

**INTERNATIONAL IFAG-ISAG COMPARISON TEST, 2009-2010
Suggestions for implementing a rating of the CT results**

The ISAG Executive Committee decided in 2008 to investigate the rating of the performances of the laboratories that participate in the Comparison Tests. A call for proposals and/or suggestions was issued during the Workshop from the last conference (Amsterdam, 2008).

- The following points are based on the rating system discussed during the 2008 “Equine Genetics and Thoroughbred Parentage Testing Standardization” Workshop with some adjustments.
- A rating system should be set up only for the ISAG recommended markers and not for other markers. Below a summary:

“ISAG recommended markers” Scoring System

- Absolute genotype Error at locus for Sample (Gea)
 - One or both alleles incorrectly reported or not reported
 - Relative genotype Error at locus for Sample (Ger)
 - One or both alleles incorrectly reported
 - Absolute number of Genotypes (Nga)
 - Number of Samples (reference sample not included) x Number of ISAG recommended Markers
 - Relative number of Genotypes (Ngr)
 - = Nga - number of genotypes not reported
 - Absolute genotyping Accuracy (Aga) for ISAG recommended Markers
 - = (Nga - Gea) / Nga (As Percentage)
 - Relative genotyping Accuracy (Rga) for ISAG recommended Markers
 - = (Ngr - Ger) / Ngr (As Percentage)
- The calculated “Absolute and Relative Genotyping Accuracy” values should be used as the rating systems for genotyping.
 - If for a certain genotype no consensus exists or if a lab does not agree with the “concordant” genotype, the results of this genotype will be discussed during the workshop. If necessary a voting can take place during the workshop at the next ISAG conference to decide if this genotype needs to be excluded from the rating system. Therefore the final rating scores can only be calculated after the workshop!
 - Each lab will receive an official certificate from ISAG with their Absolute and Relative Genotyping Accuracy values. Furthermore an overall anonymous overview from the values should be provided by ISAG and this overview will be included on the certificate. It could be in the following format:

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Absolute genotyping Accuracy		Relative genotyping Accuracy	
Total # labs: 60		Total # labs: 60	
Rate	% Labs	Rate	% Labs
1: 100 – 98%	70	1: 100 – 98%	77
2: 98 – 95%	10	2: 98 – 95%	8
3: 95 – 90%	7	3: 95 – 90%	6
4: 90 – 80%	8	4: 90 – 80%	7
5: 80%	5	5: 80%	2

Labs are allowed to use the certificate to show their clients how they perform. Also (breeding)-organizations (e.g. International Stud Book commission for horses and ICAR for cattle) might find this kind of information helpful. Of course each lab should be free to decide if and with whom they share their own Absolute and Relative Genotyping Accuracy values.

(Compiled by A. Eggen based on suggestions received from the Committees, April 21st, 2009)