

ESVE Veterinary Endocrinology External Quality Assessment Scheme

ESVE REPORT

Release Month:	Nov-12
Release Number:	001

Overall Commentary

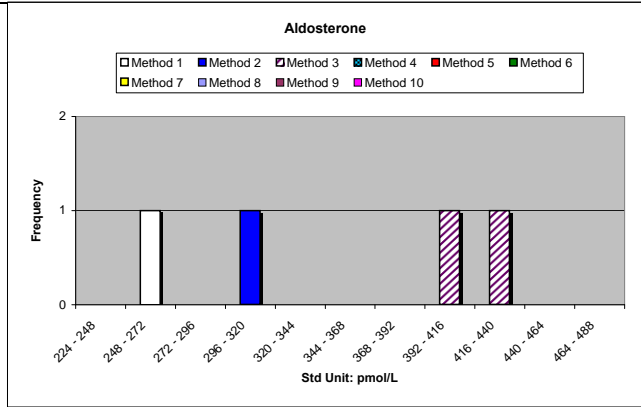
- General** This is the report of the first release of the ESVE EQA scheme. To some extent, it should be viewed as a proof of concept. The efforts made by the participants to report their results was much appreciated. We had participation for 21 separate physical locations but the strength of a scheme such as this can only improve as more participants are recruited. Given the numbers of participants within individual methodologies it would also be difficult to draw strong conclusions from most of the data at this stage. However, more participants will mean confidence in the conclusions. It should be remembered also that assays that are more commonly used may not turn out to be the ones that yield the most accurate results so at least for now, we may have to recognise that some of the methods with the most "outlying" results may not be the methods that are "wrong". On this release we have not published the reagent and manufacturer's names in this publically available version of the report. However, individual participant reports, do include the method number and kit name used by the participant. The publication of kit names will be reviewed when there is a larger number of participating laboratories. It does not appear that participants had difficulty with the accuracy of reconstituting the freeze dried samples. Please note that the Method numbers bear no relationship to one another across analytes. That is, for example, Immulite 1000, may be Method 1 for one analyte but Method 7 for another. The range of values generated for Cortisol and Fructosamine was particularly surprising (see below)
- Aldosterone** There are too few participants to draw strong conclusions. The purposes for which Aldosterone is presently being used diagnostically may not be adversely affected by this range of results.
- Canine TSH** The results generated for TSH are quite tight and the overall CV if Method 1 were excluded would be excellent. As noted below Method 1 uses a different reference range but the same reporting units as the other Methods
- Cortisol** The range of results generated for cortisol was a real surprise. As a steroid, I would not expect difficulties relating to species differences between methods that we could expect from peptide assays. The reference ranges for some of the lowest reporting labs were admittedly lower for basal cortisol. It would be worth checking whether lower cut-off values are also used for making endocrine diagnoses
- Fructosamine** The range of Fructosamine results was a surprise. Although most lie closely together, there are some that are significantly higher. There may be artificial sub-division of the methods also which we will explore for the next release and correct if necessary (at least 2 of the separate methods shown may be "re-badged" versions of the same method.
- Insulin** As noted above one method used different reporting units and a manufacturer supplied conversion factor was used. Many assays were able to detect a "mid-range" result but several could detect only little or none. This is in keeping with what has been noted anecdotally before about certain kits or equipment and so is not too much of a surprise.
- Progesterone** With the exception of one result, the progesterone values are relatively "tight". However, given that many endocrinologists use a value of 1 ng/ml (3nmol/L) to decide on the presence/absence of functional luteal tissue, the concentration of progesterone in this release was fortuitously revealing. It serves as reminder about making big clinical management decisions based on relatively small differences in laboratory results.
- Thyroxine** The central part of the distribution spans a relatively tight range of results. Although the graphic may suggest a wide range of results within particular methodologies, it is clear when looking at the individual Method CV's and the All Method CV that the performance for T4 is relatively consistent across labs and very reasonable for an inter-lab comparison of immunoassay techniques.

Peter Graham, Program Co-ordinator

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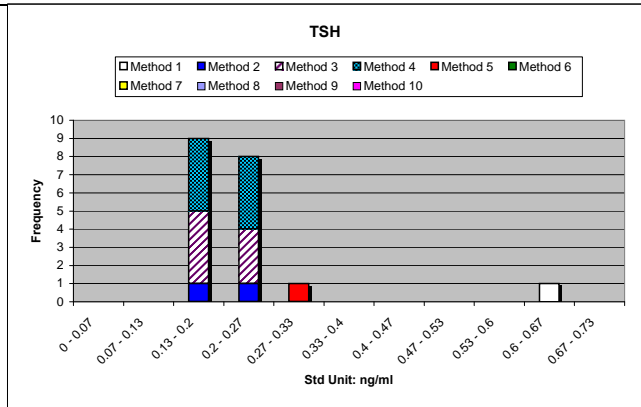
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Aldosterone				
	n	Mean	StDev	%CV
Method 1	1	258		
Method 2	1	308		
Method 3	2	405	18	4.5
Method 4	0			
Method 5	0			
Method 6	0			
Method 7	0			
Method 8	0			
Method 9	0			
Method 10	0			
All Methods	4	344	74.3	21.6



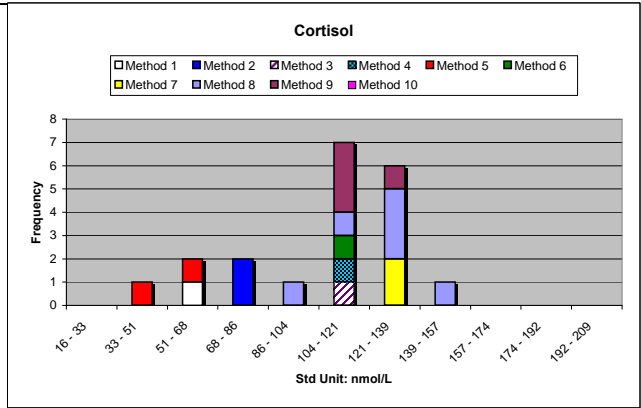
Note:

Canine TSH				
	n	Mean	StDev	%CV
Method 1	1	0.620		
Method 2	2	0.210	0.0283	13.5
Method 3	7	0.198	0.0168	8.5
Method 4	8	0.206	0.0225	10.9
Method 5	1	0.270		
Method 6	0			
Method 7	0			
Method 8	0			
Method 9	0			
Method 10	0			
All Methods	19	0.230	0.0980	42.6



Note: Methods 2 to 4 are different versions of a single manufacturers test with upper ref limit reported by participants 0.3 to 0.69
Method 1 reports against a upper reference limit of 2.5 ng/ml

Cortisol				
	n	Mean	StDev	%CV
Method 1	1	63		
Method 2	2	73	3.3	4.5
Method 3	1	105		
Method 4	1	108		
Method 5	2	49	15.7	32.3
Method 6	1	104		
Method 7	2	126	2.7	2.2
Method 8	6	124	20.1	16.1
Method 9	4	113	10.0	8.8
Method 10	0			
All Methods	20	104	29.2	28.1



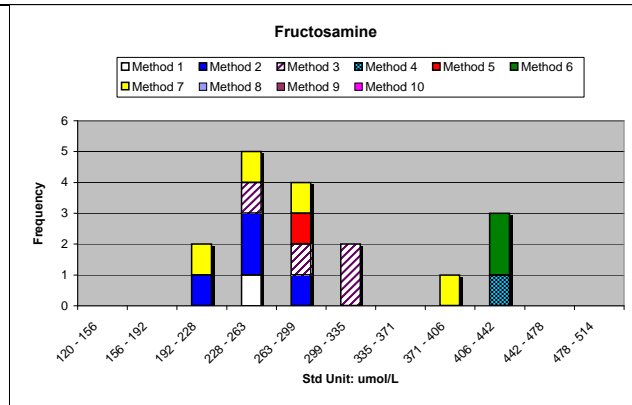
Note:

For statistical purposes, results lower than reportable limit have been converted to a value 0.5 x lowest reportable limit

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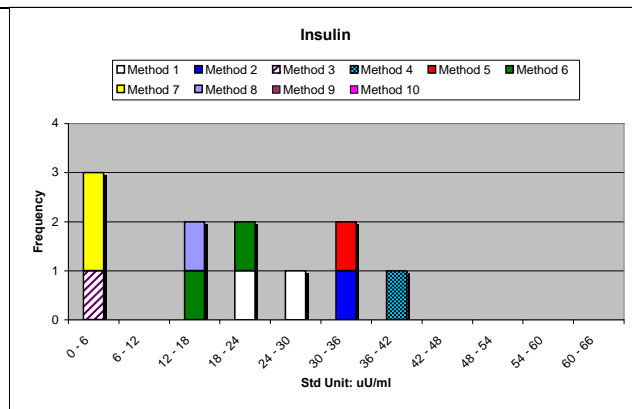
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Fructosamine				
	n	Mean	StDev	%CV
Method 1	1	259		
Method 2	4	243	21.3	8.8
Method 3	4	291	31.0	10.7
Method 4	1	435		
Method 5	1	274		
Method 6	2	422	7.1	1.7
Method 7	4	285	80.5	28.3
Method 8	0			
Method 9	0			
Method 10	0			
All Methods	17	299	74.4	24.9



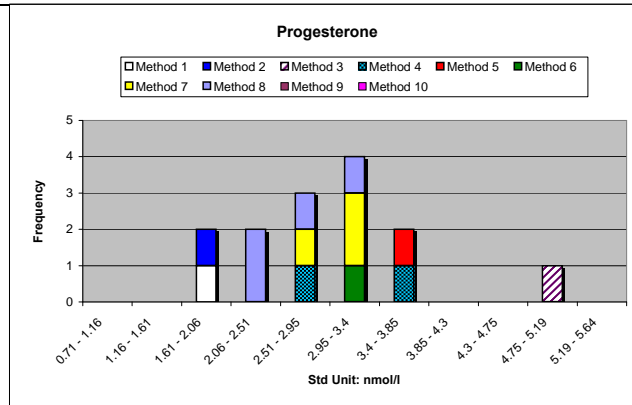
Note:

Insulin				
	n	Mean	StDev	%CV
Method 1	2	24	1.2	4.9
Method 2	1	33		
Method 3	1	3		
Method 4	1	41		
Method 5	1	34		
Method 6	2	17	1.4	8.3
Method 7	2	1	0.0	0.0
Method 8	1	16		
Method 9	0			
Method 10	0			
All Methods	11	19	13.8	72.6



Note: Method 6 is a "Canine Method" which reports in ug/L rather than uU/ml (or mU/L). A manufacturer supplied conversion factor of 101 was used. However, this conversion factor resulted in a much higher participant upper reference range limit than for the other methods.

Progesterone				
	n	Mean	StDev	%CV
Method 1	1	1.81		
Method 2	1	2.00		
Method 3	1	4.80		
Method 4	2	3.18	0.899	28.3
Method 5	1	3.80		
Method 6	1	2.99		
Method 7	3	3.13	0.245	7.8
Method 8	4	2.55	0.409	16.0
Method 9	0			
Method 10	0			
All Methods	14	2.95	0.815	27.6



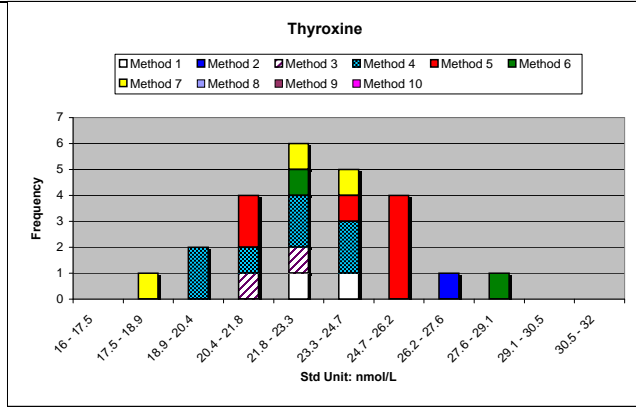
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Thyroxine				
	n	Mean	StDev	%CV
Method 1	2	23.9	1.00	4.2
Method 2	1	26.8		
Method 3	2	22.1	0.71	3.2
Method 4	7	22.0	1.81	8.2
Method 5	7	24.5	2.05	8.4
Method 6	2	25.5	3.61	14.2
Method 7	3	21.3	2.72	12.8
Method 8	0			
Method 9	0			
Method 10	0			
All Methods	24	23.3	2.41	10.3



Note:

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