Appendix 3- Performance in outbreak detection according to a variety of germ criterion and upper control limits (UCL), with and without clustering analysis

	UCL	Sensitivity[a]	Specificity[b]	PPV[c]	NPV[d]	AUC (95% CI) [e]
Without clustering	99% CI [f]	63.3 (19/30)	89.7 (673/750)	19.8 (19/96)	98.4 (673/684)	0.765 (0.661-0.870)
	95% CI	76.7 (23/30)	87.6 (657/750)	19.8 (23/116)	98.9 (657/664)	0.821 (0.732-0.911)
	90% CI	90.0 (27/30)	84.0 (630/750)	18.4 (27/147)	99.5 (630/633)	0.870 (0.806-0.934)
	85%CI	90.0 (27/30)	82.7 (620/750)	17.2 (27/157)	99.5 (620/623)	0.863 (0.799-0.928)
	3SD [h]	33.3 (10/30)	90.8 (681/750)	12.7 (10/79)	97.1 (681/701)	0.621 (0.505-0.736)
	2SD	53.3 (16/30)	89.3 (670/750)	16.7 (16/96)	98.0 (670/684)	0.713 (0.603-0.824)
	1SD	80.0 (24/30)	84.4 (633/750)	17.0 (24/141)	99.1 (633/639)	0.822 (0.783-0.906)
With clustering (d=0)[g]	99% CI	80.0 (24/30)	90.1 (676/750)	24.5 (24/98)	99.1 (676/682)	0.851 (0.766-0.935)
	95% CI	93.3 (28/30)	88.1 (661/750)	23.9 (28/117)	99.7 (661/663)	0.907 (0.854-0.961)
	90% CI	100 (30/30)	86.7 (650/750)	23.1 (30/130)	100 (650/650)	0.933 (0.913-0.953)
	85%CI	100 (30/30)	86.0 (645/750)	22.2 (30/135)	100 (645/645)	0.930 (0.909-0.951)
	3SD	70.0 (21/30)	90.7 (680/750)	23.1 (21/91)	98.7 (680/689)	0.803 (0.705-0.901)
	2SD	83.3 (25/30)	89.6 (672/750)	24.3 (25/103)	99.3 (672/677)	0.865 (0.786-0.943)
	1SD	96.7 (29/30)	87.3 (655/750)	23.4 (29/124)	99.8 (655/656)	0.920 (0.879-0.961)

[a] Sensitivity =TP/ (TP+FN), [b] Specificity =TN/ (TN+FP), [c] Positive predictive value (PPV)= TP/ (TP+FP), [d] Negative predictive value (NPV)= TN/ (TN+FN), [e] AUC: Area under receiver operating characteristic curve, [f] CI: confidence interval, [g] d: cutting Euclidean distance. True positive (TP): An

outbreak correctly identified as an outbreak. False positive (FP): A non-outbreak wrongly identified as an outbreak. True negative (TN): A non-outbreak correctly identified as a non-outbreak. False negative (FN): An outbreak wrongly identified as a non-outbreak.