## FIGURE 1. DECISION TREE FOR SELECTION OF IAV-S VACCINE STRATEGY TO CONTROL A SPECIFIC HERD ISOLATE. Was IAV-S identified and culturable? Run antisera induced by commercial Virus detected by vaccines against your isolate in HI PCR. Is any of the assay. Do any vaccine-induced HA gene sequenced? antisera have an HI titer >40? Identify the subtype and genetic No strain data or ability Choose commercial A custom vaccine is more to make autogenous cluster. Is this cluster or likely to confer protection. vaccine with highest vaccine. Choose any sub-cluster represented HI reactivity.\* Two main options: polyvalent vaccine. in any commercial vaccines? Standard Replicon particle (RP) A custom vaccine Sequence HA. Are any vaccine delivering autogenous vaccine strains >95% similar, is more likely to strain-specific HA vaccine confer protection. with no/few differences at Two main options: key antigenic sites? Re-attempt virus Replicon particle Vaccines may have Vaccines meeting isolation to (RP) vaccine limited efficacy. Choose these criteria are make standard deliverina the one with highest likely to protect. strain-specific HA autogenous vaccine. HA similarity -OR- make Choose the one with a custom vaccine highest HA similarity.\*

\* = Tests to identify the subtype and genetic cluster of an isolate can be performed simultaneously with HI assays to evaluate the efficacy of commercial vaccines against that isolate.