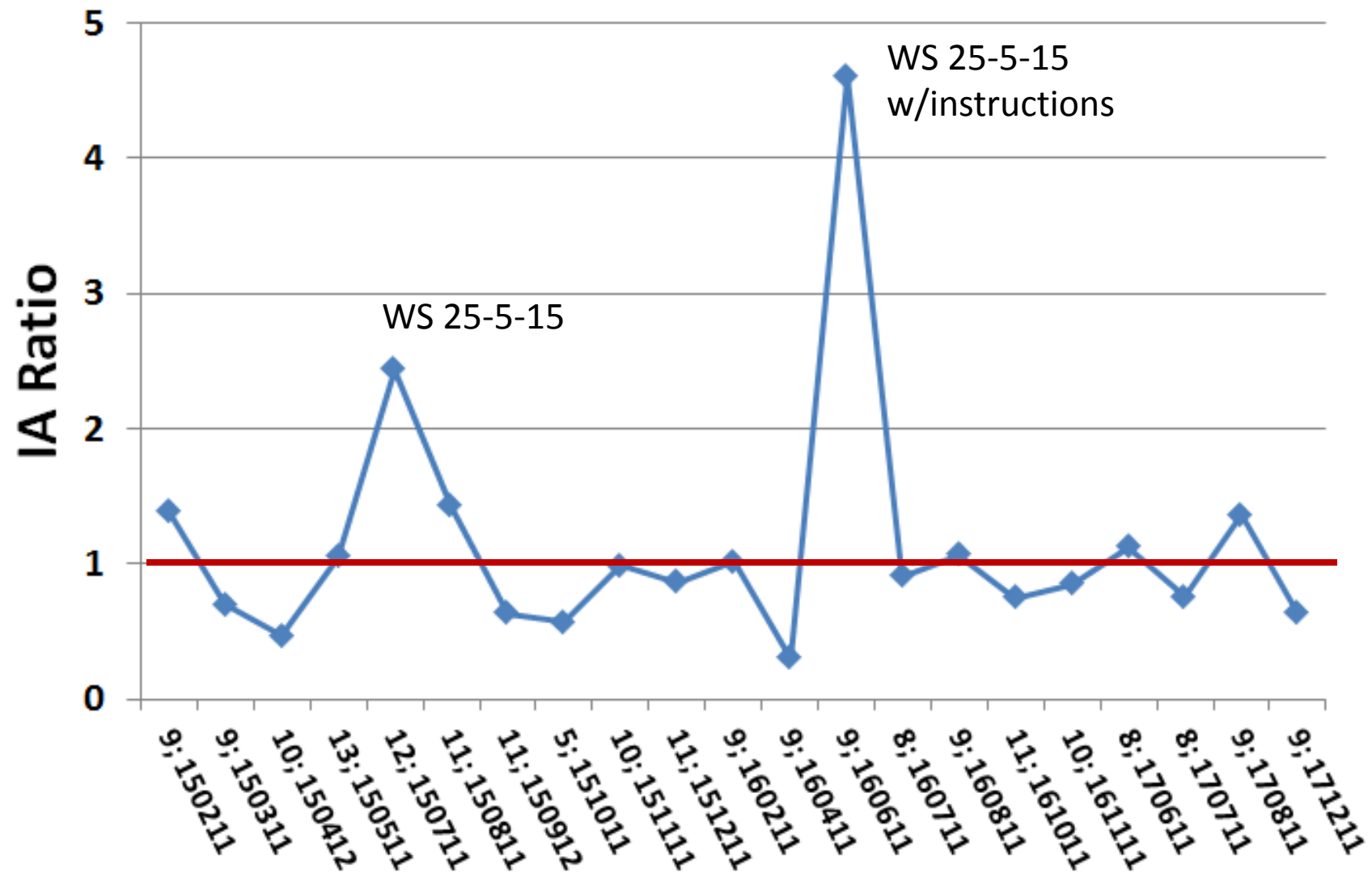
Updating P method codes

041.10	Direct Available Phosphorus as P2O5	Gravimetric Quinolinium	%	960.03	Prep as 960.03B, Detect as 960.03E
041.11	Direct Available Phosphorus as P2O5	gravimetric, Citrate-EDTA Ext	%	993.31	Prep as 993.31C, Detect as 960.03 D
041.20	Direct Available Phosphorus as P2O5	Spectrophotometric	%	960.03	Prep as 960.03B, Detect as 960.03D
041.21	Direct Available Phosphorus as P2O5	molybdate, Citrate-EDTA Ext.	%	993.31	Prep as 993.31C, Detect as 962.02 C
041.30	Direct Available Phosphorus as P2O5	Alkalimetric Quinolinium MolybdoP	%	960.03	Prep as 960.03B, Detect as 960.03C
041.31	Direct Available Phosphorus as P2O5	automated, Citrate-EDTA Ext	%	993.31	Prep as 993.31C, Detect as 978.01 D-H
041.40	Direct Available Phosphorus as P2O5	Automated	%	978.01	
041.50	Direct Available Phosphorus as P2O5	ICP	%		
041.51	Direct Available Phosphorus as P2O5	ICP, Citrate-EDTA Ext.	%		ICP:Bartos et al.: JAOACI Vol. 97, No. 3, 2014, p 699
041.60	Direct Available Phosphorus as P2O5	Citrate-EDTA Ext.	%	993.31	
041.99	Direct Available Phosphorus as P2O5	Other	%		

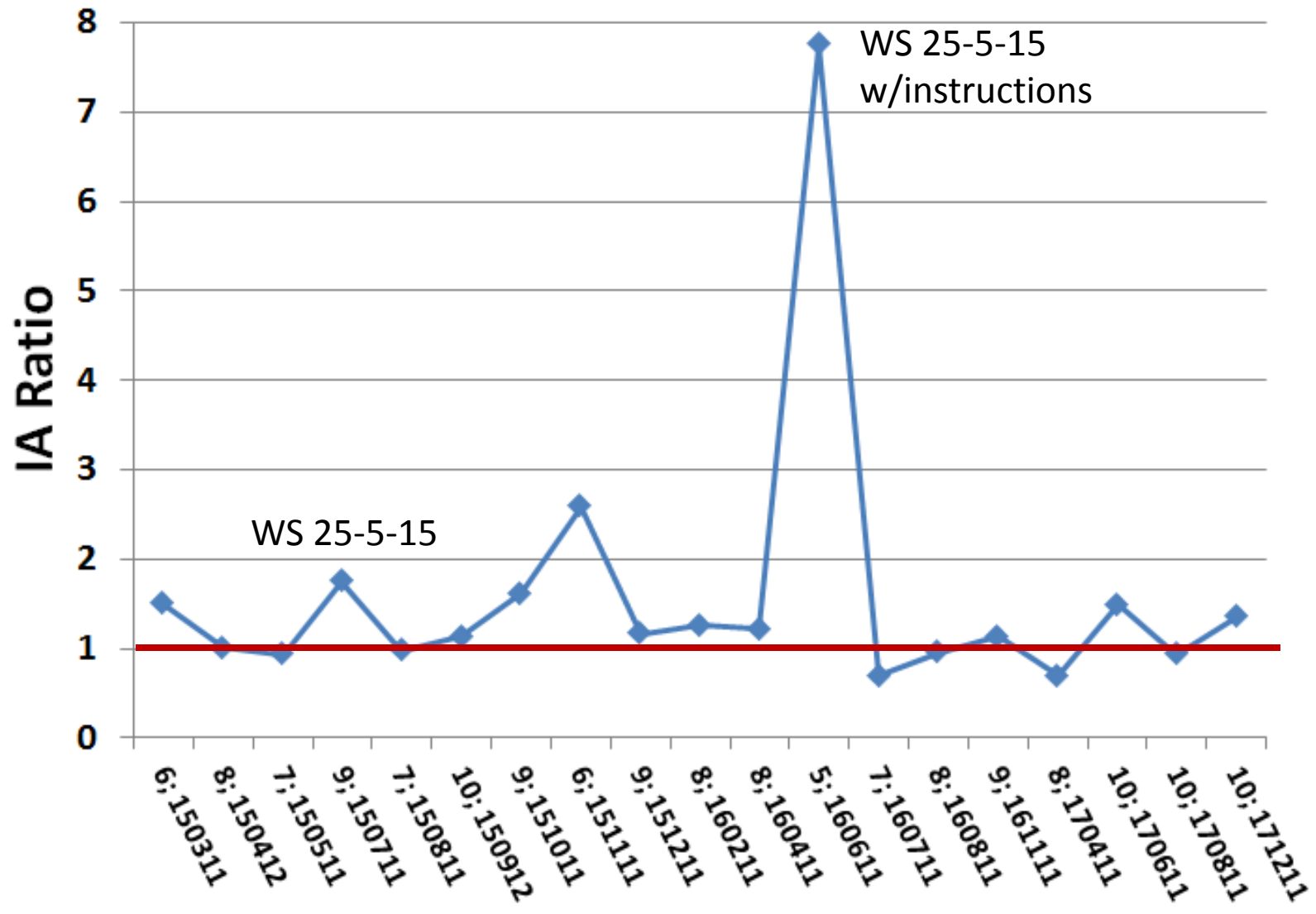
K: # of labs

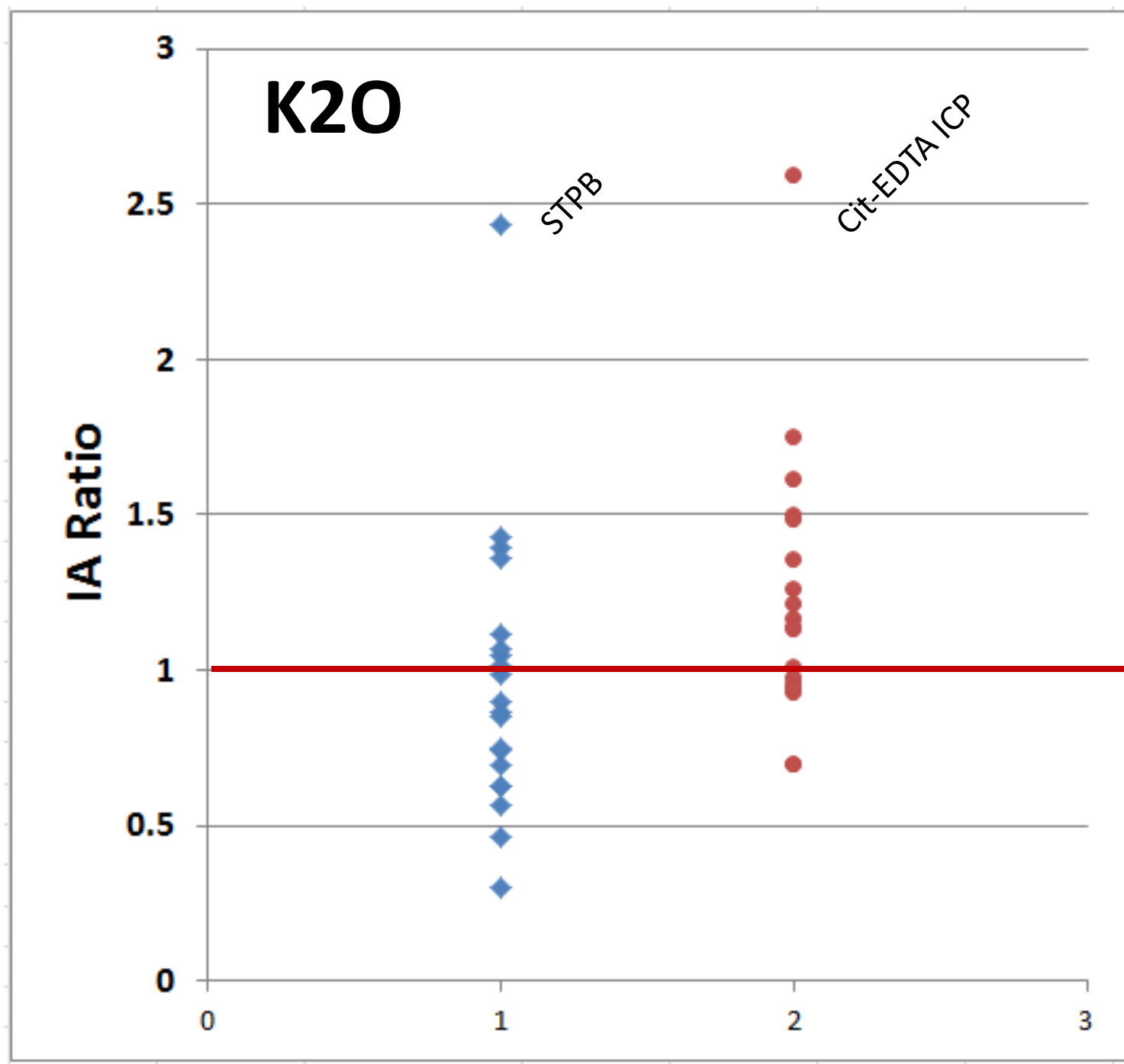


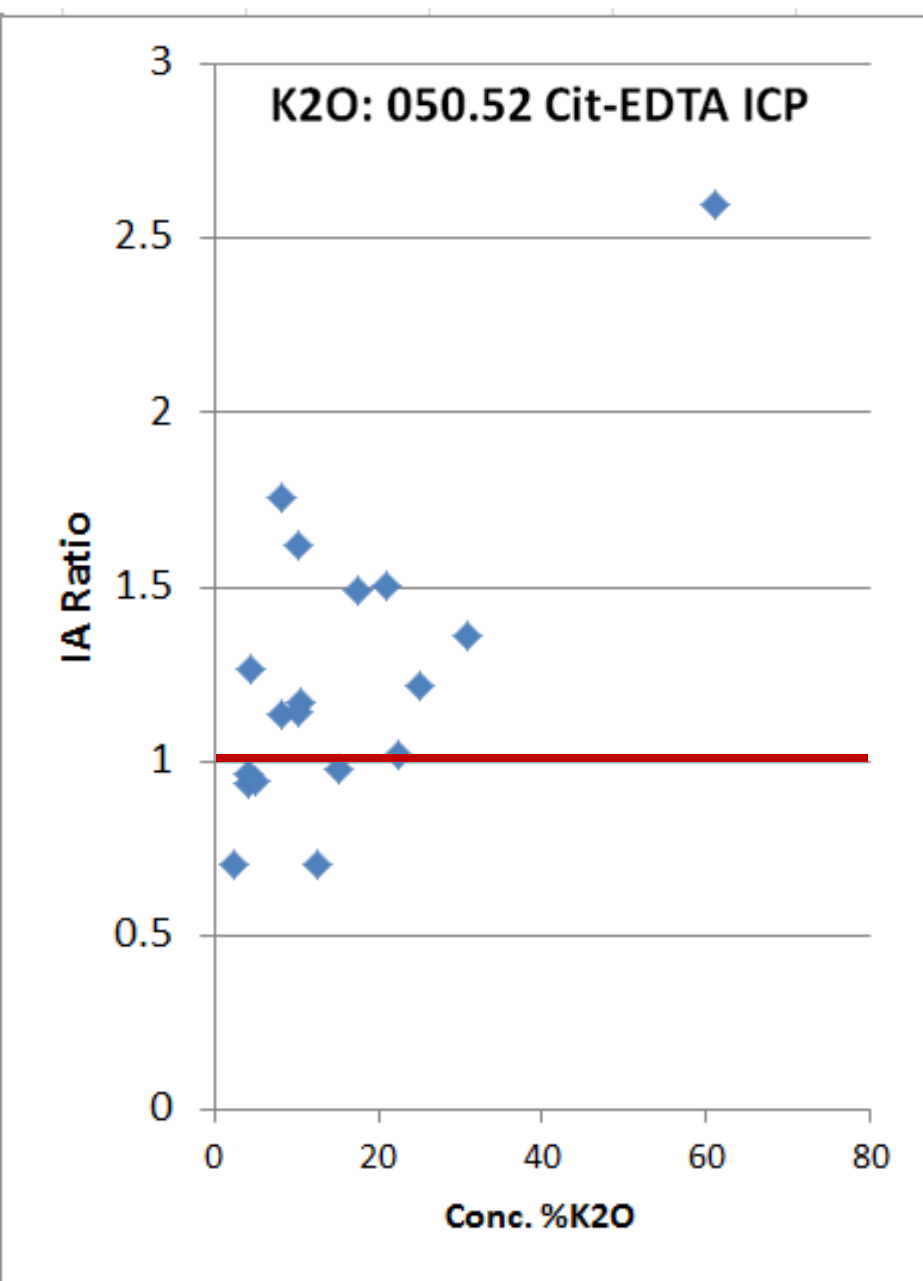
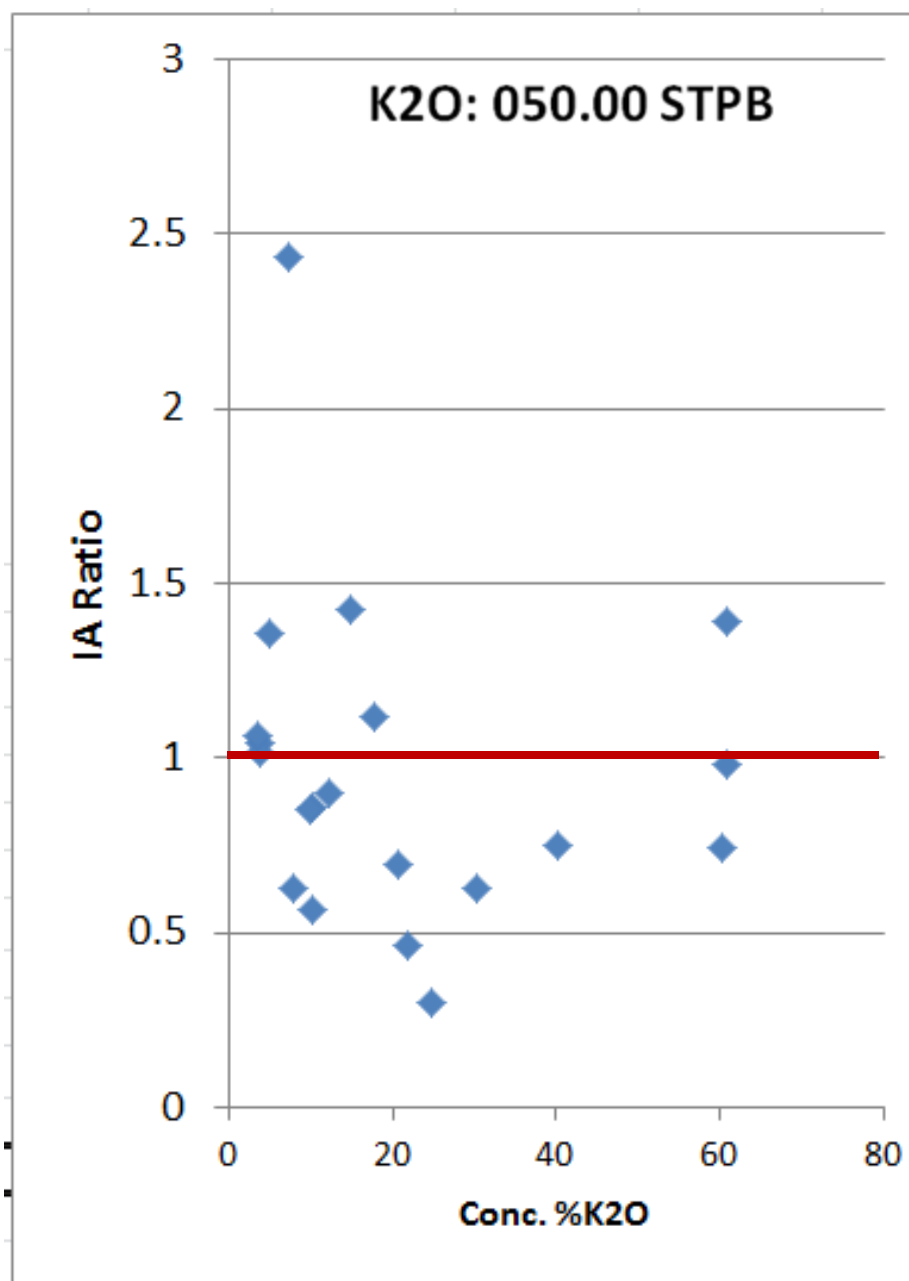
K2O: 050.00 STPB

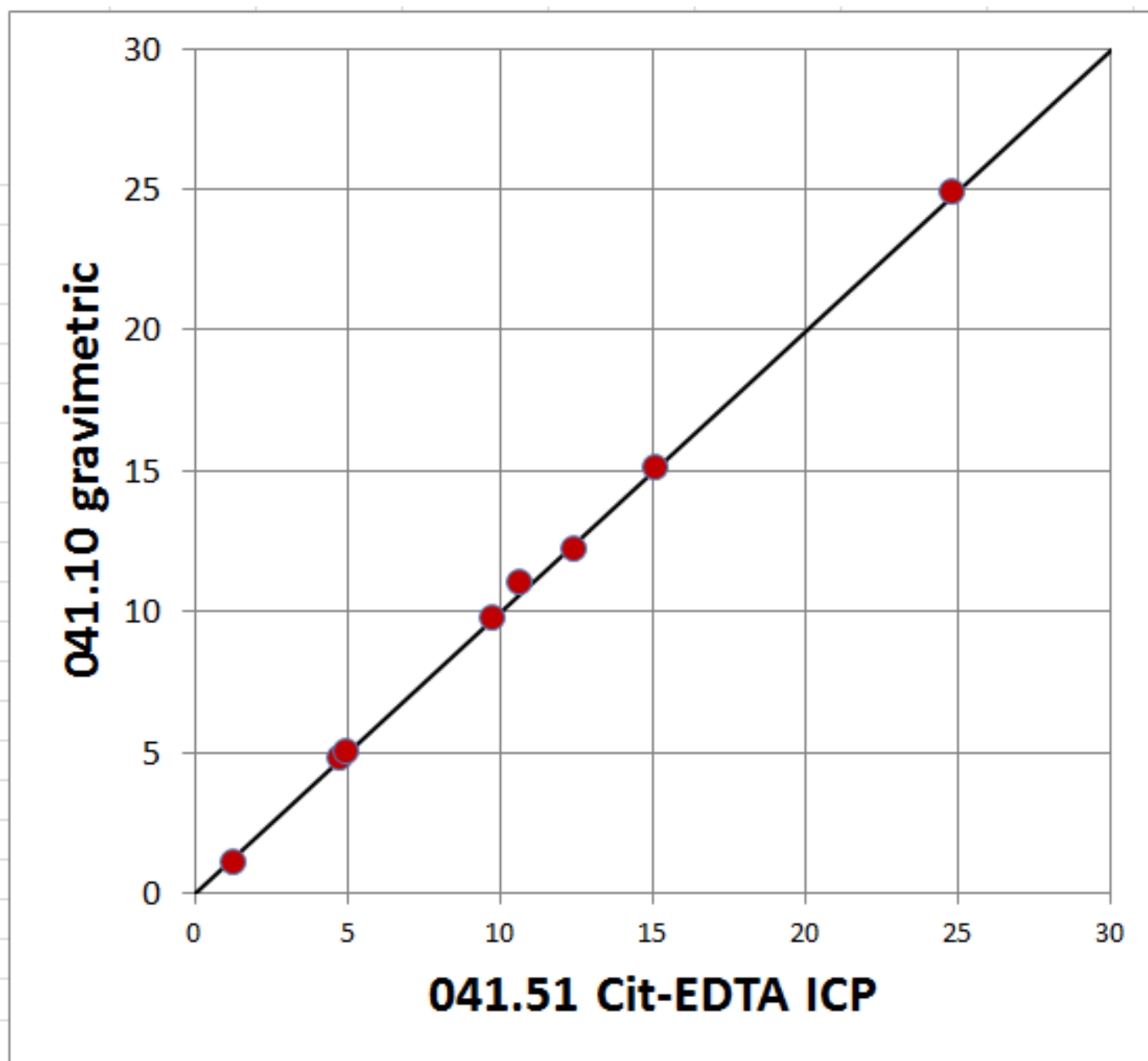


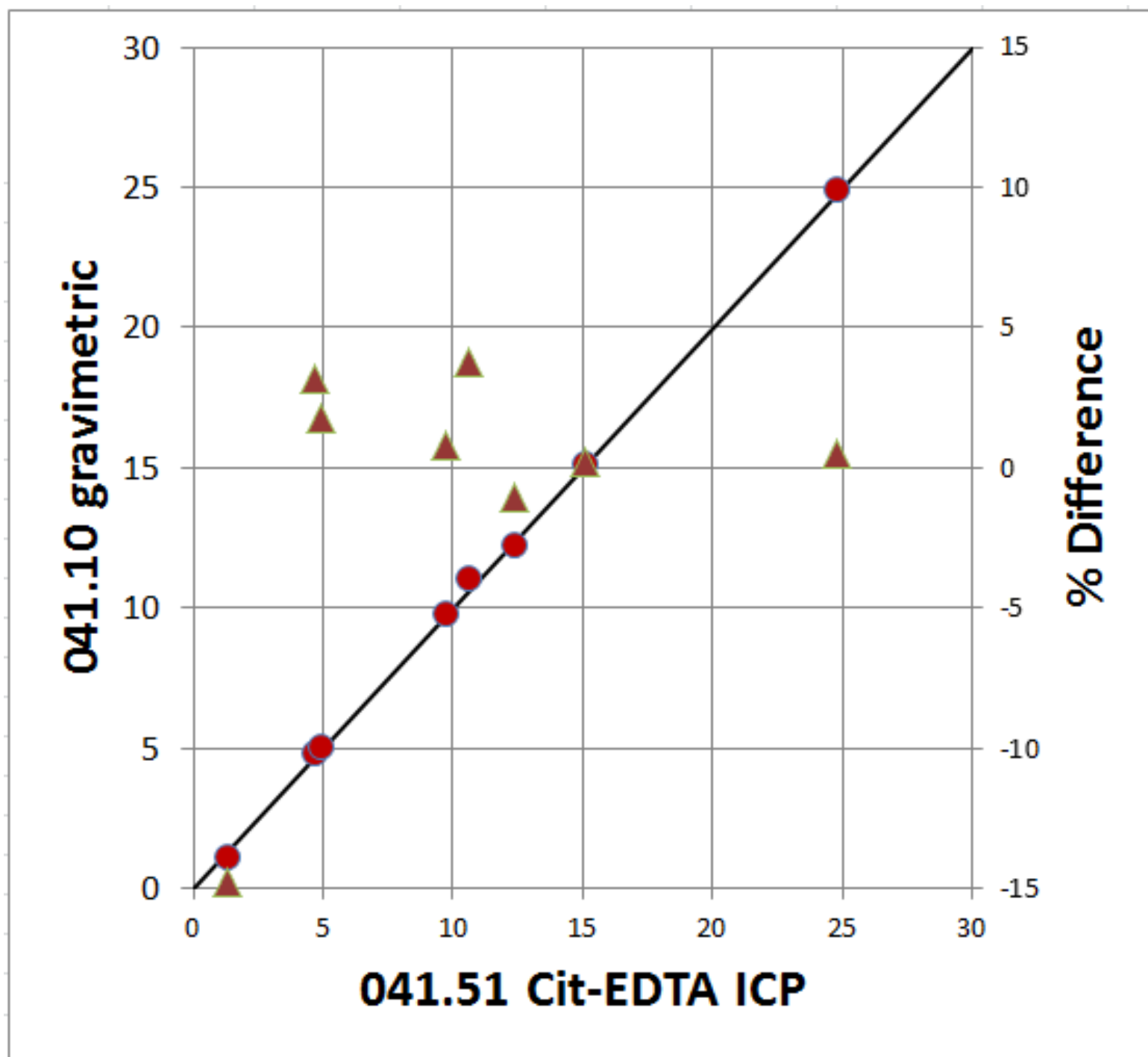
K2O: 050.52 Cit-EDTA ICP

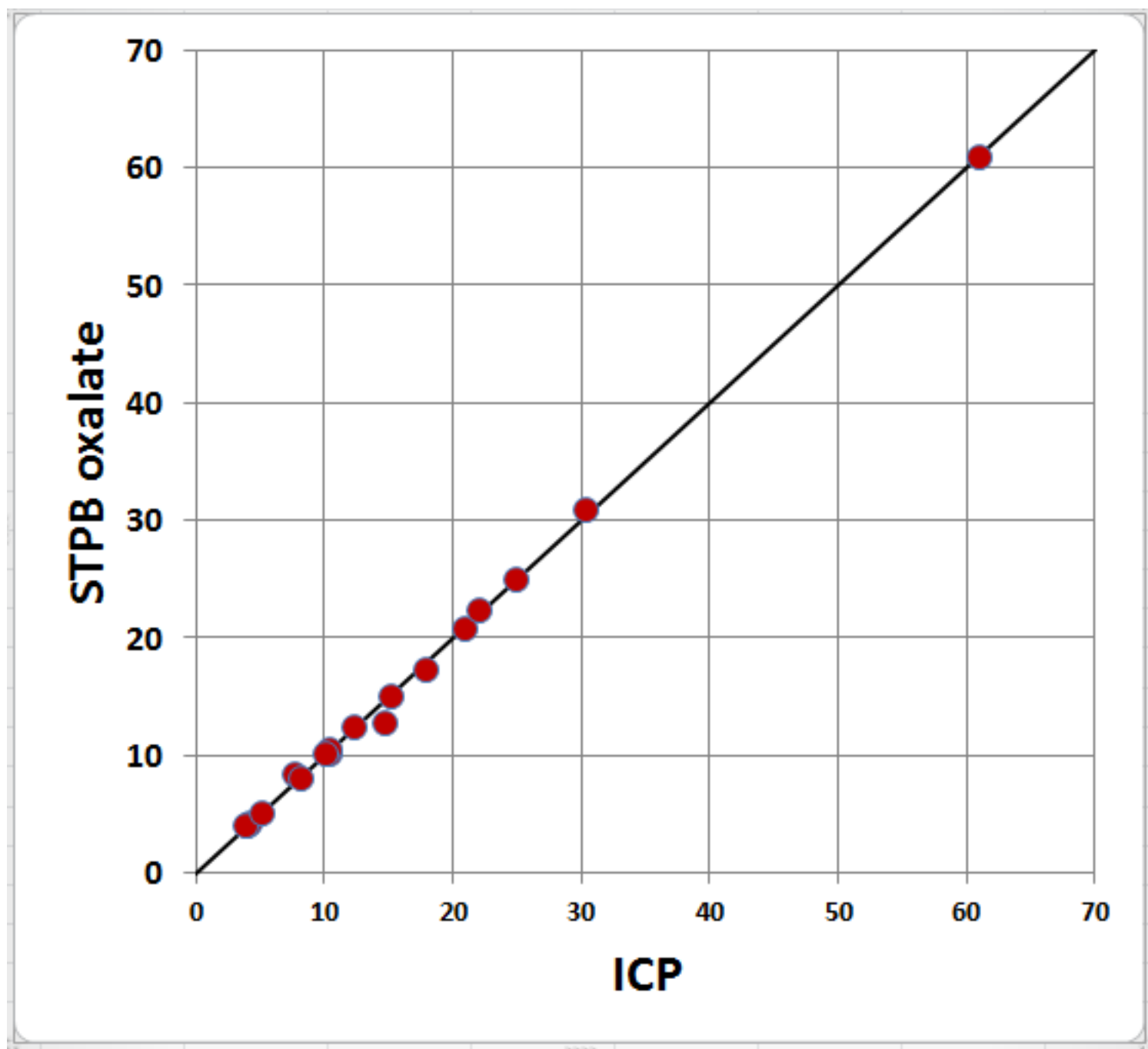


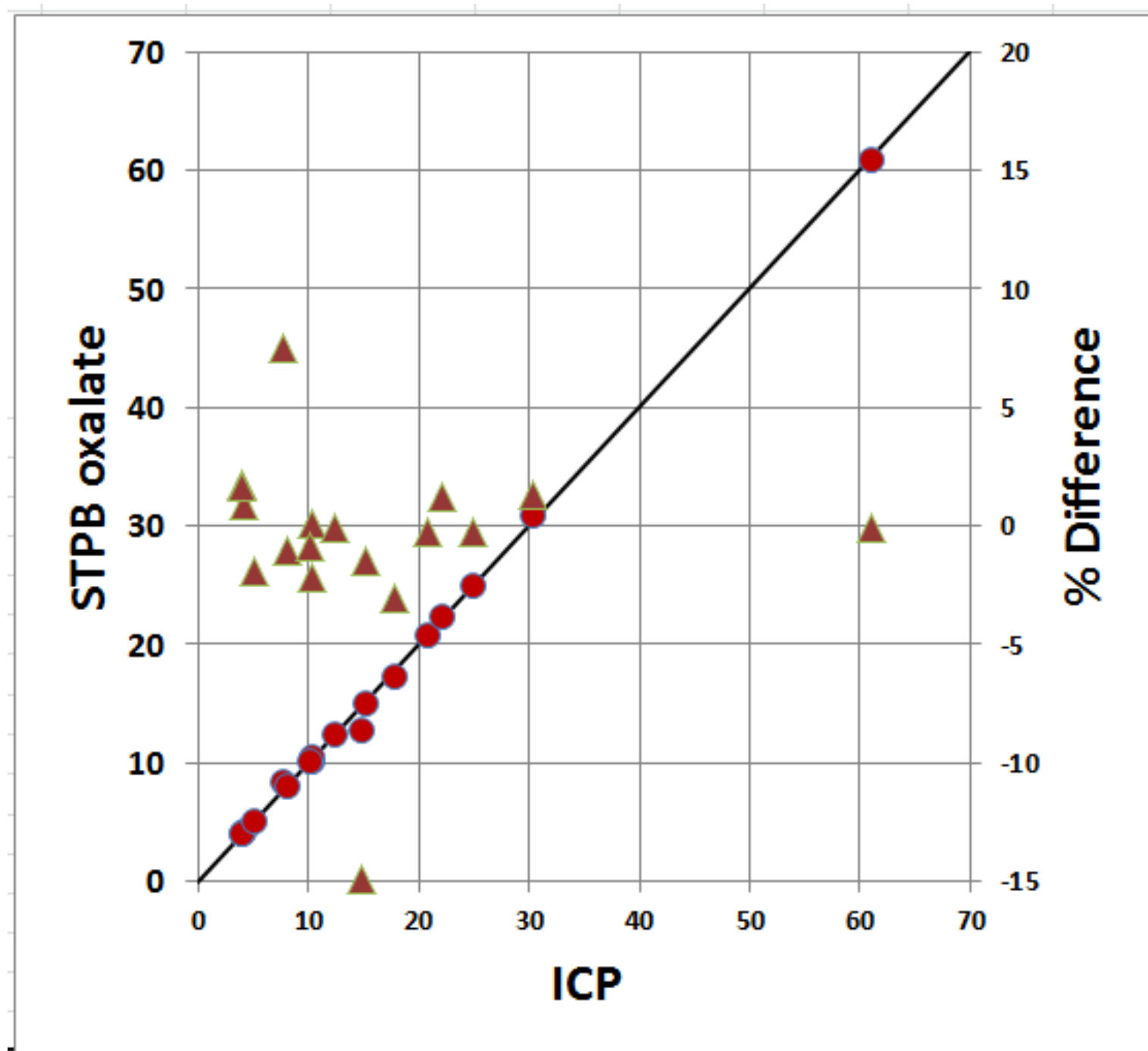












QUESTIONS

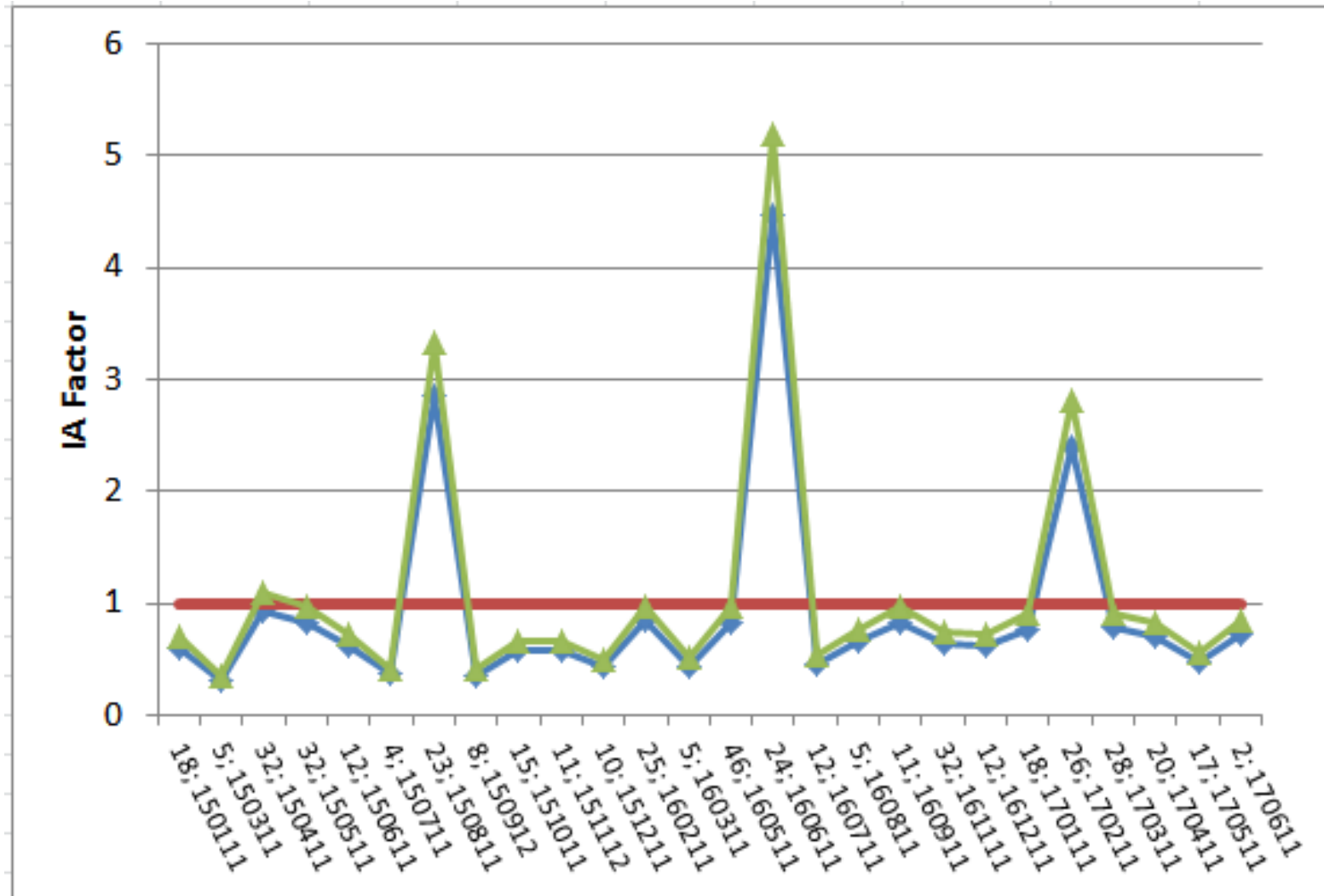


8 or more tests only

Nitrogen

Method 010.60, combustion

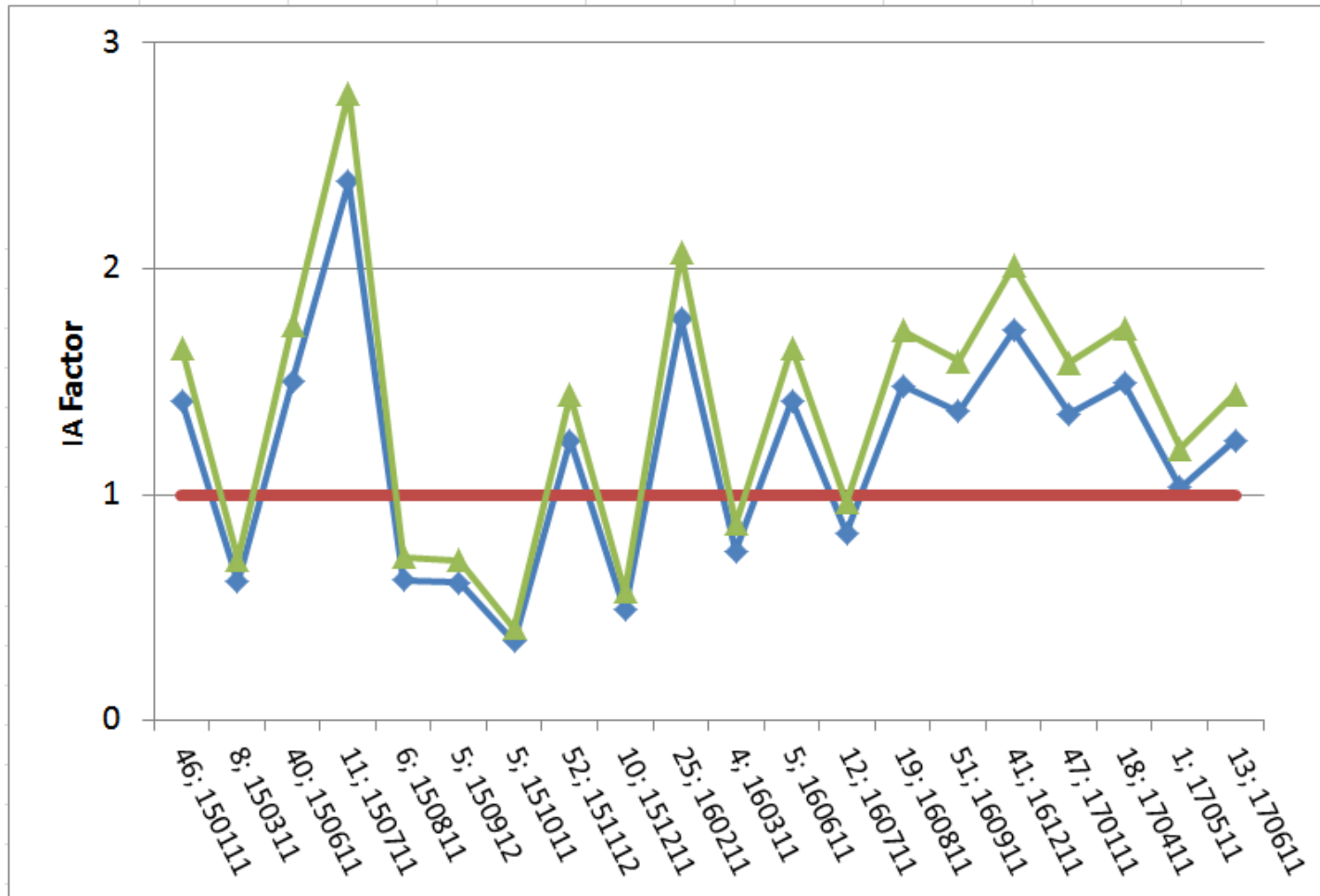
n = 45 to 60



Phosphorus

Method 041.60, Direct Available P₂O₅, citrate-soluble

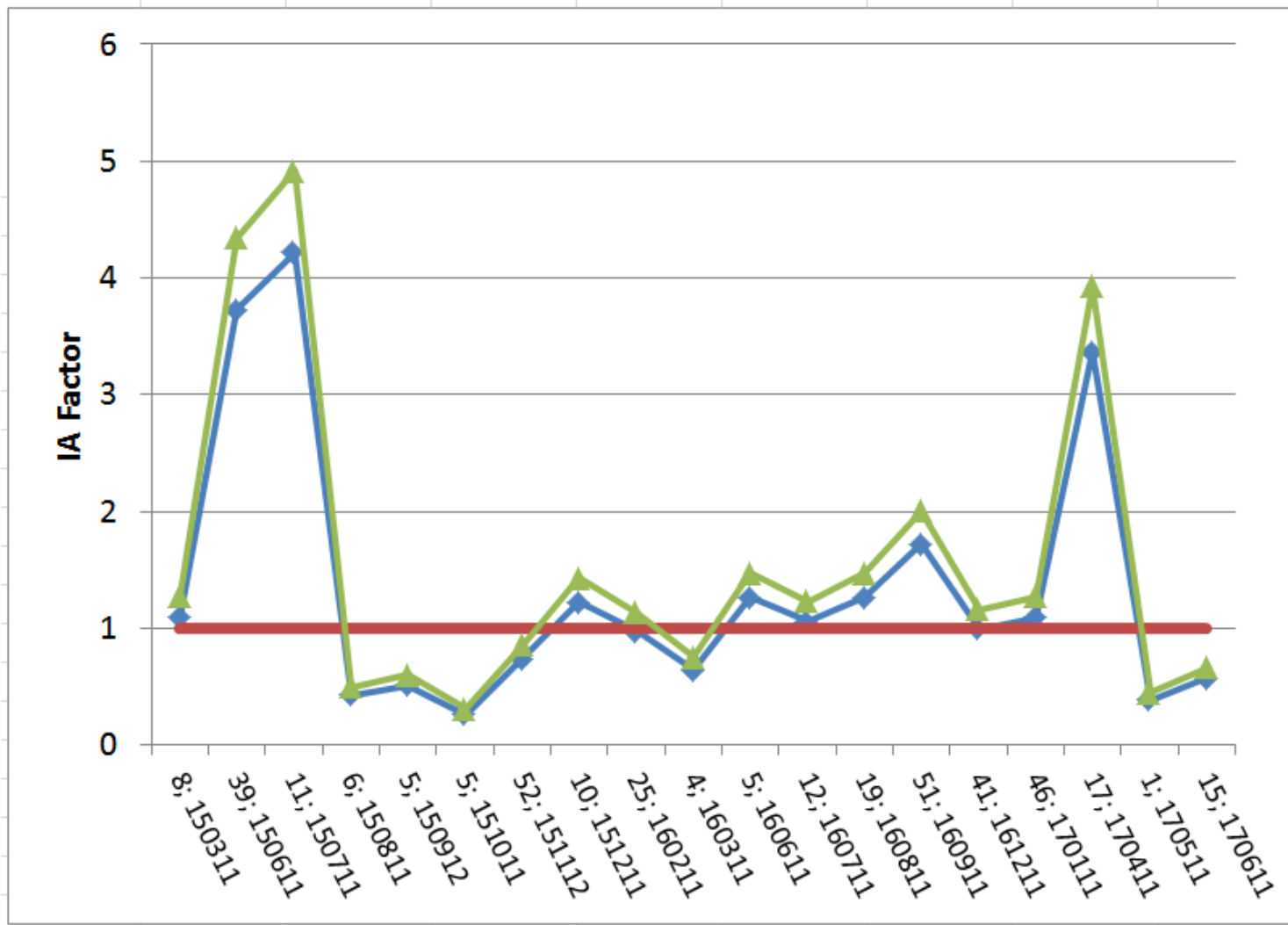
n = 8 to 14



Phosphorus

Method 041.51, Direct Available P₂O₅, ICP citrate-soluble

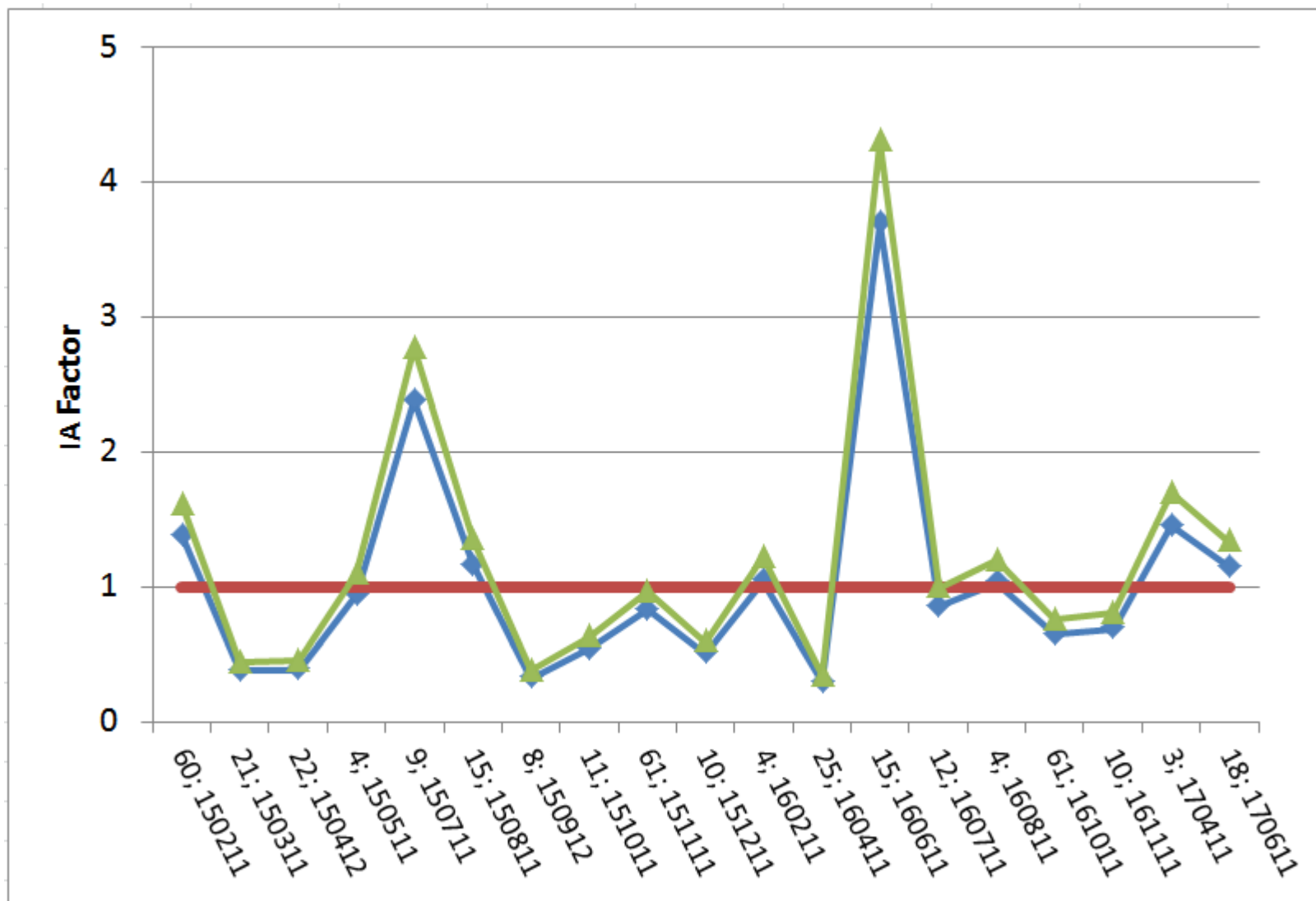
n = 3 to 9



Potassium

Method 050.00, Soluble K₂O, STPB Oxalate

n = 7 to 14



Potassium

Method 050.52, Soluble K₂O, ICP citrate-EDTA

n = 4 to 11

