FOR DISCUSSION

NAMP Technical Committee Annual Meeting 2023
Agenda Item A.1-A.2.
Last updated: 10 August 2023
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NAMP VIROLOGY DATA STANDARDS WORKSHOP DISCUSSION PAPER

RECOMMENDATION

1. That the NAMP Technical Committee:
   a. **NOTE** the plan to review and consolidate the NAMP Virology reporting projects in preparation for transition to AUSPest*Check*®.
   b. **DISCUSS** the structure of NAMP virology data reporting at the NAMP Technical Committee Annual Meeting Workshop 22nd August 2023.

BACKGROUND

2. AUSPest*Check*® is a data aggregation, coordination and visualisation software system for pest and disease surveillance, which was initially developed by Plant Health Australia (PHA). An operational version of AUSPest*Check*® was released to plant stakeholders in 2020, and AUSPest*Check*® was endorsed by the Plant Health Committee and National Biosecurity Committee (NBC), as the national data aggregation system for plant health surveillance. AUSPest*Check*® has since been recognised and included on NBC's register of critical assets and infrastructure of strategic national importance to biosecurity (NBC35).

3. In 2018, the Animal Health Committee (AHC) endorsed a proof-of-concept trial to facilitate the sharing, collation and visualisation of national animal health surveillance data using AUSPest*Check*®. This is an essential process, as the current terrestrial animal health data sharing platform, the Central Animal Health Database (CAHD), faces an increasing risk of failure as it ages. Thus, in January 2023, Animal Health Australia (AHA), Plant Health Australia (PHA) and the Department of Agriculture, Forestry and Fisheries (DAFF), agreed to a revised AUSPest*Check*® Animal Project to establish a minimum-viable product for the terrestrial animal health tenancies, by the end of 2023. As part of the project, AHA is working with each of its technical and/or advisory committees to transfer the existing national surveillance data collation projects from the CAHD, which includes the National Arbovirus Monitoring Information System (NAMP-Info).

4. The key role of the AUSPest*Check*® Animal Health Tenancy is to collate national surveillance information in support of trade and market access and animal health reporting. The transfer of data reporting into AUSPest*Check*® provides a strategic and timely opportunity to review the current NAMP data reporting, to ensure it remains fit-for-purpose, well defined and streamlined.

5. AHA will be working with the NAMP Technical Committee at an August 2023 workshop to review the current virology reporting projects in preparation to transition reporting to AUSPest*Check*®. This will encompass the five virology related reporting projects in the NAMP-Info: sentinel (SNTL) serological data; sero-survey (SERO) serological data; qRT-PCR (PCR1) for bluetongue virus; viral isolation data for bluetongue (VISN) and bluetongue serotype data (BVNT).

DISCUSSION

Proposed AUSPest*Check*® NAMP virology reporting structure

6. On review of the current virology data reporting projects, there is duplication in fields across the various reports. AHA proposes the consolidation of virology data reporting projects into two separate reporting projects, one for sentinel herds and one for sero-survey. This will enable data to be easily delineated and to appreciate the different, context specific, causal variables such as that associated with seroconversion versus a seropositive animal (See Appendix 1. For proposed inclusion). For example, 'seroconversion' is commonly attributed to recruited seronegative sentinel herds. In comparison, 'seropositive' is more accurately attributed to sero-survey herds, which may be associated with significant causal variables, such as seasonal variation and risk periods (e.g., the absence or presence of maternal derived antibodies).

Confirming testing protocol

7. To ensure AUSPest*Check*® accurately captures current NAMP reporting, and as a useful reference point, AHA is seeking confirmation from jurisdictions on testing protocols followed within their agency. NAMP maintains a list of the initial test type (Table 2) to support program reporting, including the setup of financial reports. In considering the review of the data reporting, AHA requests that jurisdictions consider their current testing protocol to inform the logical flow of data through the two reporting projects (Appendix 1).

Table 2. Initial Virus Specific Serological Testing

	NSW	NT	Qld	SA	Tas	Vic	WA
Bluetongue (BTV)	cELISA	cELISA	cELISA	cELISA	cELISA	cELISA	cELISA
Akabane (AKA)	cELISA	VNT	cELISA	cELISA	cELISA	cELISA	cELISA
Bovine ephemeral fever (BEF)	cELISA	VNT	VNT	cELISA	cELISA	cELISA	VNT
Epizootic hemorrhagic disease (EHD)	AGID	AGID	AGID	AGID	AGID	AGID	AGID
Simbu	cELISA	cELISA	cELISA	cELISA	cELISA	cELISA	cELISA

Status

8. At the core of every record submitted to AUSPest*Check*® it is a requirement to include a field to capture a summary of describing the presence or absence of the target organism. In considering the different testing protocols, AHA seeks to confirm if additional categories beyond 'positive or 'negative' are required to support NAMP program needs, particularly if there are any benefits in delineating status for either presence of virus or exposure to the target viral pathogen, or both.

Period of susceptibility (sero-survey herds)

9. For sero-survey herds, clearly defining the period during which animals are susceptible to infection, is essential to ensuring reporting consistency for this current field ('period' (SERO). Please consider how best to define this period, in terms of current operational recruitment protocols and the complexity of seasonal exposure differences and the period in which animals are free from maternal derived antibodies.

Fields for further consideration

10. A review of the bluetongue VNT serotyping data indicates limited use of the field 'last_neg_date'. This field historically had been intended to indicate 'the earliest date that seroconversion could have occurred this season at this site'. For ongoing monitoring sites, it is proposed that earlier

records be used to determine the date the site was most recently confirmed as being negative of evidence for bluetongue virus. Alternatively in the absence of earlier records, a default date for the start of the arbovirus season will be used. AHA seeks confirmation from the NAMP Technical Committee on any unintended impacts of remove the field 'last_neg_date'.

CONSULTATION/COMMUNICATION

11. The NAMP Technical Committee was provided an overview of the AUSPest*Check®* Animal Project and work to transition database systems as part of a teleconference to consider the NAMP Entomology transition to AUSPest*Check®.*

NEXT STEPS/ACTIONS

12. NAMP Technical Committee is to consider and consult within their agency on this discussion paper. This includes ensuring that each member is familiar with their laboratory protocol for NAMP testing and current data capture within their existing laboratory management. This will help inform discussion at the NAMP Technical Committee Meeting on August 22nd, 2023.

APPENDIX 1. Proposed AUSPest*Check*® NAMP virology programs *(Existing NAMP fields in brackets)*

Sentinel herd data fields	Sero-survey program data fields
uid	**uid**
dateOfActivity (bleed_date)	**dateOfActivity** (bleed_date)
entityName (virus)	**entityName** (virus)
latitude (site_num)	**latitude** (site_num)
longitude (site_num)	**longitude** (site_num)
status	**status**
host	**host**
bleedType (bleed_type)	
finYear (fin_year)	**finYear** (fin_year)
numSeroConv (num_seroconv)	**numSeroPos** (num_seroconv;)
numAtRisk (num_atrisk)	**periodAtRisk** (period)
numSampled (num_total)	**numSampled** (num_total)
numPCRAssays	**numPCRAssays**
numPCRsamples (num_test)	**numPCRsamples** (num_test)
numPCRPos (num_pos)	**numPCRPos** (num_pos)
numVirIso (num_viro_iso)	**numVirIso** (num_viro_iso)
numBTVIso (num_btv_isol)	**numBTVIso** (num_btv_isol)
numVNT (num_vnt)	**numVNT** (num_vnt)
btvSero (btv_sero)	**btvSero** (btv_sero)
comment (comments)	**comment** (comments)