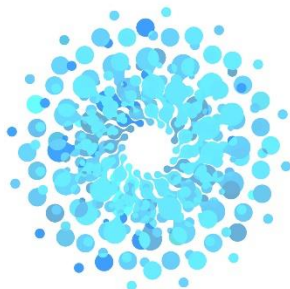




EURL PROFICIENCY TEST 2025 AVIAN INFLUENZA AND NEWCASTLE DISEASE



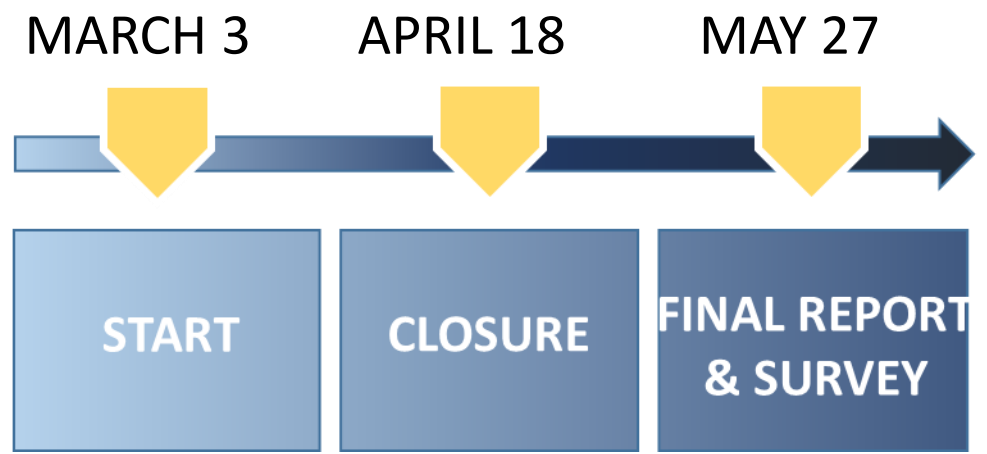
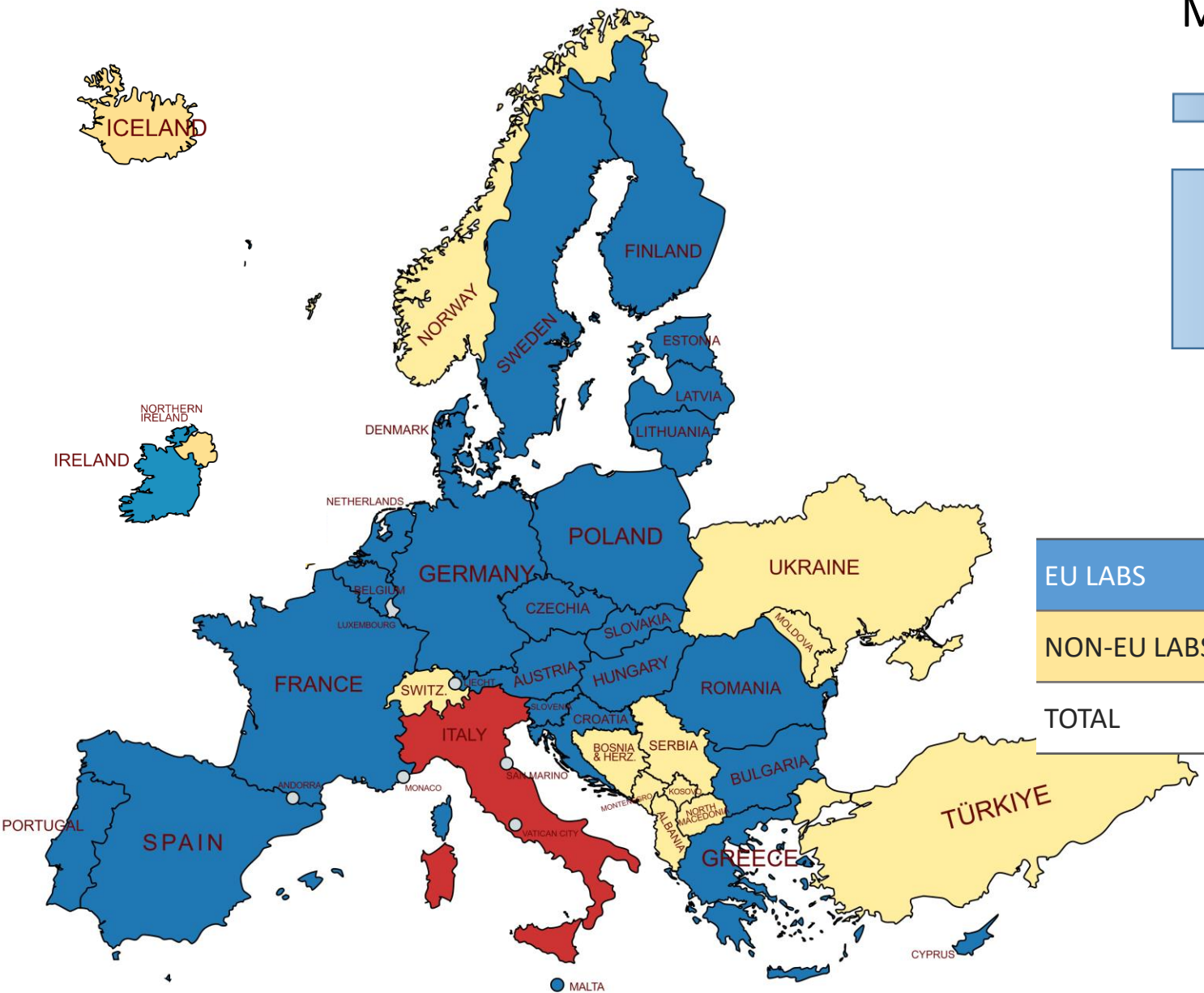
31st Annual Meeting

of the National Reference Laboratories for Avian Influenza
and Newcastle Disease of European Union Member States

Viviana Valastro
IZSVe-EURL for AI/ND



TIMELINE AND PARTICIPATING LABORATORIES

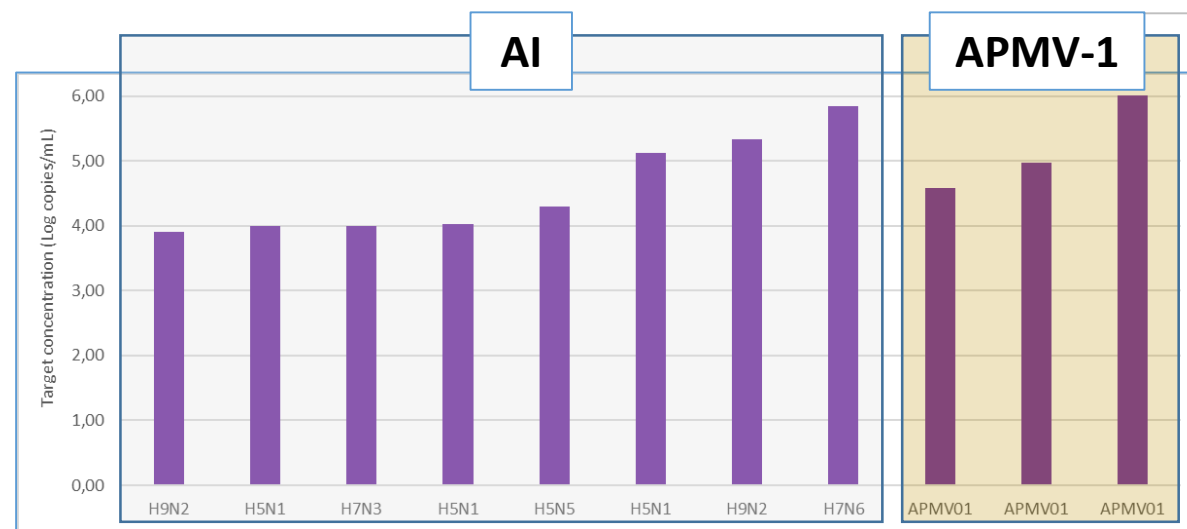


	PT SCHEME		
	VIRUS GENOME DETECTION AI/ND	VIRUS ANTIGEN DETECTION AI/ND	ANTIBODIES DETECTION AI/ND
EU LABS	25	24	25
NON-EU LABS*	14	8	11
TOTAL	39	32	36

* Including EFTA laboratories

PANEL COMPOSITION

- **13 Samples** including:
- 8 AI POSITIVES**
 - 3 APMV-1 POSITIVES**
 - 2 AI/APMV-1 NEGATIVE**

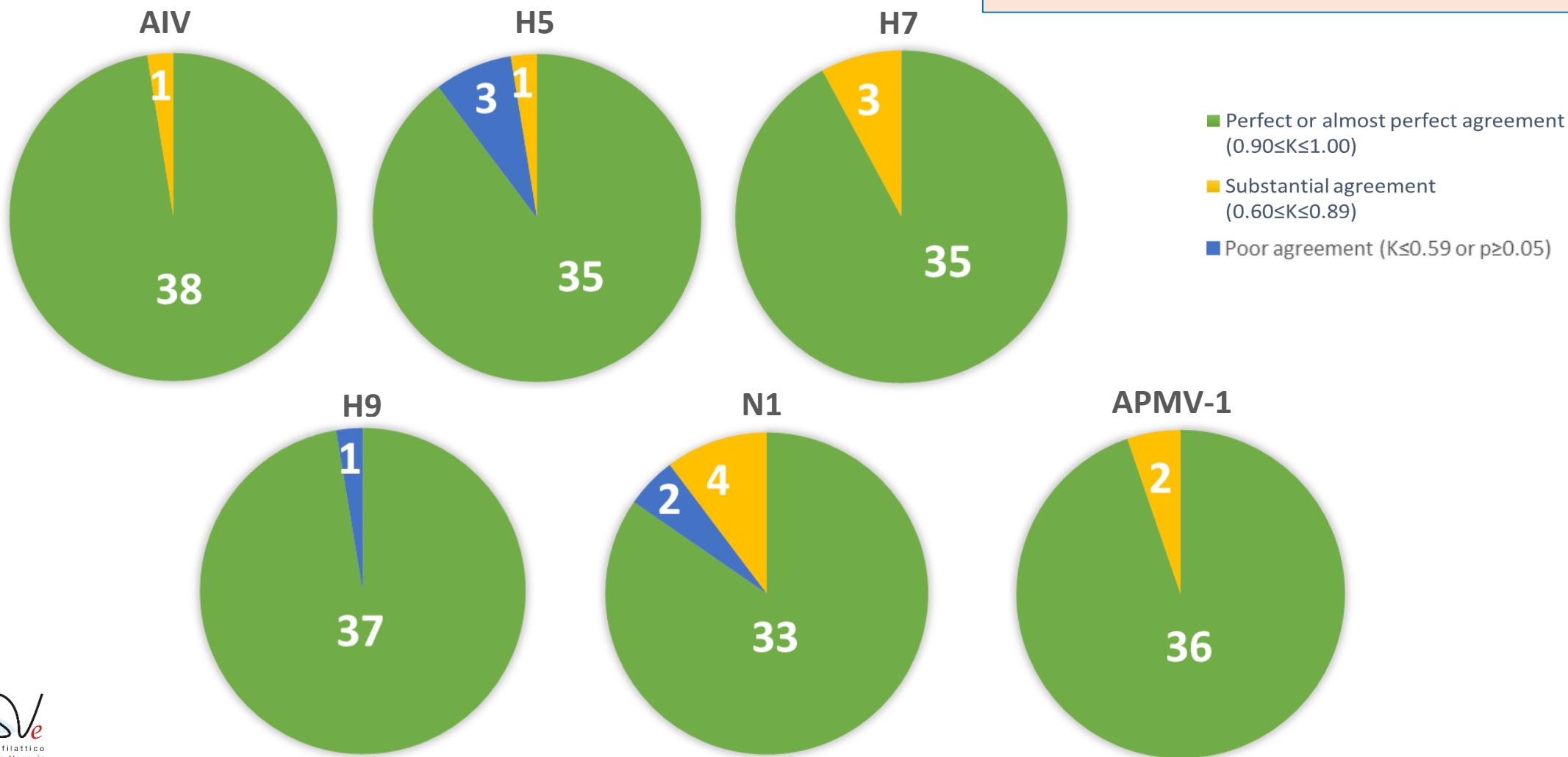


ID	Strain	Type	Pathotype	Lineage/Clade/Genotype	GC/mL
M01	A/chicken/South Africa/SA2310_23VIR11588-2/2023	H7N6	HPAI	Eurasian	10 ^{5.85}
M11	A/chicken/Niger/13-23_23VIR3551-49/2023	H9N2	LPAI	Clade G5.5**	10 ^{5.33}
M04	A/guinea fowl/Nigeria/KN-GF-14-16C_23VIR1455-1/2022	H5N1	HPAI	Eurasian, clade 2.3.4.4b	10 ^{5.13}
M02	A/European herring gull/Norway/2023-07-2935_23VIR9749-12/2023	H5N5	HPAI	Eurasian, clade 2.3.4.4b	10 ^{4.30}
M07	A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024	H5N1	LPAI	Eurasian	10 ^{4.02}
M10	A/European herring gull/Italy/24VIR9146-12/2024	H5N1	HPAI	Eurasian, clade 2.3.4.4b	10 ^{4.00}
M08	A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	H7N3	LPAI	Eurasian	10 ^{4.00}
M06	A/teal/Italy/1856-7_22VIR4622-12/2021	H9N2	LPAI	Clade Y8**	10 ^{3.90}
M09	PPMV-1/dove/Italy/24VIR145-4/2024	APMV-1	Virulent	XXI.2*	10 ^{6.48}
M13	AAvV-1/chicken/Macedonia/1400-1_20VIR1984-5/2020	APMV-1	Virulent	VII.2*	10 ^{4.97}
M05	AOAV-1/Gallus gallus/Belgium/8744/2022	APMV-1	Avirulent	I.1.1*	10 ^{4.58}
M03	Negative				
M12	Negative				

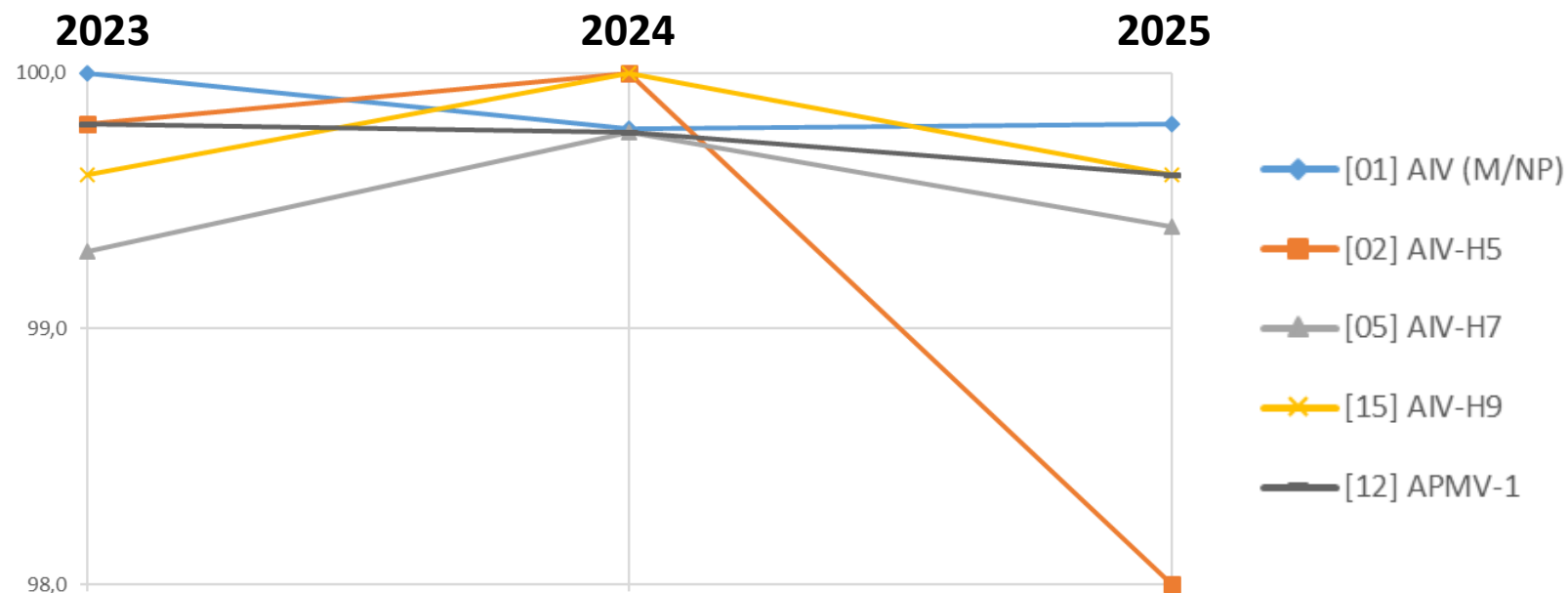
* According to Dimitrov et al., 2019; ** According to Fusaro et al., 2024

RESULTS – ASSESSMENT OF PARTICIPANTS

- Success rate = 99.1%
- 39 Participating Labs
- 25 LABS: 100% correct results



PERFORMANCE MONITORING



Parameter	Success rate (%)		
	2025	2024	2023
[01] AIV (M/NP)	99.8	99.8	100
[02] AIV-H5	98.0	100	99.8
[05] AIV-H7	99.4	99.8	99.3
[15] AIV-H9	99.6	100	99.6
[08] AIV-N1	98.4		99.8
[12] APMV-1	99.6	99.8	99.8

2%

RESULTS - DETECTION

ID	Strain	Type	Pathotype	Success rate and False results (No.)					
				M	H5	H7	H9	N1	APMV1
M02	A/European herring gull/Norway/2023-07-2935_23VIR9749-12/2023	H5N5			92% (3)			97% (1)	
M04	A/guinea fowl/Nigeria/KN-GF-14-16C_23VIR1455-1/2022	H5N1	HPAI						
M10	A/European herring gull/Italy/24VIR9146-12/2024	H5N1	→	97% (1)	90% (4)			90% (4)	
M07	A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024	H5N1	→		92% (3)			92% (3)	
M06	A/teal/Italy/1856-7_22VIR4622-12/2021	H9N2							
M11	A/chicken/Niger/13-23_23VIR3551-49/2023	H9N2	LPAI				97% (1)		
M08	A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	H7N3							
M01	A/chicken/South Africa/SA2310_23VIR11588-2/2023	H7N6	HPAI			92% (3)			
M05	AOAV-1/Gallus gallus/Belgium/8744/2022	APMV1	Avirulent						97% (1)
M09	PPMV-1/dove/Italy/24VIR145-4/2024	APMV1	Virulent				97% (1)		97% (1)
M13	AAvV-1/chicken/Macedonia/1400-1_20VIR1984-5/2020	APMV1							
M03	Negative								
M12	Negative								

□ 100% success rate; ■ False Positive result; ■ False Negative result

RESULTS - DETECTION

				Success rate and False results (No.)					
ID	Strain	Type	Pathotype	M	H5	H7	H9	N1	APMV1
M02	A/European herring gull/Norway/2023-07-2935_23VIR9749-12/2023	H5N5	HPAI		92% (3)			97% (1)	
M04	A/guinea fowl/Nigeria/KN-GF-14-16C_23VIR1455-1/2022	H5N1							
M10	A/European herring gull/Italy/24VIR9146-12/2024	H5N1		97% (1)	90% (4)			90% (4)	
M07	A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024	H5N1	LPAI		92% (3)			92% (3)	
M06	A/teal/Italy/1856-7_22VIR4622-12/2021	H9N2							
M11	A/chicken/Niger/13-23_23VIR3551-49/2023	H9N2					97% (1)		
M08	A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	H7N3							
M01	A/chicken/South Africa/SA2310_23VIR11588-2/2023	H7N6	HPAI						
M05	AOAV-1/Gallus gallus/Belgium/8744/2022	APMV1	Avirulent						97% (1)
M09	PPMV-1/dove/Italy/24VIR145-4/2024	APMV1	Virulent				97% (1)		97% (1)
M13	AAvV-1/chicken/Macedonia/1400-1_20VIR1984-5/2020	APMV1							
M03	Negative								
M12	Negative								

3 labs missed
3 out of 4
H5 positive samples

2 labs missed
2 out of 3
N1 positive samples

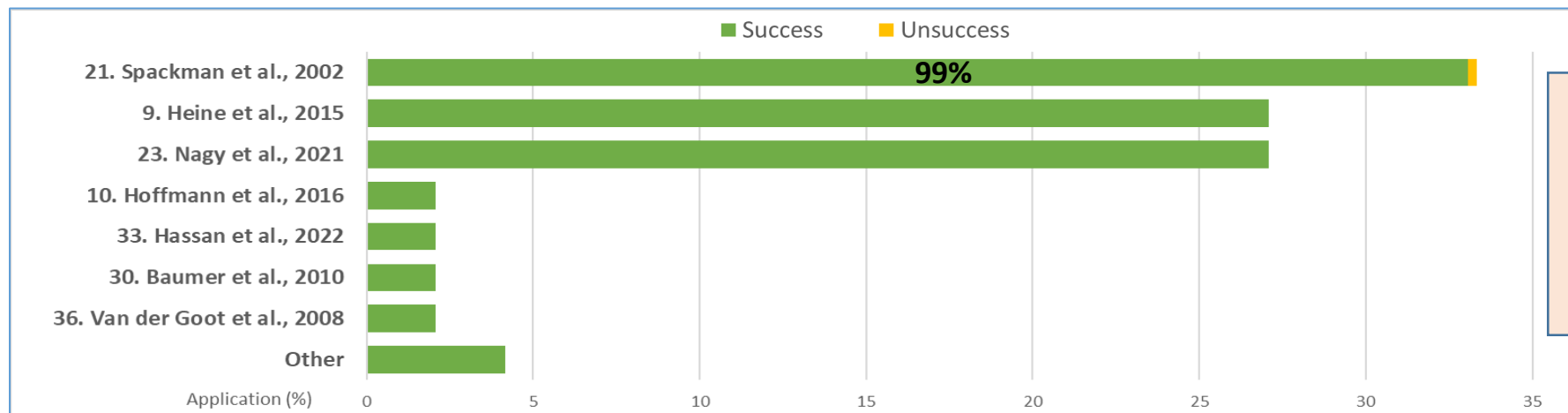
□ 100% success rate; ■ False Positive result; ■ False Negative result

RESULTS - DETECTION

ID	Strain	Type	Pathotype	Success rate and False results (No.)					
				M	H5	H7	H9	N1	APMV1
M02	A/European herring gull/Norway/2023-07-2935_23VIR9749-12/2023	H5N5	HPAI		92% (3)			97% (1)	
M04	A/guinea fowl/Nigeria/KN-GF-14-16C_23VIR1455-1/2022	H5N1							
M10	A/European herring gull/Italy/24VIR9146-12/2024	H5N1		97% (1)	90% (4)			90% (4)	
M07	A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024	H5N1	LPAI		92% (3)			92% (3)	
M06	A/teal/Italy/1856-7_22VIR4622-12/2021	H9N2							
M11	A/chicken/Niger/13-23_23VIR3551-49/2023	H9N2					97% (1)		
M08	A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	H7N3							
M01	A/chicken/South Africa/SA2310_23VIR11588-2/2023	H7N6	HPAI			92% (3)			
M05	AOAV-1/Gallus gallus/Belgium/8744/2022	APMV1	Avirulent						97% (1)
M09	PPMV-1/dove/Italy/24VIR145-4/2024	APMV1	Virulent				97% (1)		97% (1)
M13	AAvV-1/chicken/Macedonia/1400-1_20VIR1984-5/2020	APMV1							
M03	Negative								
M12	Negative								

☐ 100% success rate;
 ☐ False Positive result;
 ☐ False Negative result

DETECTION OF AIV STRAINS

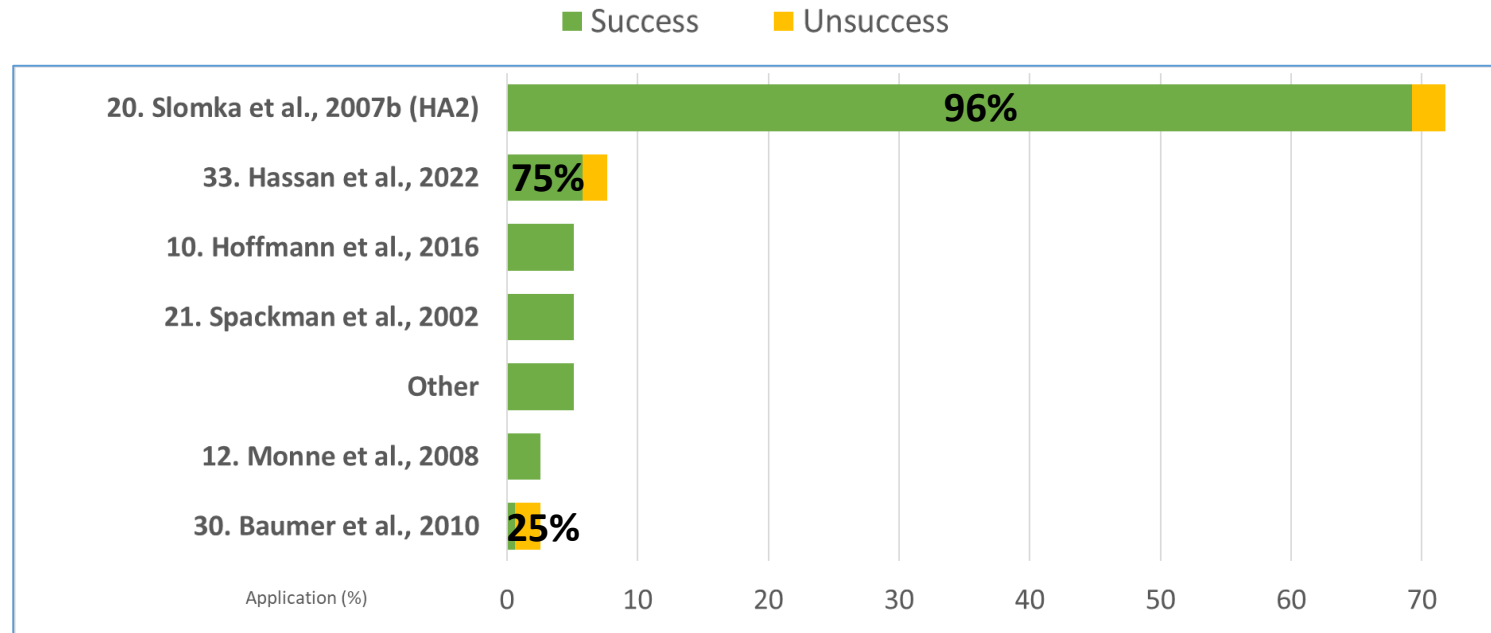


- Positive Samples = 8
- Participating Labs = 39
- Success rate = 99.8%

					GC/mL	EURL Ct (9)*	Participants Ct
M01	A/chicken/South Africa/SA2310_23VIR11588-2/2023	H7N6	HPAI	Eurasian	10 ^{5.85}	25,40	26,40
M11	A/chicken/Niger/13-23_23VIR3551-49/2023	H9N2	LPAI	Clade G5.5	10 ^{5.33}	27,09	28,69
M04	A/guinea fowl/Nigeria/KN-GF-14-16C_23VIR1455-1/2022	H5N1	HPAI	Eurasian, clade 2.3.4.4b	10 ^{5.13}	23,75	24,89
M02	A/European herring gull/Norway/2023-07-2935_23VIR9749-12/2023	H5N5	HPAI	Eurasian, clade 2.3.4.4b	10 ^{4.30}	30,69	31,82
M07	A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024	H5N1	LPAI	Eurasian	10 ^{4.02}	27,33	29,17
M10	A/European herring gull/Italy/24VIR9146-12/2024	H5N1	HPAI	Eurasian, clade 2.3.4.4b	10 ^{4.00}	29,56	30,09
M08	A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	H7N3	LPAI	Eurasian	10 ^{4.00}	28,56	29,58
M06	A/teal/Italy/1856-7_22VIR4622-12/2021	H9N2	LPAI	Clade Y8	10 ^{3.90}	31,80	32,93

* () Protocol of reference

DETECTION OF H5 STRAINS

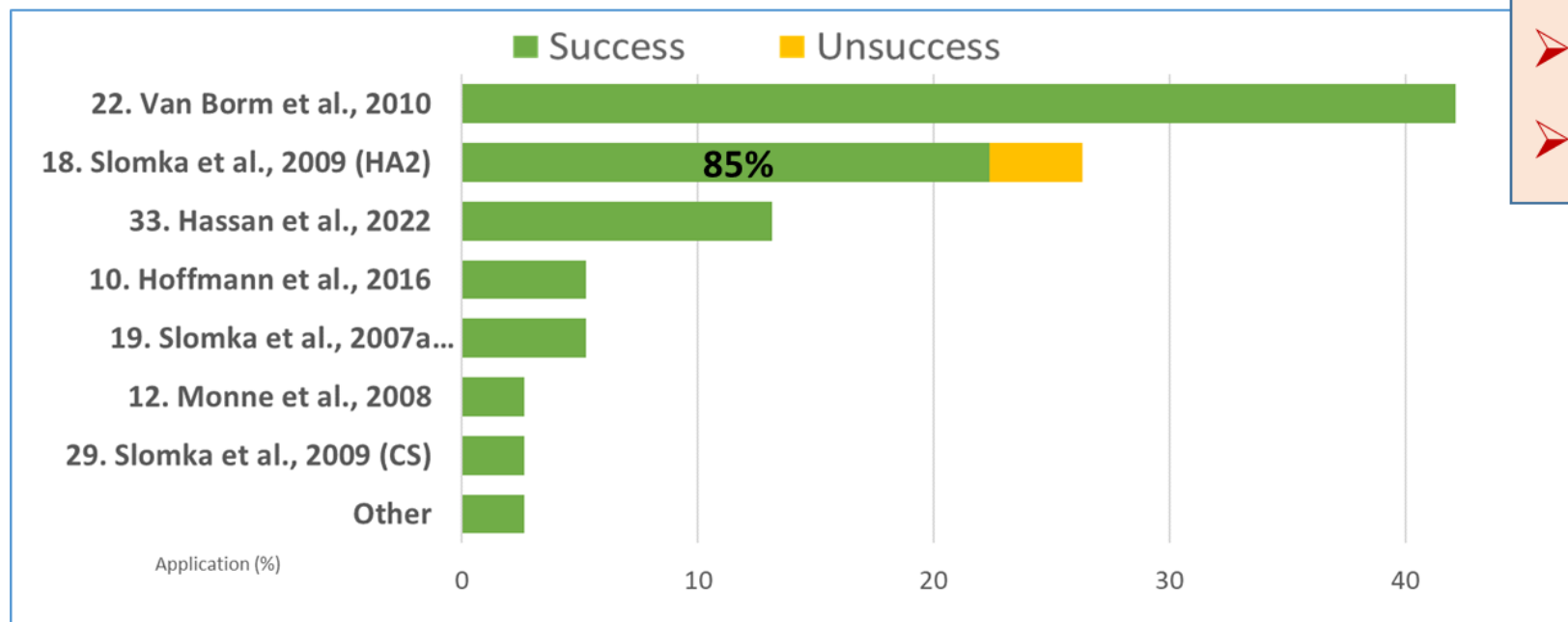


- Positive Samples = 4
- Participating Labs = 39
- Success rate = 98%

		GC/mL	% Detection and FN (no.)	EURL Ct (33)*	EURL Ct (20)*	Participants Ct
M04	H5N1 A/guinea fowl/Nigeria/KN-GF-14-16C_23VIR1455-1/2022 (HPAI)	10 ^{5.13}	100%	22,17	24,03	24,26
M02	H5N5 A/European herring gull/Norway/2023-07-2935_23VIR9749-12/2023 (HPAI)	10 ^{4.30}	92% (3)	30,42	32,98	32,07
M07	H5N1 A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024 (LPAI)	10 ^{4.02}	92% (3)	30,13	36,69	31,72
M10	H5N1 A/European herring gull/Italy/24VIR9146-12/2024 (HPAI)	10 ^{4.00}	90% (4)	28,63	30,95	29,71

* () Protocol of reference

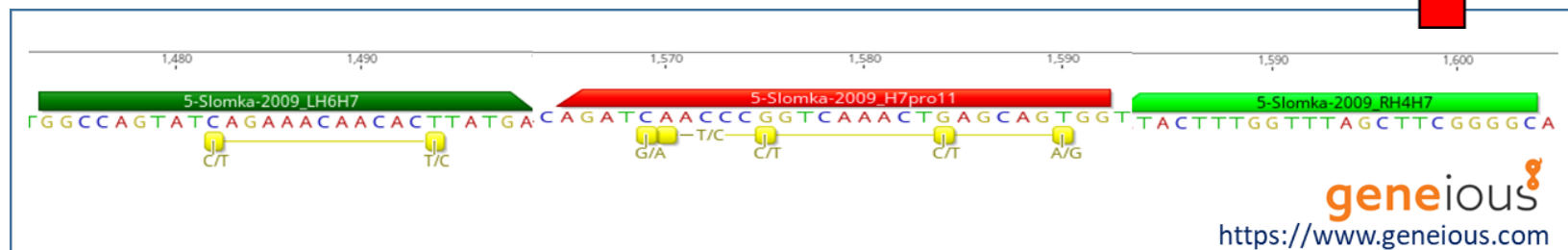
DETECTION OF H7 STRAINS



- Positive Samples = 2
- Participating Labs = 38
- Success rate = 99.4%

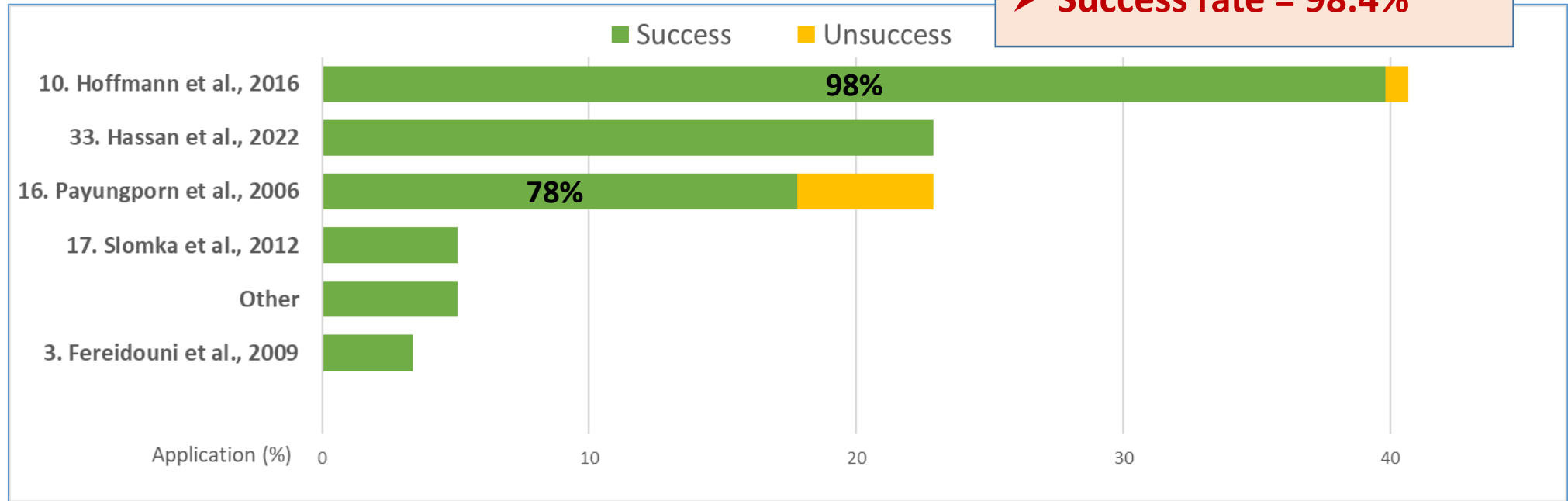
		GC/mL	% Detection and FN (no.)	EURL Ct (33)*	EURL Ct (18)*	Participants Ct
M01	H7N6 A/chicken/South Africa/SA2310_23VIR11588-2/2023 (HPAI)	10 ^{5.85}	92% (3)	27,77	Negative	28,26
M08	H7N3 A/chicken/Netherlands/23025569-021_24VIR4103-4/2023 (LPAI)	10 ^{4.00}	100%	29,56	33,36	30,93

* () Protocol of reference



DETECTION OF N1 STRAINS

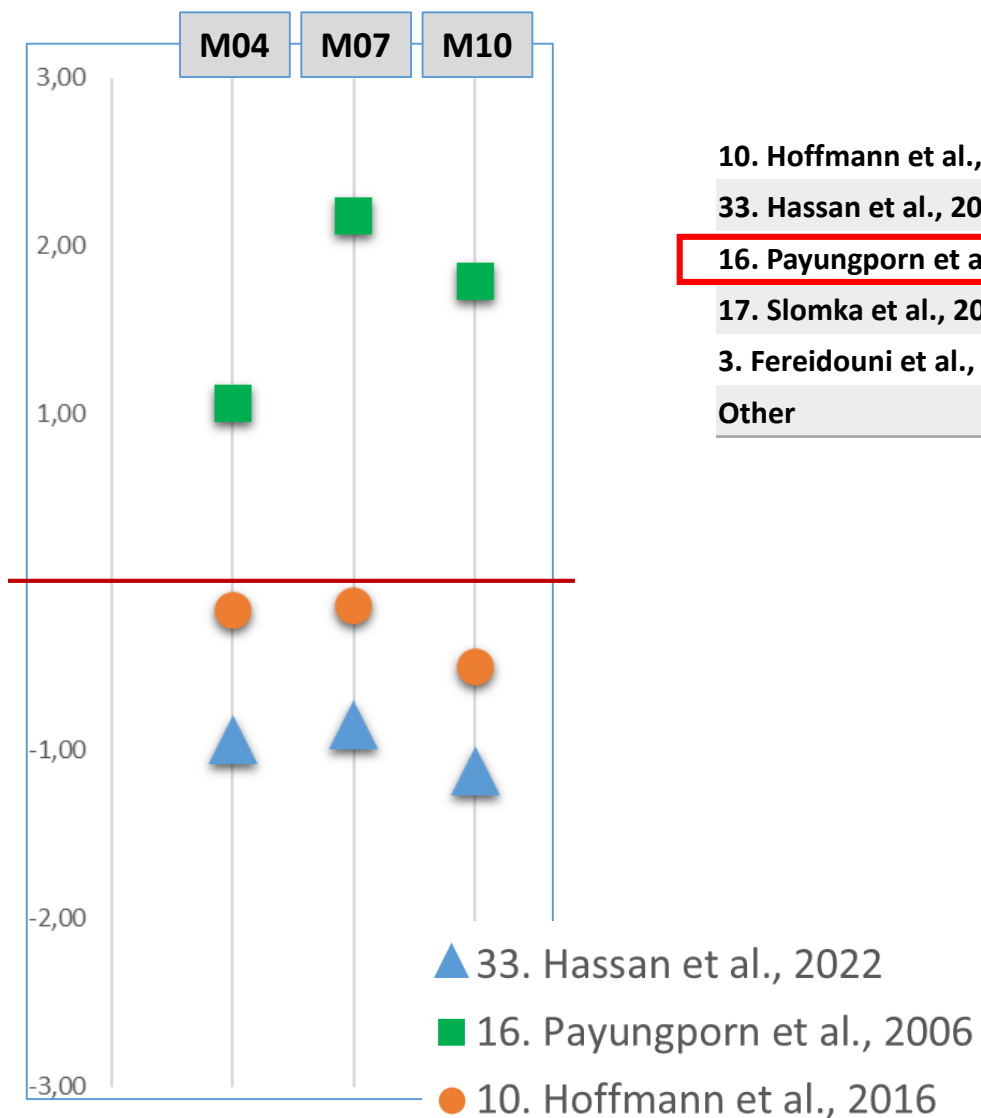
- Positive Samples = 3
- Participating Labs = 39
- Success rate = 98.4%



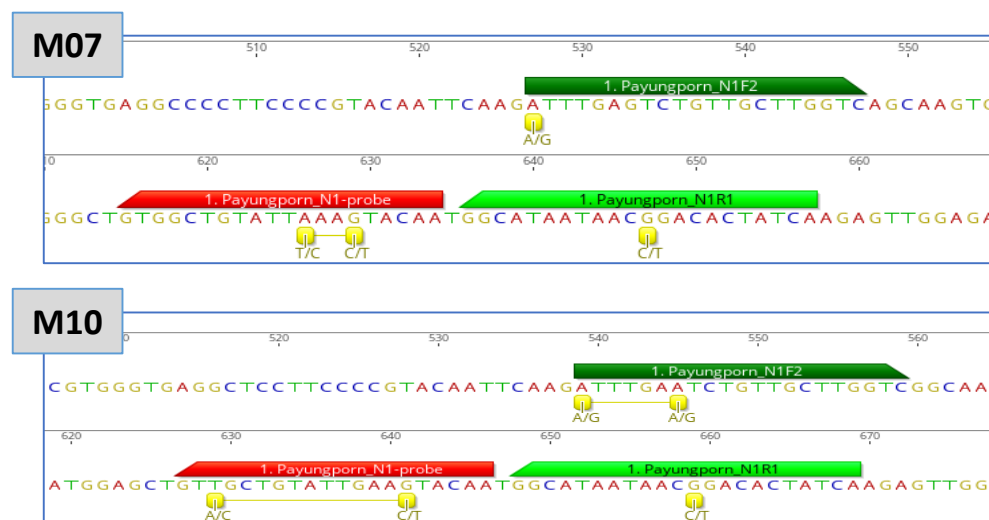
		GC/mL	% Detection and FN (no.)	EURL Ct (33)*	Participants Ct
M04	H5N1 A/guinea fowl/Nigeria/KN-GF-14-16C_23VIR1455-1/2022 (HPAI)	10 ^{5.13}	100%	24,34	25,41
M07	H5N1 A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024 (LPAI)	10 ^{4.02}	92% (3)	29,02	30,06
M10	H5N1 A/European herring gull/Italy/24VIR9146-12/2024 (HPAI)	10 ^{4.00}	90% (4)	30,79	30,70

* () Protocol of reference

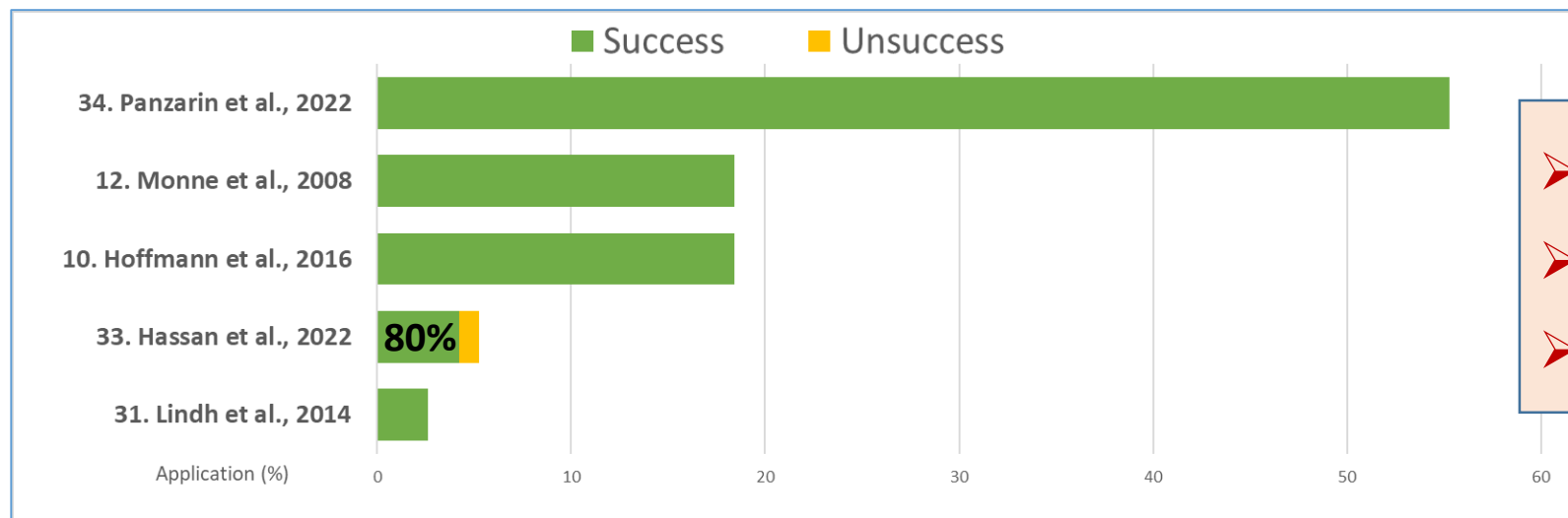
DETECTION OF N1 STRAINS



	No. labs	No. FN		
		M04	M07	M10
10. Hoffmann et al., 2016	16	-	-	1
33. Hassan et al., 2022	9	-	-	-
16. Payungporn et al., 2006	9	-	3	3
17. Slomka et al., 2012	2	-	-	-
3. Fereidouni et al., 2009	1	-	-	-
Other	1	-	-	-



DETECTION OF H9 STRAINS

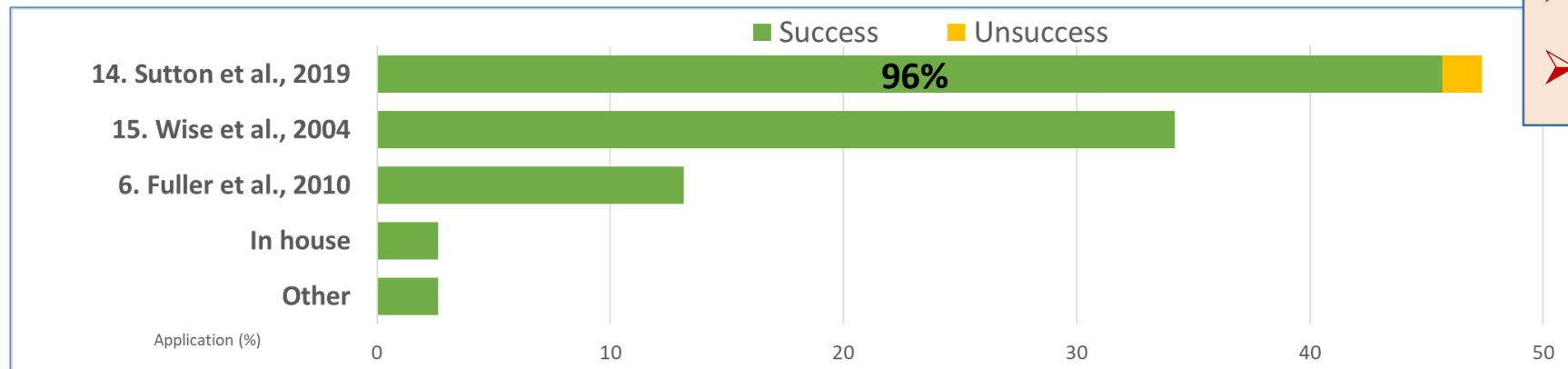


- Positive Sample = 2
- Participating Labs = 39
- Success rate = 99.6%

		GC/mL	Detection and FN (no.)	EURL Ct (34)*	Participants Ct
M06	H9N2 A/teal/Italy/1856-7_22VIR4622-12/2021, clade Y8	$10^{3.90}$	100%	31,61	32,35
M11	H9N2 A/chicken/Niger/13-23_23VIR3551-49/2023, clade G5.5	$10^{5.33}$	97% (1)	26,77	27,96

* () Protocol of reference

DETECTION OF APMV1 STRAINS



- Positive Samples = 3
- Participating Labs = 38
- Success rate = 99.6%

		GC/mL	% Detection and FN (no.)	EURL Ct (14)*	Participants Ct
M09	PPMV-1/dove/Italy/24VIR145-4/2024, genotype XXI.2	10 ^{6.48}	97% (1)	21,93	26,57
M13	AAvV-1/chicken/Macedonia/1400-1_20VIR1984-5/2020, genotype VII.2	10 ^{4.97}	100%	27,30	31,92
M05	AOAV-1/Gallus gallus/Belgium/8744/2022, genotype I.1.1	10 ^{4.58}	97% (1)	28,44	32,94

* () Protocol of reference

RESULTS – ASSESSMENT OF PARTICIPANTS

➤ Success rate = 99.8%

➤ 32 Participating Labs, 31 LABS 100% correct results

	ID	Strain	Pathotype	Lineage/Clade/Genotype	EURL HA Titer^	Labs HA Titer	Success rate and False results (No.)			
							H5	H7	H9	APMV1
H5	V02	H5N1 A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024	LPAI	Eurasian	1:256	1:256				
	V04	H5N3 A/duck/Italy/21VIR8024-20/2021	LPAI	Eurasian	1:128	1:128				
	V06	H5N5 A/European herring gull/Norway/2023-07-2935_23VIR9749-12/2023	HPAI	Eurasian, clade 2.3.4.4b	1:128	1:128				
H7	V01	H7N3 A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	LPAI	Eurasian	1:128	1:256				
	V09	H7N6 A/chicken/South Africa/SA2310_23VIR11588-2/2023	HPAI	Eurasian	1:256	1:512				
H9	V05	H9N2 A/teal/Italy/1856-7_22VIR4622-12/2021	LPAI	Y439	1:256	1:256			97% (1)	
APMV1	V03	APMV-1/chicken/Vushtrri-Kosovo/94_21VIR5162-29/2021	Virulent	VII.2	1:256	1:512				
	V07	NDV La Sota	Avirulent	II	1:256	1:1024			97% (1)	97% (1)
	V12	NDV/chicken/Rus/Krasnodar/9.1_20VIR6516/19	Virulent	VII.1.1	1:164	1:128				
AI/APMV1 Negative	V08	-								
	V10	-								
	V11	-								

☐ 100% success rate
 ☐ False Positive result
 ☐ False Negative result

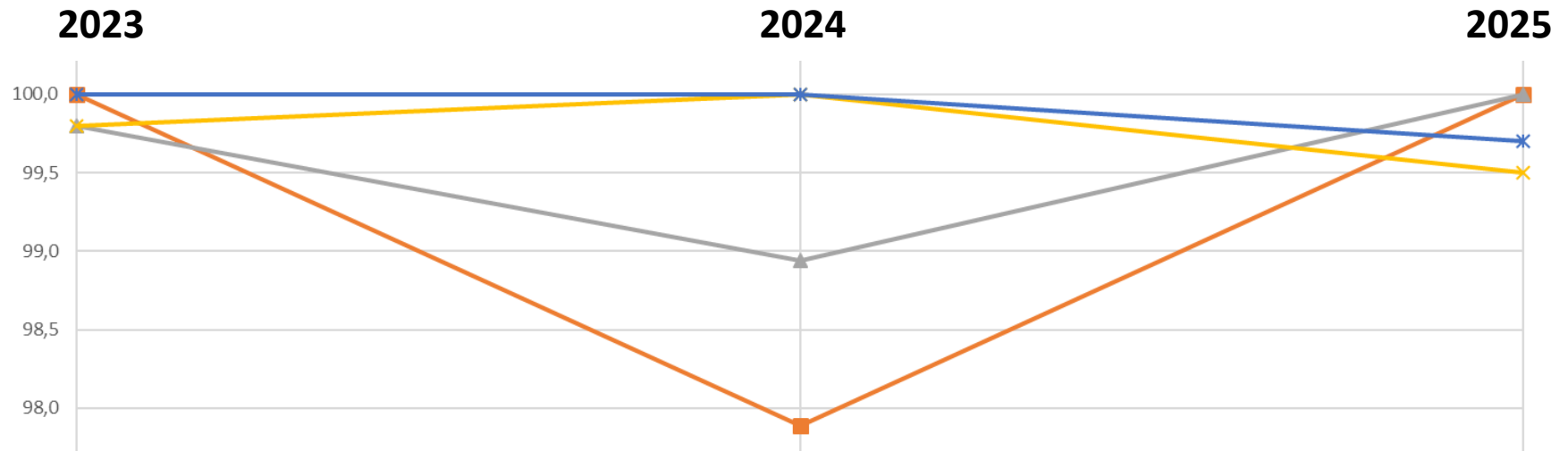
HAV = Haemagglutinating virus; ^ Mode value of the HA titers obtained during the quality assessment tests and determined as the highest dilution of antigen causing complete agglutination of the RBCs

PERFORMANCE MONITORING

Parameter	Success rate (%)		
	2025	2024	2023
—■— [21] Avian influenza viruses of H5 subtype	100	97.9	100
—▲— [22] Avian influenza viruses of H7 subtype	100	98.9	99.8
—×— [24] Avian influenza viruses of H9 subtype	99.5	100	99.8
—*— [23] Avian paramyxoviruses type 1	99.7	100	100

➤ > 2%

➤ > 1%



SEROLOGICAL PANEL COMPOSITION AND RESULTS

- 12 SERA including:
- 7 AI positive sera
- 3 APMV1 positive sera
- 2 AI/APMV1 negative sera

	ID	Immunizing antigen	Pathotype	Lineage/Clade/ Genotype	HI titer^	Success rate and False results (No.)				
						AIV	H5	H7	H9	APMV1
H5	S04	H5N8 A/turkey/Italy/17VIR9106-38/2017	HPAI	Eurasian, clade 2.3.4.4b*	1:256					
	S06§	H5N1 A/turkey/Italy/21VIR9520-3/2021			1:512			97% (1)		
	S11§				1:64		91% (3)	97% (1)		
	S08	H5N2 A/pheasant/Italy/22VIR1741-97/2022	LPAI	Eurasian	1:512				97% (1)	
H7	S01	H7N6 A/chicken/South Africa/SA2310_23VIR11588-2/2023	HPAI	Eurasian	1:1024					
	S10	H7N3 A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	LPAI		1:256					
H9	S02	H9N2 A/pheasant/Italy/21VIR2284-22/2021	LPAI	Y8	1:1024		97% (1)			
APMV1	S05§	APMV-1/chicken/Bulgaria/09-02_19VIR1262-2/2019	Virulent	VII.2	1:4096					
	S12§				1:128					91% (3)
	S09	APMV-1/pigeon/Cyprus/20VIR3543-30/2020		XXI.2	1:256					
AI/APMV1 Negative	S03	-								
	S07	-								

☐ 100% success rate
 ☐ False Positive result
 ☐ False Negative result

§ Sample pairs S06 and S11 as well as S05 and S12 represent different dilution steps performed with the same stock serum; ^ Against homologous antigen

CROSS HI RESULTS

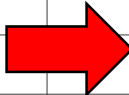
Haemagglutinating Antigen	EURL HI TITER TO TEST SAMPLE*	
	S06 H5N1 (HP)	S11 H5N1 (HP)
H5N1 A/chicken/Scotland/1/59 (HP)	1:128	1:16
H5N3 A/teal/England/7394-2805/06 (LP)	1:64	1:16
H5N1 A/turkey/Italy/21VIR9520-3/2021 (HP) (Homologous)	1:512	1:128
H5N5 A/wigeon/Italy/16VIR9616-3/2016 (HP)	1:256	1:32
MODE (Participants)	1:64	1:16

*Using 4 HAU



SEROLOGICAL PANEL COMPOSITION AND RESULTS

- 12 SERA including:
- 7 AI positive sera
- 3 APMV1 positive sera
- 2 AI/APMV1 negative sera

	ID	Immunizing antigen	Pathotype	Lineage/Clade/ Genotype	HI titer^	Success rate and False results (No.)				
						AIV	H5	H7	H9	APMV1
H5	S04	H5N8 A/turkey/Italy/17VIR9106-38/2017	HPAI	Eurasian, clade 2.3.4.4b*	1:256					
	S06§	H5N1 A/turkey/Italy/21VIR9520-3/2021			1:512			97% (1)		
	S11§				1:64		91% (3)	97% (1)		
	S08	H5N2 A/pheasant/Italy/22VIR1741-97/2022	LPAI	Eurasian	1:512				97% (1)	
H7	S01	H7N6 A/chicken/South Africa/SA2310_23VIR11588-2/2023	HPAI	Eurasian	1:1024					
	S10	H7N3 A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	LPAI		1:256					
H9	S02	H9N2 A/pheasant/Italy/21VIR2284-22/2021	LPAI	Y8	1:1024		97% (1)			
APMV1	S05§	APMV-1/chicken/Bulgaria/09-02_19VIR1262-2/2019	Virulent	VII.2	1:4096					91% (3)
	S12§				1:128					
	S09	APMV-1/pigeon/Cyprus/20VIR3543-30/2020		XXI.2	1:256					
AI/APMV1 Negative	S03	-								
	S07	-								

☐ 100% success rate
 ☒ False Positive result
 ☒ False Negative result

§ Sample pairs S06 and S11 as well as S05 and S12 represent different dilution steps performed with the same stock serum; ^ Against homologous antigen

CROSS HI RESULTS

Haemagglutinating Antigen	EURL HI TITER TO TEST SAMPLE*	
	S05 APMV1	S12 APMV1
APMV-1/dove/Italy/4400/2000	1:1024	1:64
Ulster 2C	1:512	1:32
APMV-1/chicken/Bulgaria/09-02_19VIR1262-2/2019 (Homologous)	1:4096	1:128
MODE (Participants)	1:256	1:16

*Using 4 HAU



SEROLOGICAL PANEL COMPOSITION AND RESULTS

- 12 SERA including:
- 7 AI positive sera
- 3 APMV1 positive sera
- 2 AI/APMV1 negative sera

	ID	Immunizing antigen	Pathotype	Lineage/Clade/ Genotype	HI titer^	Success rate and False results (No.)				
						AIV	H5	H7	H9	APMV1
H5	S04	H5N8 A/turkey/Italy/17VIR9106-38/2017	HPAI	Eurasian, clade 2.3.4.4b*	1:256					
	S06§	H5N1 A/turkey/Italy/21VIR9520-3/2021			1:512			97% (1)		
	S11§				1:64		91% (3)	97% (1)		
	S08	H5N2 A/pheasant/Italy/22VIR1741-97/2022	LPAI	Eurasian	1:512				97% (1)	
H7	S01	H7N6 A/chicken/South Africa/SA2310_23VIR11588-2/2023	HPAI	Eurasian	1:1024	Delivered by the same lab				
	S10	H7N3 A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	LPAI		1:256					
H9	S02	H9N2 A/pheasant/Italy/21VIR2284-22/2021	LPAI	Y8	1:1024		97% (1)			
APMV1	S05§	APMV-1/chicken/Bulgaria/09-02_19VIR1262-2/2019	Virulent	VII.2	1:4096					
	S12§				1:128					91% (3)
	S09	APMV-1/pigeon/Cyprus/20VIR3543-30/2020		XXI.2	1:256					
AI/APMV1 Negative	S03	-								
	S07	-								

Delivered by the same lab

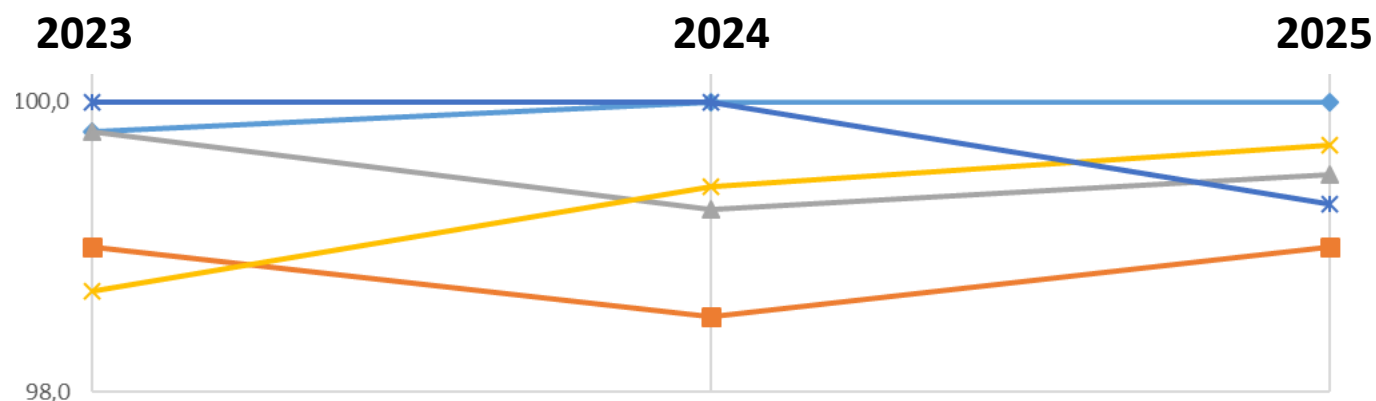
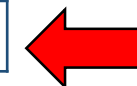
□ 100% success rate ■ False Positive result ■ False Negative result

§ Sample pairs S06 and S11 as well as S05 and S12 represent different dilution steps performed with the same stock serum; ^ Against homologous antigen

PERFORMANCE MONITORING

- **Success rate = 99.5%**
- **36 Participating Labs, 29 Labs 100% correct results**

Parameter	Success rate (%)		
	2025	2024	2023
—◆— [30] Antibodies to type A avian influenza viruses	100	100	99.8
—■— [31] Antibodies to H5 subtype of avian influenza viruses	99	98.5	99
—▲— [32] Antibodies to H7 subtype of avian influenza viruses	99.5	99.3	99.8
—✕— [34] Antibodies to H9 subtype of avian influenza viruses	99.7	99.4	98.7
—✱— [33] Antibodies to avian paramyxoviruses type 1	99.3	100	100





HIGHLIGHTS

- Overall, the participants demonstrated a high proficiency level for the detection and characterization of AIVs and APMVs-1 by means of molecular, virological and serological techniques
- Participants performed with a success rate > 99% in each scheme
- The observed misidentifications of H5-positive samples appeared to be related to a systematic error, most likely associated with procedural issues during the tests or the use of a molecular method that was not fit for purpose
- Similarly, the performance outcomes observed in the identification of both H7 and N1 strains were strongly influenced by the methods employed for testing
- As regard the serological scheme, we recommended the inclusion in the cross HI tests of antigens closely related to the antigenic profile of the currently circulating H5 HPAI viruses to possibly avoid failure in the detection of antibodies against such viruses when present in low or relatively low titer serum samples
- The failures in identifying APMV-1 antibodies in sample S12 were most likely due to the antigenic distance between the antibodies present in the test serum sample and the reference antigens commonly used in HI assays



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NEXT EDITION
on MARCH
2026

THANK YOU!



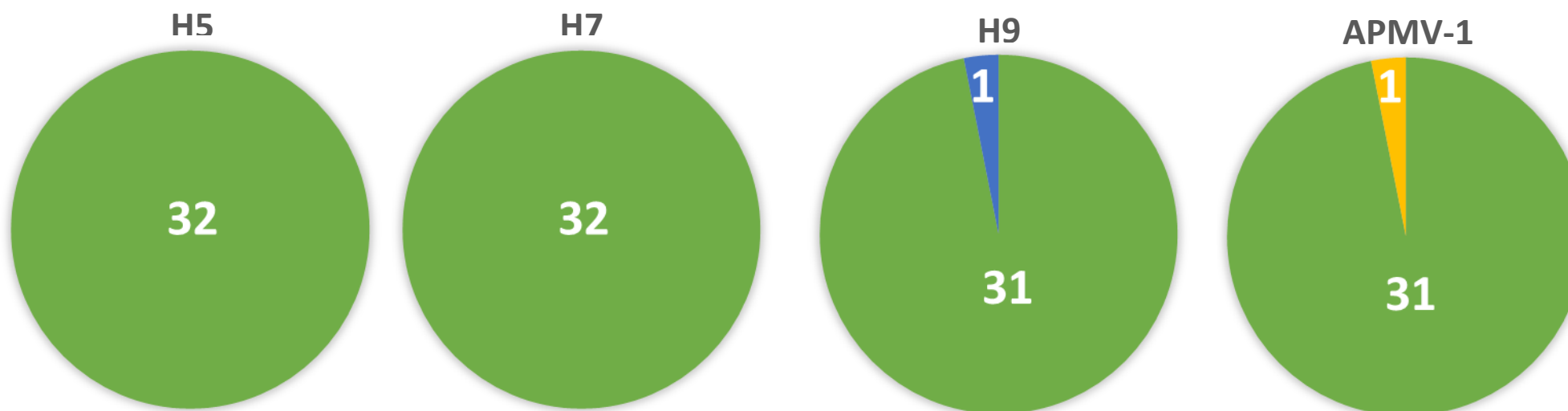
RESULTS – ASSESSMENT OF PARTICIPANTS

➤ **32 Participating Labs**

➤ **Success rate = 99.8%**

➤ **31 LABS: 100% correct results**

➤ **1 LAB: Results in agreement with the EURL except for TWO TARGET**



■ Perfect or almost perfect agreement
(0.90 ≤ K ≤ 1.00)

■ Substantial agreement
(0.60 ≤ K ≤ 0.89)

■ Poor agreement (K ≤ 0.59 or p ≥ 0.05)

VIROLOGICAL PANEL COMPOSITION AND RESULTS

- **12 samples** including:
- 6 AI positives
 - 3 APMV1 positives
 - 3 AI/APMV1 negatives

	ID	Strain	Pathotype	Lineage/Clade/Genotype	EURL HA Titer [^]	Labs HA Titer	Success rate and False results (No.)			
							H5	H7	H9	APMV1
H5	V02	H5N1 A/chicken/Netherlands/24001946-006010_24VIR4103-5/2024	LPAI	Eurasian	1:256	1:256				
	V04	H5N3 A/duck/Italy/21VIR8024-20/2021	LPAI	Eurasian	1:128	1:128				
	V06	H5N5 A/European herring gull/Norway/2023-07-2935_23VIR9749-12/2023	HPAI	Eurasian, clade 2.3.4.4b	1:128	1:128				
H7	V01	H7N3 A/chicken/Netherlands/23025569-021_24VIR4103-4/2023	LPAI	Eurasian	1:128	1:256				
	V09	H7N6 A/chicken/South Africa/SA2310_23VIR11588-2/2023	HPAI	Eurasian	1:256	1:512				
H9	V05	H9N2 A/teal/Italy/1856-7_22VIR4622-12/2021	LPAI	Y439	1:256	1:256			97% (1)	
APMV1	V03	APMV-1/chicken/Vushtrri-Kosovo/94_21VIR5162-29/2021	Virulent	VII.2	1:256	1:512				
	V07	NDV La Sota	Avirulent	II	1:256	1:1024			97% (1)	97% (1)
	V12	NDV/chicken/Rus/Krasnodar/9.1_20VIR6516/19	Virulent	VII.1.1	1:164	1:128				
AI/APMV1 Negative	V08	-								
	V10	-								
	V11	-								

☐ 100% success rate
 ☐ False Positive result
 ☐ False Negative result

HAV = Haemagglutinating virus; [^] Mode value of the HA titers obtained during the quality assessment tests and determined as the highest dilution of antigen causing complete agglutination of the RBCs

RESULTS – ASSESSMENT OF PARTICIPANTS

➤ **36 Participating Labs**

➤ **Success rate = 99.5%**

➤ **29 LABS: 100% results consistent with EURL**

➤ **6 LABS: Results in agreement with EURL **except for ONE TARGET****

➤ **1 LAB: Results in **Poor agreement** with EURL for **H7** and **H9 TARGETS****

