



**28th Annual Meeting**  
of the National Reference Laboratories  
for Avian Influenza and Newcastle Disease  
of European Union Member States

20-21 September 2022

**MEMBER STATES (& THIRD COUNTRIES)**  
**REPORT FOR AVIAN AVULAVIRUSES**  
**2021**

**Based on the response to the questionnaires received**

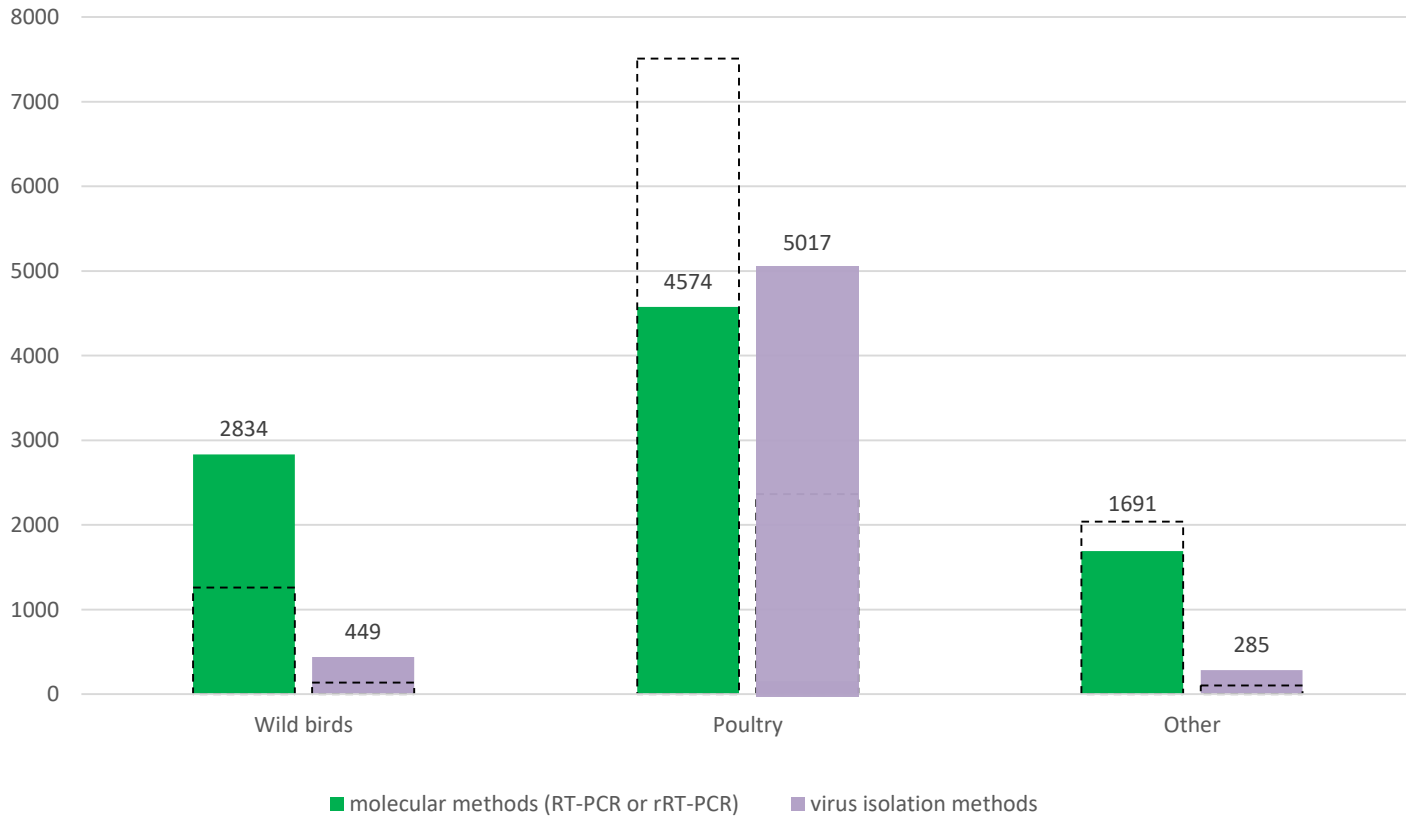
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*EURL (IZSVe)*

# Laboratories reporting Avian Avulaviruses isolation or detection in 2021

- Austria
- Belgium
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Ireland
- Italy
- Luxemburg
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- *Kosovo*
- *Switzerland*

# ND 1.1 How many samples from poultry or wild birds were processed by molecular methods (RT-PCR or rRT-PCR) or virus isolation methods?



# Avian Orthoavulavirus 1 (AOaV-1) positive samples in 2021 per MS

Country	RT-PCR positive samples	Country	RT-PCR positive samples
Austria	25	Kosovo	20
Belgium	19	Ireland	16
Bulgaria	2	Luxembourg	12
Cyprus	4	Portugal	5
Czech Republic	5	Romania	1
Denmark	14	Slovakia	5
Estonia	6	Slovenia	11
Finland	2	Spain	24
France	1	Sweden	7
Germany	77	Switzerland	16
Italy	77		
<b>Total= 349</b>			

# **Velogenic AOaV-1 viruses detected in poultry (excluding pigeons) in 2020**

<b>MS(s)</b>	<b>Bird species</b>	<b>Number of positive samples</b>	<b>Amino Acids at the F cleavage site</b>	<b>Genotype reported (Dimitrov classification)</b>
<b>Sweden</b>	Chicken	1	RRQRR/F	XIII
<b>Kosovo</b>	Chicken	20	RRQKR/F	VII.2

# Lentogenic AOaV-1 viruses detected in poultry (excluding pigeons) in 2021

MS(s)	Bird species	Number of positive samples	Amino Acids at the F cleavage site	Genotype reported (Dimitrov classification)
<b>Belgium</b>	Chicken	2	GKQGRL	n.a.
	Chicken	1	GRQGRL	n.a.
	Turkey	1	GRQGRL	n.a.
	Grey partridge	1	GKQGRL	n.a.
	Mallard	4	GKQGRL	n.a.
<b>Denmark</b>	Farmed ducks	13	GKQGRL	I.2
	Eurasian teal	1	ERQERL	n.a.
<b>Germany</b>	Chicken	5	GRQGRL	II
	Chicken	1	GKQGRL	I.2
<b>Sweden</b>	Pheasant	1	n.d.	I.1.1
<b>Italy</b>	Chicken	4	GKQGRL	I.1.1

# Pigeon and Dove AOaV-1 detected/isolated

MS(s)	Bird species	ICPI	Number of positive samples	Amino Acids at the F cleavage site	Reported Genotype
<b>Austria</b>	Pigeon (wild)	n.d.	17	RRQKRF	VI.1.1
	Pigeon (wild)	n.d.	6	RRQKRF	XXI.2
	Pigeon (domestic)	n.d.	2	RRQKRF	VI.1.1
<b>Belgium</b>	Pigeon (domestic)	n.d.	2	RRQKRF	n.a.
	Pigeon (domestic)	n.d.	2	RRRKRF	n.a.
	Collared dove	n.d.	1	RRQKRF	n.a.
<b>Cyprus</b>	Pigeon (wild)	n.d.	3	n.a.	n.a.
<b>Estonia</b>	Pigeon	n.d.	6	KRQKRF	n.a.
<b>France</b>	Dove (wild)	n.d.	1	RRRKRF	VI
<b>Finland</b>	Pigeon (wild)	n.d.	2	KRQKRF	n.a.
<b>Germany</b>	Pigeon (domestic)	0,64-1,30	32	RRQKRF	VI.2.1.1.2.2
	Pigeon (domestic)	1,06-1,60	2	RRQKRF	XXI.1.2
	Pigeon (domestic)	n.d.	9	n.a.	n.a.
	Pigeon (wild)	0,64-1,30	24	RRQKRF	VI.2.1.1.2.2
	Pigeon (wild)	1,06-1,60	1	RRQKRF	XXI.1.2
<b>Ireland</b>	Pigeon (wild)	n.d.	9	RRQKRF	n.a.
	Pigeon (domestic)	n.d.	5	RRQKRF	n.a.
	Dove	n.d.	2	RRQKRF	n.a.

# ...Continued Pigeon and Dove AOaV-1 detected/isolated

MS(s)	Bird species	ICPI	Number of positive samples	Amino Acids at the F cleavage site	Reported Genotype
Italy	Pigeon (domestic)	1,025	5	RRQKR/F	VI.2.1.1.2.1
	Pigeon (domestic)	0,5	1	RRRKR/F	VI.2.1.1.2.1
	Pigeon (domestic)	0,23 - 0,725	1	RRQKR/F	VI.2.1.1.2.2
	Pigeon (wild)	n.d.	4	RRQKRF	VI.2.1.1.2.1
	Pigeon (wild)	n.d.	14	RRQKRF	VI.2.1.1.2.2
	Dove (domestic)	n.d.	5	RRRKR/F	VI.2.1.1.2.1
	Dove (domestic)	1,25	1	RRRKR/F	VI.2.1.1.2.1
	Dove (domestic)	n.d.	2	KRRKRF	VI.2.1.1.2.1
	Dove (wild)	n.d.	1	RRRKR/F	VI.2.1.1.2
	Dove (wild)	n.d.	2	KRRKRF	VI.2.1.1.2.1
	Dove (wild)	n.d.	19	RRRKR/F	VI.2.1.1.2.1
	Dove (wild)	n.d.	6	RRRKR/F	VI.2.1.1.2.2
	Dove (wild)	n.d.	1	RRQKRF	XXI.2
	Luxembourg	Pigeon (wild)	n.d.	7	KRQKRF
Pigeon (wild)		n.d.	1	RRQKRF	VI.1.2
Pigeon (wild)		n.d.	1	n.a	n.a
Portugal	Dove	n.d.	4	RRQKRF	XXI.2
Romania	Pigeon	n.d.	1	GRRQRF	n.a
Slovakia	Pigeon	n.d.	5	RRQKRF	VI.2.1.1.2.2
Slovenia	Pigeon (wild)	n.d.	11	RRQKRF	n.a.
Spain	Dove	n.d.	15	RRQKRF	XX
	Pigeon (wild)	n.d.	4	RRQKRF	VI
	Pigeon (wild)	n.d.	3	KRQKRF	XX
Sweden	Pigeon (wild)	n.d.	5	RRQKRF	VI.2.1.1.2.2
Switzerland	Pigeon (domestic)	n.d.	16	RRQKRF	n.a.



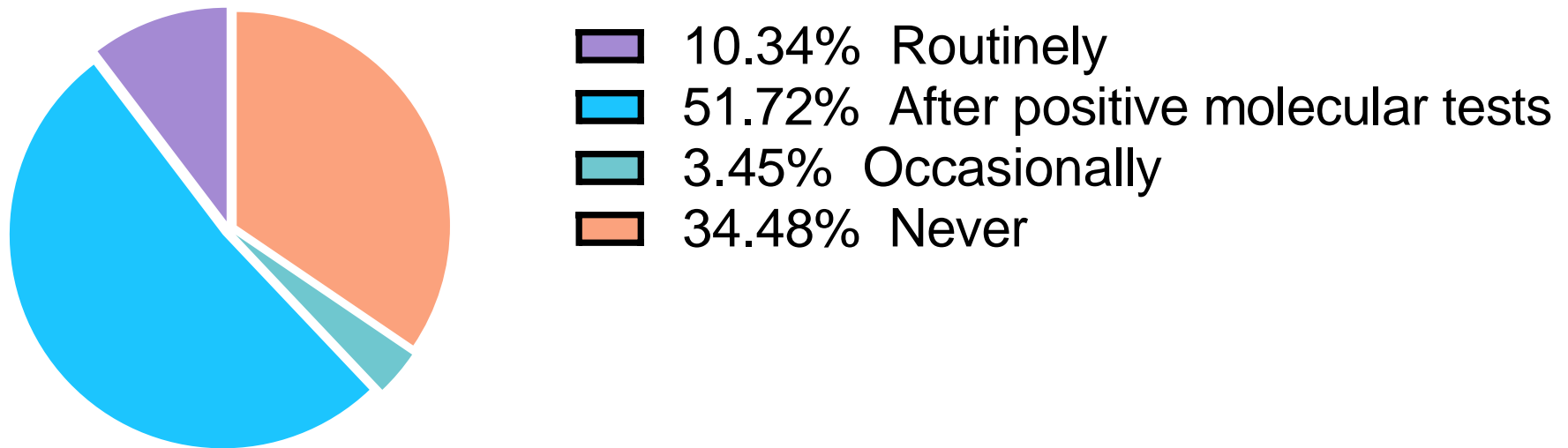
# ● Wild birds AOaV-1 detected/isolated

MS(s)	Bird species	Number of positive samples	ICPI	Amino Acids at the F cleavage site	Reported Genotype
Cyprus	Long-eared owl	1	n.d.	n.d.	-
Portugal	Australian ringneck	1	n.d.	RRQKRF	VI.2.1.1.2.2
Spain	Wild bird	1	n.d.	RRQKRF	XX
	Wild bird	1	n.d.	RRQKRF	VI

## Other viruses of the family *Avulavirinae* detected

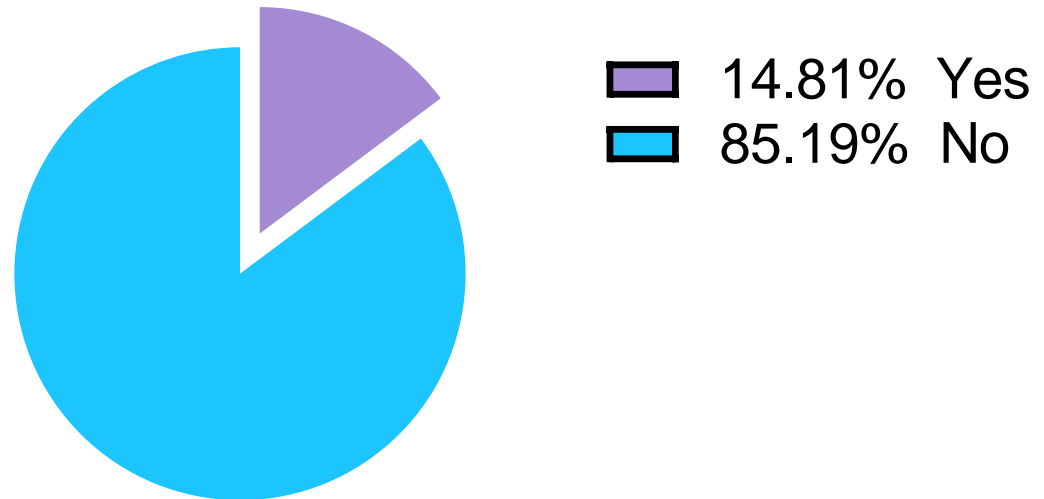
MS(s)	Bird species	Number of positive samples	Genotype/conclusions
Belgium	Mallard	1	APMV-4
Denmark	Mallard	6	APMV-4
	Eurasian teal	1	APMV-4
	Mallard	1	APMV-6
	Eurasian teal	1	APMV-6

● **ND 1.2. Do you routinely inoculate eggs with samples from Newcastle disease suspicions in poultry, in parallel with molecular testing (RT-PCR or rRT-PCR) or after positive PCR results?**

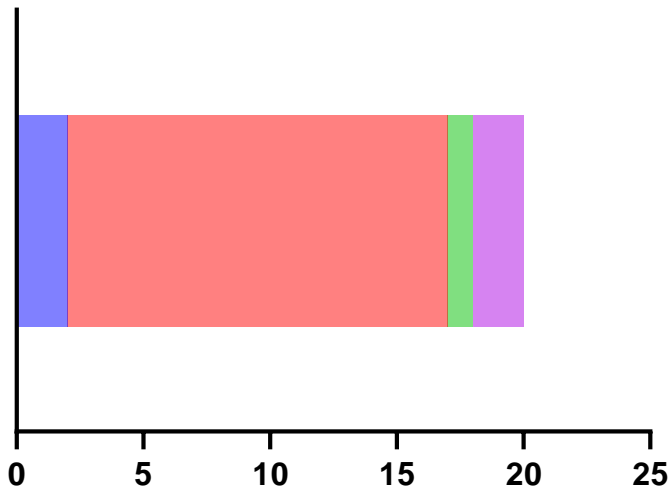


## ● ND 1.4. Do you perform the ICPI test on AOaV-1 strains?

- Reduction from previous years (Discontinued?)
- PPMV-1 strains often have great variability in ICPI values

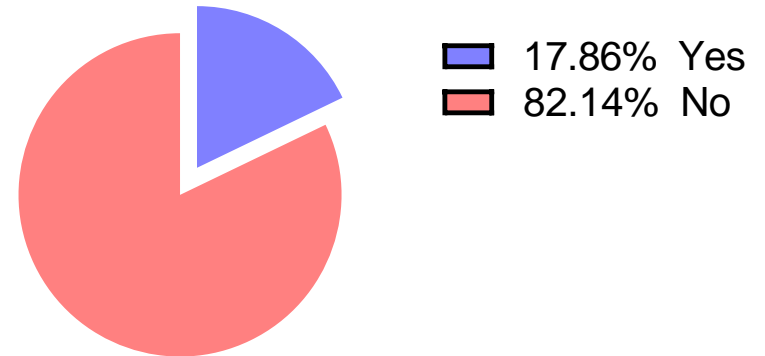


# ● ND 1.5. When a AOaV-1 is detected, is sequencing of the F gene systematically carried out?

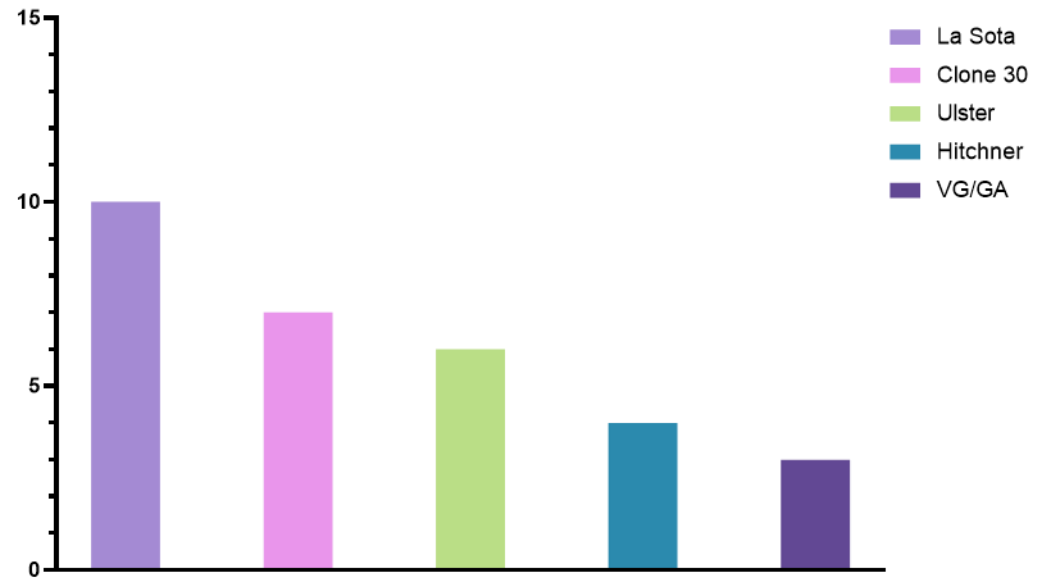
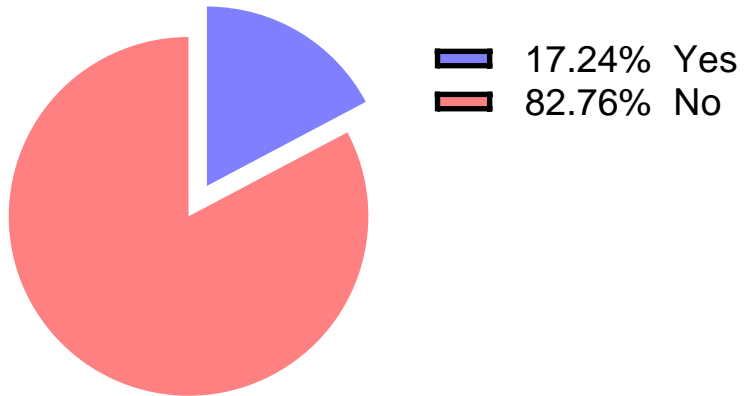


- Complete
- Partial
- Both
- Sent to EURL

Other genes (e.g. HN, WGS)?



# ND vaccination in the EU



# ● Non ND vaccinating countries – serological surveillance

Country	Tested sera	Positive sera
<b>Finland</b>	<b>8833</b>	<b>13</b>
Broiler	7233	1
Turkey	780	0
Laying hens	750	1
Geese	60	11
Pheasants	10	0
<b>Norway</b>	<b>6401</b>	<b>0</b>
Chicken	5624	0
Turkey	472	0
Duck	244	0
Geese	61	0
<b>Sweden</b>	<b>8752</b>	<b>61*</b>
Chicken	8232	61*
Turkey	520	0
<b>Switzerland</b>	<b>1020</b>	<b>0</b>
Laying hens	740	0
Turkey	280	0
<b>Total</b>	<b>25006</b>	<b>73</b>

\* imported chickens from vaccinated flocks