Example timeline of a herd closure and medication program for *Mycoplasma hyopneumoniae* eradication using aerosolization exposure with concurrent off-site *M. hyopneumoniae* negative breeding project

Modified from Yeske P, Betlach A, Hoist S, Pieters M. Eradication of *Mycoplasma hyopneumoniae* from pig herds. In: Maes D, Sibila M, Pieters M. eds. Mycoplasmas in swine. 1st ed. Acco Nederland, The Netherlands 2020; 229–245. (Table 12.2 (p. 239)) and McDowell E, Pieters M, Spronk T, Nerem J, Fano E, Dee S, Sponheim A. Duration of *Mycoplasma hyopneumoniae* detection in pigs following purposeful aerosol exposure. Vet Microbiol 2023; 282:109758. (Table 1).

Compiled by Sponheim, Fano, and Pieters, 2023.

Microsoft Word file available upon request at ahmhproadmap.us@boehringer-ingelheim.com.

DAY OF HERD CLOSURE	EVENT
-35	Deep tracheal secretion sampling to identify donors for exposure
-31	Treatment of potential donor animals with antibiotic of known *M. hyopneumoniae* resistance (*i.e.* compounds with activity directed at cell wall)
-29	Naïve *M. hyopneumoniae* replacement gilts received at GDU considered part of "herd" during closure
-28	Lung homogenate preparation and exposure at sow farm, collect bronchial swab(s) and obtain *M. hyopneumoniae* sequence for potential future comparison
-21	Lung homogenate exposure at GDU(s) considered part of "herd" during closure
-21	Concurrent off-site gilt breeding project: Begin receiving naïve *M. hyopneumoniae* replacement gilts at GDU not considered part of "herd" during closure (assumes receiving gilts around 3 weeks of age). Maintain replacement gilt vaccination program.
0	Deep tracheal secretion sampling from replacement gilt populations to confirm effective exposure (may be as early as 14 days post-exposure) *Sow population sample type will depend on historical exposure status. Historical acclimation program: serum and ELISA with interpretation of vaccine program; Naïve: deep tracheal secretion and PCR
0	**Begin herd closure, including *M. hyopneumoniae* exposed GDU(s).** There must be NO additions to resident/gilt pool populations, including saving back internal replacement gilts, or bringing in teaser boars. Limit sow herd culling to maintain breed targets. Maintain piglet and replacement gilt vaccination program.
0	Whole herd vaccination
30	Whole herd vaccination
60	Whole herd vaccination
168	Concurrent off-site gilt breeding project: Begin breeding *M. hyopneumoniae* negative gilts (30 week of age)
182	Wash and disinfect gestation and on-site GDU barns***
189	Whole sow herd medication***
189	Medication of all piglets on site***
189	Piglet treatment at birth***
203	Begin new whole herd antibiotic***
203	Begin piglet treatment at 14 days of age (treat all piglets 14 days of age and older)***
217	Last piglets treated at birth***
231	Last piglet treatment at 14 days of age***
240	Deep tracheal secretion sampling of breeding herd population to confirm eradication program success
240	**End herd closure.** If diagnostic criteria met, confirm program success and herd opens. If not, follow contingency plans (ie: extend closure, resample, etc).
268	*M. hyopneumoniae* confirmed negative bred replacement gilts enter breeding herd (assumes begin entering at ~100 days gestation). Allows additional time before farrowing if needed for contingency plan.
>268	Monitoring clinical signs and targeted testing to continue confirming project success in *M. hyopneumoniae* naive, unvaccinated replacement gilts. Piglet and replacement gilt vaccination commonly maintained, even after a successful eradication program.

**Activities specific to concurrent off-site gilt breeding project shaded dark grey

***Consult with herd veterinarian and/or manufacturers

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