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Recommendations for Collecting Swab Specimens from Poultry for Viral Diagnostic Testing

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Notes:

- 2.1.2. Tracheal/oropharyngeal (TR/OP) swabs are preferred for gallinaceous poultry
- The opening of the trachea, mouth can be swabbed (avoiding the esophagus), bringing the swab up through the choanal cleft (collectively referred to as TR/OP swab) - the sinuses drain into the choanal cleft, therefore swabbing will capture material from the upper respiratory tract
 - Tracheal swabs, if needed, are best obtained from fresh carcasses
- 2.1.3. Cloacal (CL) swabs are preferred for domestic waterfowl and wild birds
- 2.1.4. Following sample collection, vigorously swirl the swab in the VTM, squeezing the excess liquid from the swab inside the specimen tube and then discarding the swab in an appropriate container – the **swab suspension** is submitted for diagnostic testing
- *Note: swabs left inside the sample tube may result in media being drawn into the swab, leaving limited material for diagnostic testing*
- 2.1.5. If swabs remain in the specimen tube, all swab tips must be fully immersed in the VTM. For example, BHI tubes provided by the NVSL (or those with similar tube volumes) are not sufficiently wide to immerse more than 5 swabs in the VTM; therefore no more than 5¹ swabs are permitted to remain in the tube; **negative results from swab samples which were not fully immersed** are considered invalid and reported as a “No Test” with notation of the sample condition

3.1. Pooling procedures

- 3.1.1. Pooling of swabs may be performed for TR/OP swabs (maximum 11-swab pool for gallinaceous poultry, 5-swab pools for other species) *or* for CL swabs (maximum 5-swab pool) as follows:
- the same sampling route – do NOT pool TR/OP and CL together
 - the same premises, and
 - the same species
- 3.1.2. **TR/OP swabs:** maximum 11-swab pool in 5.5 mls of VTM for IAV and ND testing of gallinaceous poultry [*Note: not evaluated for other diseases such as infectious bronchitis, laryngotracheitis, or mycoplasma*], 5-swab pools¹ in a minimum of 3 mls of VTM for other species/disease testing
- **OPTION** only for TR/OP swab samples for AI surveillance from gallinaceous poultry of the same species and same house and for those labs that conduct additional testing on surveillance samples (refer to 3.1.2.

¹ Pools of 6 TR/OP swabs have not been specifically evaluated, but is considered an acceptable practice where initiated by field staff seeking to conduct the recommended 11-swab surveillance of gallinaceous poultry of the same species and same house only using 2 pooled samples instead of 3 (refer to 3.1.2). This does not apply to CL swabs (refer to 2.1.3 and 3.1.3) nor swabs from other species.

above): a single LAB POOL may be tested at the laboratory by combining a representative 100ul aliquot from a 5-swab tube and a 6-swab¹ tube– if the LAB POOL is positive, BOTH sample tubes should be forwarded to NVSL for confirmation

- 3.1.3. **CL swabs** (maximum 5-swab pool in 3 mls of VTM) are the specimen of choice for domestic ducks/waterfowl
- 3.1.4. **Tissues:** pool appropriate tissues together from a single bird (e.g. respiratory vs enteric vs reproductive) - **do not pool tissues from more than one bird**

Table 1. Preferred specimens for influenza A and Newcastle disease diagnostics

Sampling source	Preferred Specimen	Sample Collection	Detection of Virus
Gallinaceous poultry (chickens, turkeys, pheasants, quail)	Tracheal/oro-pharyngeal (TR/OP) swab	Maximum of 11 swabs/pool from a single flock and species in 5.5 mls of VTM	Detection of virus shed via respiratory route (predominant route for these species)
	Cloacal swab is approved, but TR/OP are preferred	Maximum of 5 swabs/pool from a single flock and species in a minimum of 3 mls of VTM	Detection of virus shed via enteric route
Waterfowl and various wild bird species	CL or TR/OP swab	Domesticated waterfowl may be pooled (5 per tube) from single flock and species; pooling is <u>not</u> recommended for wild birds	Detection of virus shed via enteric and/or respiratory routes
Any avian species	Tissue samples	Only pool tissues from a single bird; pool by system (e.g. respiratory, enteric, urogenital/reproductive)	vND viruses may replicate to higher titres in tissues; brain is the specimen of choice for neurological forms of vNDV