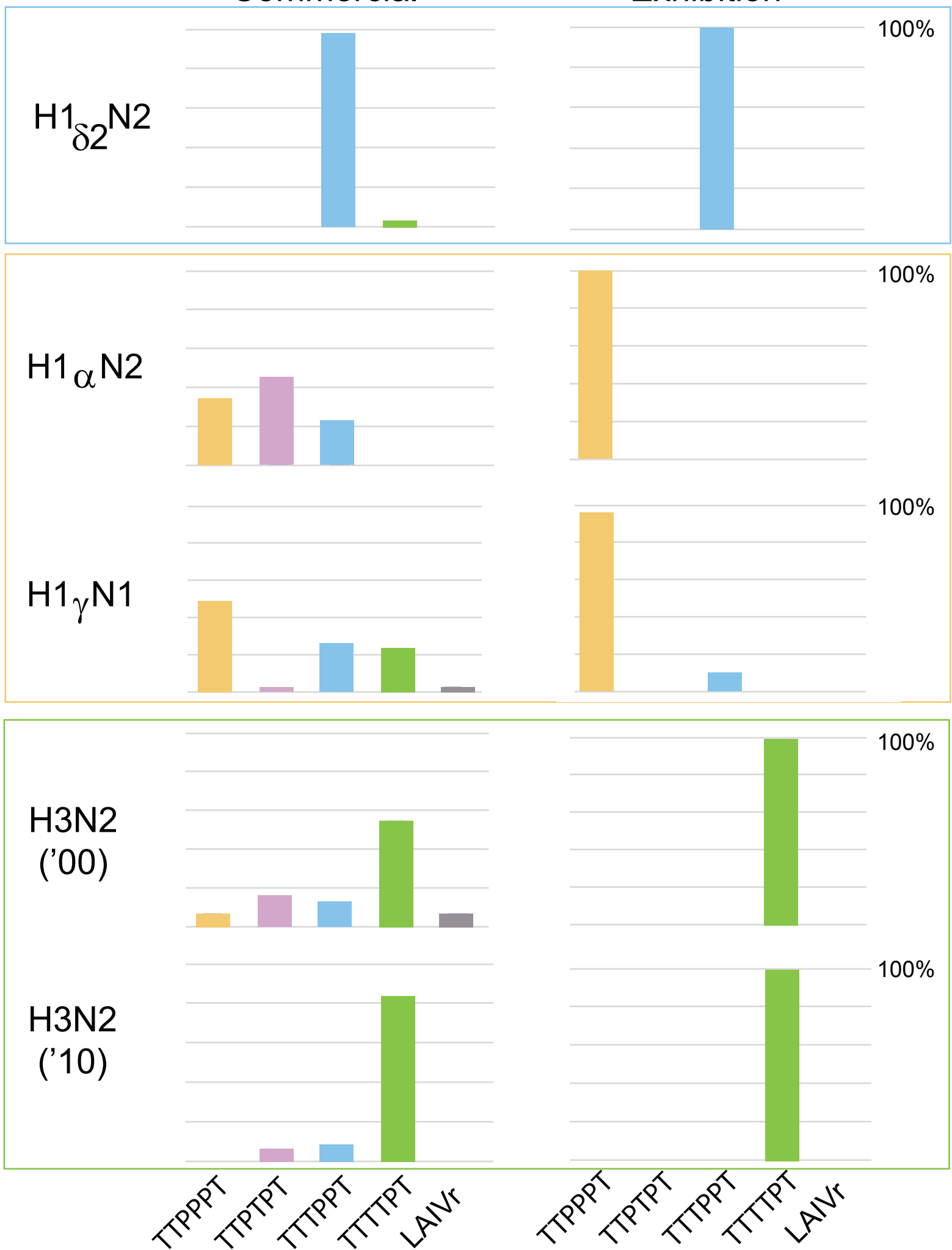




## Commercial

## Exhibition



**Figure S2. IAV segment combinations in commercial and exhibition swine.** The y-axis represents the proportion of IAVs with a specific HA-NA combination (left-hand column) that has a specific constellation of internal gene segments (listed on the x-axis), provided for commercial and exhibition swine in the United States during 2018. The six internal gene segments are listed in order of segment length, by convention: PB2, PB1, PA, NP, MP, and NS. The TRIG lineage is indicated with a T; the pandemic lineage is indicated with a P. Internal gene constellations that contain segments that are genetically related to the 1990s strains contained in the live-attenuated influenza vaccine are indicated (LAIVr).

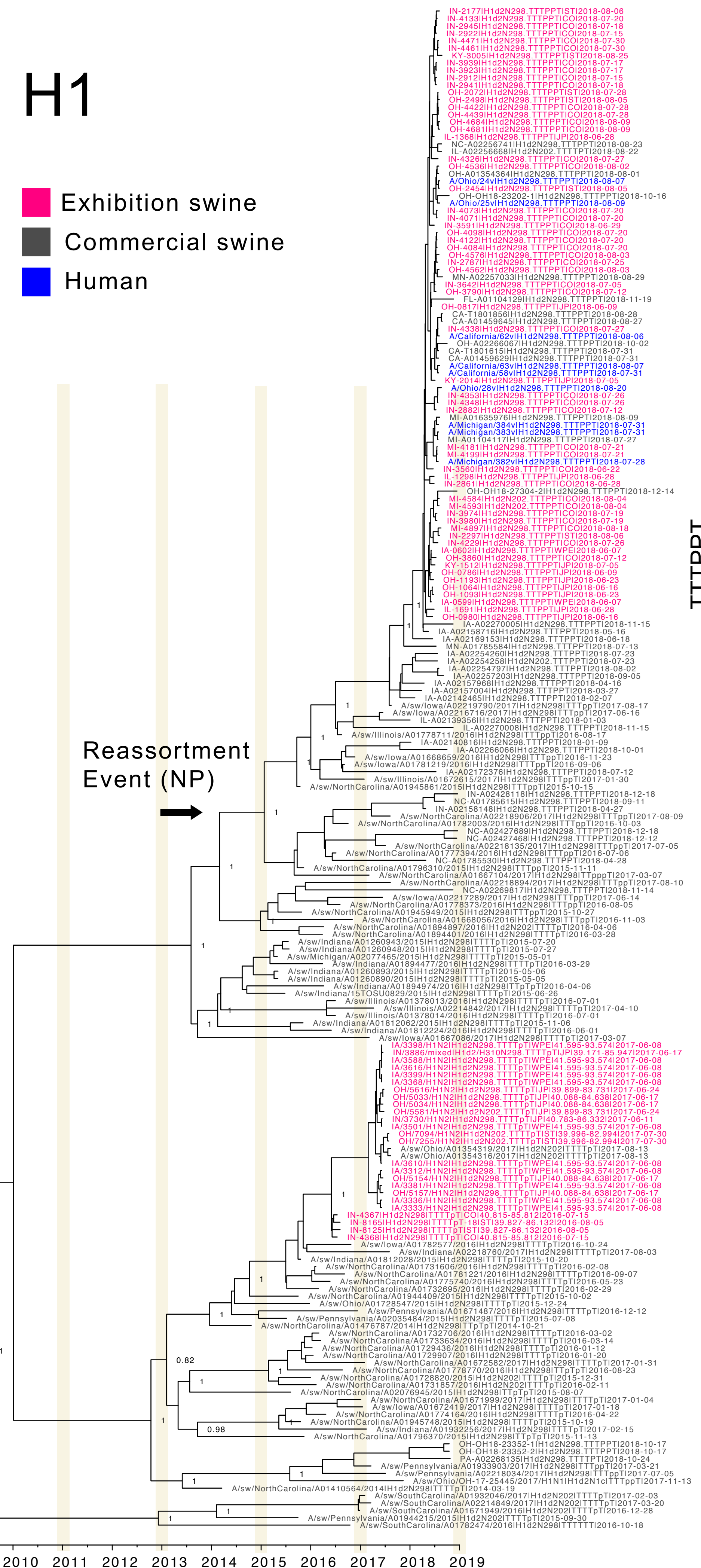
# H1

- Exhibition swine
- Commercial swine
- Human

Reassortment Event (NP)



TTTTPT



**Figure S3. Phylogenetic relationships of H1δ2 viruses circulating in US swine during 2015-2018.** Maximum likelihood tree inferred for H1δ2 viruses for which whole-genome sequence data were available. Viruses collected from exhibition swine are shaded pink; viruses from commercial swine are shaded grey; viruses from humans are shaded blue. The group of reassortant viruses with a pandemic NP (TTTTPT internal gene constellation) are indicated by a blue line.

**Table S1.** Genbank accession numbers for 212 IAV strains sequenced as a part of this study

Strain Name	1 PB2	2 PB1	3 PA	4 HA	5 NP	6 NA	7 MP	8 NS
A/swine/Illinois/18TOSU1297/2018	MN198325	MN198324	MN198323	MN198318	MN198321	MN198320	MN198319	MN198322
A/swine/Illinois/18TOSU1298/2018	MN198780	MN198779	MN198778	MN198773	MN198776	MN198775	MN198774	MN198777
A/swine/Illinois/18TOSU1300/2018	MN198716	MN198715	MN198714	MN198709	MN198712	MN198711	MN198710	MN198713
A/swine/Illinois/18TOSU1316/2018	MN198692	MN198691	MN198690	MN198685	MN198688	MN198687	MN198686	MN198689
A/swine/Illinois/18TOSU1322/2018	MN198700	MN198699	MN198698	MN198693	MN198696	MN198695	MN198694	MN198697
A/swine/Illinois/18TOSU1323/2018	MN198311	MN198310	MN198309	MN198304	MN198307	MN198306	MN198305	MN198308
A/swine/Illinois/18TOSU1346/2018	MN198271	MN198270	MN198269	MN198264	MN198267	MN198266	MN198265	MN198268
A/swine/Illinois/18TOSU1352/2018	MN198660	MN198659		MN198654	MN198657	MN198656	MN198655	MN198658
A/swine/Illinois/18TOSU1356/2018	MN198317		MN198316	MN198312		MN198314	MN198313	MN198315
A/swine/Illinois/18TOSU1358/2018	MN198215	MN198214	MN198213	MN198208	MN198211	MN198210	MN198209	MN198212
A/swine/Illinois/18TOSU1360/2018	MN198239	MN198238	MN198237	MN198232	MN198235	MN198234	MN198233	MN198236
A/swine/Illinois/18TOSU1361/2018	MN198477	MN198476	MN198475	MN198470	MN198473	MN198472	MN198471	MN198474
A/swine/Illinois/18TOSU1368/2018	MN198333	MN198332	MN198331	MN198326	MN198329	MN198328	MN198327	MN198330
A/swine/Illinois/18TOSU1375/2018	MN198461	MN198460	MN198459	MN198454	MN198457	MN198456	MN198455	MN198458
A/swine/Illinois/18TOSU1378/2018	MN198853	MN198852	MN198851	MN198846	MN198849	MN198848	MN198847	MN198850
A/swine/Illinois/18TOSU1383/2018	MN198397	MN198396	MN198395	MN198390	MN198393	MN198392	MN198391	MN198394
A/swine/Illinois/18TOSU1405/2018	MN198405	MN198404	MN198403	MN198398	MN198401	MN198400	MN198399	MN198402
A/swine/Illinois/18TOSU1411/2018	MN198263	MN198262	MN198261	MN198256	MN198259	MN198258	MN198257	MN198260
A/swine/Illinois/18TOSU1433/2018	MN198772	MN198771	MN198770	MN198765	MN198768	MN198767	MN198766	MN198769
A/swine/Illinois/18TOSU1465/2018	MN198533	MN198532	MN198531	MN198526	MN198529	MN198528	MN198527	MN198530
A/swine/Illinois/18TOSU1467/2018	MN198788	MN198787	MN198786	MN198781	MN198784	MN198783	MN198782	MN198785
A/swine/Illinois/18TOSU1469/2018	MN198724	MN198723	MN198722	MN198717	MN198720	MN198719	MN198718	MN198721
A/swine/Illinois/18TOSU1682/2018	MN198708	MN198707	MN198706	MN198701	MN198704	MN198703	MN198702	MN198705
A/swine/Illinois/18TOSU1691/2018	MN198453	MN198452	MN198451	MN198446	MN198449	MN198448	MN198447	MN198450
A/swine/Illinois/18TOSU1697/2018	MN198493	MN198492	MN198491	MN198486	MN198489	MN198488	MN198487	MN198490
A/swine/Illinois/18TOSU1705/2018	MN198629	MN198628	MN198627	MN198622	MN198625	MN198624	MN198623	MN198626
A/swine/Illinois/18TOSU1740/2018	MN198373	MN198372	MN198371	MN198366	MN198369	MN198368	MN198367	MN198370
A/swine/Illinois/18TOSU1742/2018	MN198445	MN198444	MN198443	MN198438	MN198441	MN198440	MN198439	MN198442
A/swine/Illinois/18TOSU1743/2018	MN198605	MN198604	MN198603	MN198598	MN198601	MN198600	MN198599	MN198602
A/swine/Illinois/18TOSU1744/2018	MN198549	MN198548	MN198547	MN198542	MN198545	MN198544	MN198543	MN198546
A/swine/Illinois/18TOSU1745/2018	MN198645	MN198644	MN198643	MN198638	MN198641	MN198640	MN198639	MN198642
A/swine/Illinois/18TOSU1765/2018	MN198621	MN198620	MN198619	MN198614	MN198617	MN198616	MN198615	MN198618
A/swine/Illinois/18TOSU1766/2018	MN198589	MN198588	MN198587	MN198582	MN198585	MN198584	MN198583	MN198586
A/swine/Indiana/18TOSU2177/2018	MN198869	MN198868	MN198867	MN198862	MN198865	MN198864	MN198863	MN198866
A/swine/Indiana/18TOSU2186/2018	MN198877	MN198876	MN198875	MN198870	MN198873	MN198872	MN198871	MN198874
A/swine/Indiana/18TOSU2225/2018	MN198885	MN198884	MN198883	MN198878	MN198881	MN198880	MN198879	MN198882
A/swine/Indiana/18TOSU2297/2018	MN198893	MN198892	MN198891	MN198886	MN198889	MN198888	MN198887	MN198890
A/swine/Indiana/18TOSU2787/2018	MN687381	MN687379	MN687383	MN687386	MN687380	MN687382	MN687384	MN687385
A/swine/Indiana/18TOSU2798/2018	MN686221		MN686220	MN686222	MN686225	MN686223	MN686224	MN686219
A/swine/Indiana/18TOSU2860/2018	MN198901	MN198900	MN198899	MN198894	MN198897	MN198896	MN198895	MN198898
A/swine/Indiana/18TOSU2861/2018	MN198909	MN198908	MN198907	MN198902	MN198905	MN198904	MN198903	MN198906

A/swine/Indiana/18TOSU2882/2018	MN686349	MN686348	MN686347	MN686353	MN686351	MN686354	MN686352	MN686350
A/swine/Indiana/18TOSU2892/2018	MN687392		MN687388	MN687387	MN687390		MN687389	MN687391
A/swine/Indiana/18TOSU2912/2018	MN686310	MN686313	MN686315	MN686312	MN686314	MN686311	MN686309	MN686308
A/swine/Indiana/18TOSU2922/2018	MN687468	MN687471	MN687469	MN687467	MN687466	MN687472	MN687473	MN687470
A/swine/Indiana/18TOSU2941/2018	MN687415	MN687417	MN687418	MN687414	MN687413	MN687411	MN687416	MN687412
A/swine/Indiana/18TOSU2945/2018	MN686319	MN686320	MN686323	MN686322	MN686324	MN686321	MN686318	MN686317
A/swine/Indiana/18TOSU3541/2018	MN687373		MN687376	MN687374	MN687377		MN687375	MN687378
A/swine/Indiana/18TOSU3560/2018	MN686459	MN686462	MN686458	MN686457	MN686463	MN686460	MN686464	MN686461
A/swine/Indiana/18TOSU3591/2018	MN687331	MN687332	MN687330	MN687327	MN687334	MN687333	MN687329	MN687328
A/swine/Indiana/18TOSU3605/2018	MH791951	MH791963	MH791948	MH791962	MH791952	MH791953	MH791944	MH791954
A/swine/Indiana/18TOSU3611/2018	MH791949	MH791950	MH791960	MH791959	MH791942	MH791961	MH791945	MH791947
A/swine/Indiana/18TOSU3614/2018	MH791964	MH791943	MH791957	MH791956	MH791946	MH791965	MH791955	MH791958
A/swine/Indiana/18TOSU3642/2018	MN686238	MN686241	MN686242	MN686239	MN686240	MN686243	MN686245	MN686244
A/swine/Indiana/18TOSU3656/2018	MN686435	MN686431	MN686432	MN686433	MN686430		MN686436	MN686434
A/swine/Indiana/18TOSU3744/2018	MN686736	MN686740	MN686739	MN686738	MN686741	MN686735	MN686742	MN686737
A/swine/Indiana/18TOSU3754/2018	MN687370	MN687369	MN687366	MN687368	MN687367	MN687365	MN687371	MN687372
A/swine/Indiana/18TOSU3774/2018	MN687463	MN687465	MN687464	MN687462	MN687459	MN687460	MN687461	MN687458
A/swine/Indiana/18TOSU3923/2018	MN686382	MN686379	MN686381	MN686380	MN686385	MN686384	MN686386	MN686383
A/swine/Indiana/18TOSU3939/2018	MN687399	MN687396	MN687394	MN687400	MN687401	MN687397	MN687395	MN687398
A/swine/Indiana/18TOSU3974/2018	MN687419	MN687421	MN687423	MN687420	MN687426	MN687425	MN687424	MN687422
A/swine/Indiana/18TOSU3980/2018	MN686710	MN686707	MN686705	MN686709	MN686704	MN686706	MN686703	MN686708
A/swine/Indiana/18TOSU4038/2018	MN686756	MN686757	MN686752	MN686751	MN686753		MN686755	MN686754
A/swine/Indiana/18TOSU4071/2018	MN686465	MN686469	MN686470	MN686466	MN686468	MN686471	MN686472	MN686467
A/swine/Indiana/18TOSU4073/2018	MN686718	MN686713	MN686714	MN686712	MN686715	MN686711	MN686717	MN686716
A/swine/Indiana/18TOSU4122/2018	MN687335	MN687342	MN687339	MN687337	MN687336	MN687338	MN687341	MN687340
A/swine/Indiana/18TOSU4133/2018	MN687408	MN687409	MN687404	MN687407	MN687402	MN687406	MN687405	MN687403
A/swine/Indiana/18TOSU4229/2018	MN686512	MN686510	MN686511	MN686517	MN686513	MN686516	MN686515	MN686514
A/swine/Indiana/18TOSU4326/2018	MN686633	MN686634	MN686637	MN686635	MN686631	MN686632	MN686630	MN686636
A/swine/Indiana/18TOSU4338/2018	MN686743	MN686749	MN686744	MN686747	MN686745	MN686750	MN686746	MN686748
A/swine/Indiana/18TOSU4348/2018	MN686601	MN686596	MN686594	MN686598	MN686600	MN686597	MN686595	MN686599
A/swine/Indiana/18TOSU4353/2018	MN686479	MN686475	MN686473	MN686477	MN686478	MN686480	MN686474	MN686476
A/swine/Indiana/18TOSU4461/2018	MN687432	MN687433	MN687430	MN687428	MN687434	MN687427	MN687429	MN687431
A/swine/Indiana/18TOSU4471/2018	MN686401	MN686399	MN686397	MN686400	MN686396	MN686395	MN686402	MN686398
A/swine/Iowa/18TOSU0351/2018	MK705268	MK705266	MK705264	MK705269	MK705270	MK705263	MK705265	MK705267
	MK793286	MK793284	MK793282	MK793287	MK793288	MK793281	MK793283	MK793285
A/swine/Iowa/18TOSU0355/2018	MK793294	MK793292	MK793290	MK793295	MK793296	MK793289	MK793291	MK793293
A/swine/Iowa/18TOSU0358/2018	MK705259		MK705260	MK705258	MK705262	MK705257	MK705261	MK705256
A/swine/Iowa/18TOSU0365/2018	MK705276	MK705274	MK705272	MK705277	MK705278	MK705271	MK705273	MK705275
	MK793302	MK793300	MK793298	MK793303	MK793304	MK793297	MK793299	MK793301
A/swine/Iowa/18TOSU0366/2018	MK705284	MK705282	MK705280	MK705285	MK705286	MK705279	MK705281	MK705283
	MK793310	MK793308	MK793306	MK793311	MK793312	MK793305	MK793307	MK793309
A/swine/Iowa/18TOSU0367/2018	MK705292	MK705290	MK705288	MK705293	MK705294	MK705287	MK705289	MK705291
	MK793318	MK793316	MK793314	MK793319	MK793320	MK793313	MK793315	MK793317
A/swine/Iowa/18TOSU0368/2018	MK793326	MK793324	MK793322	MK793327	MK793328	MK793321	MK793323	MK793325

A/swine/lowa/18TOSU0369/2018	MK705300	MK705298	MK705296	MK705301	MK705302	MK705295	MK705297	MK705299
	MK793334	MK793332	MK793330	MK793335	MK793336	MK793329	MK793331	MK793333
A/swine/lowa/18TOSU0370/2018	MK705308	MK705306	MK705304	MK705309	MK705310	MK705303	MK705305	MK793274
	MK793277		MK793278	MK793276	MK793280	MK793275	MK793279	MK705307
A/swine/lowa/18TOSU0371/2018	MK705316	MK705314	MK705312	MK705317	MK705318	MK705311	MK705313	MK705315
	MK793342	MK793340	MK793338	MK793343	MK793344	MK793337	MK793339	MK793341
A/swine/lowa/18TOSU0372/2018	MK705324	MK705322	MK705320	MK705325	MK705326	MK705319	MK705321	MK705323
	MK793350	MK793348	MK793346	MK793351	MK793352	MK793345	MK793347	MK793349
A/swine/lowa/18TOSU0373/2018	MK705328	MK705334	MK705332	MK705329	MK705330	MK705331	MK705333	MK705327
	MK705336	MK705342	MK705340	MK705337	MK705338	MK705339	MK705341	MK705335
	MK793355	MK793358	MK793356	MK793354	MK793359	MK793353	MK793357	MK793360
A/swine/lowa/18TOSU0374/2018	MK705348	MK705346	MK705344	MK705349	MK705350	MK705343	MK705345	MK705347
	MK793366	MK793364	MK793362	MK793367	MK793368	MK793361	MK793363	MK793365
A/swine/lowa/18TOSU0383/2018	MK705356	MK705354	MK705352	MK705357	MK705358	MK705351	MK705353	MK705355
A/swine/lowa/18TOSU0387/2018	MK705364	MK705362	MK705360	MK705365	MK705366	MK705359	MK705361	MK705363
A/swine/lowa/18TOSU0389/2018	MK705372	MK705370	MK705368	MK705373	MK705374	MK705367	MK705369	MK705371
A/swine/lowa/18TOSU0394/2018	MK705380	MK705378	MK705376	MK705381	MK705382	MK705375	MK705377	MK705379
	MK705388	MK705386	MK705384	MK705389	MK705390	MK705383	MK705385	MK705387
A/swine/lowa/18TOSU0429/2018	MK705396	MK705394	MK705392	MK705397	MK705398	MK705391	MK705393	MK705395
A/swine/lowa/18TOSU0484/2018	MK705404	MK705402	MK705400	MK705405	MK705406	MK705399	MK705401	MK705403
A/swine/lowa/18TOSU0488/2018	MK705412	MK705410	MK705408	MK705413	MK705414	MK705407	MK705409	MK705411
A/swine/lowa/18TOSU0490/2018	MK705420	MK705418	MK705416	MK705421	MK705422	MK705415	MK705417	MK705419
A/swine/lowa/18TOSU0491/2018	MK705428	MK705426	MK705424	MK705429	MK705430	MK705423	MK705425	MK705427
A/swine/lowa/18TOSU0493/2018	MK705436	MK705434	MK705432	MK705437	MK705438	MK705431	MK705433	MK705435
A/swine/lowa/18TOSU0494/2018	MK705444	MK705442	MK705440	MK705445	MK705446	MK705439	MK705441	MK705443
A/swine/lowa/18TOSU0502/2018	MK705452	MK705450	MK705448	MK705453	MK705454	MK705447	MK705449	MK705451
A/swine/lowa/18TOSU0505/2018	MK705460	MK705458	MK705464	MK705469	MK705462	MK705463	MK705465	MK705459
	MK705468	MK705466	MK705456	MK705461	MK705470	MK705455	MK705457	MK705467
A/swine/lowa/18TOSU0509/2018	MK705476	MK705474	MK705472	MK705477	MK705478	MK705471	MK705473	MK705475
A/swine/lowa/18TOSU0525/2018	MK705484	MK705482	MK705480	MK705485	MK705486	MK705479	MK705481	MK705483
A/swine/lowa/18TOSU0527/2018	MK705492	MK705490	MK705488	MK705493	MK705494	MK705487	MK705489	MK705491
A/swine/lowa/18TOSU0528/2018	MK705500	MK705498	MK705496	MK705501	MK705502	MK705495	MK705497	MK705499
A/swine/lowa/18TOSU0540/2018	MK705508	MK705506	MK705504	MK705509	MK705510	MK705503	MK705505	MK705507
A/swine/lowa/18TOSU0571/2018	MK705516	MK705514	MK705512	MK705517	MK705518	MK705511	MK705513	MK705515
	MK705524	MK705522	MK705520	MK705525	MK705526	MK705519	MK705521	MK705523
A/swine/lowa/18TOSU0575/2018	MK705532	MK705530	MK705528	MK705533	MK705534	MK705527	MK705529	MK705531
A/swine/lowa/18TOSU0585/2018	MK705540	MK705538	MK705536	MK705541	MK705542	MK705535	MK705537	MK705539
A/swine/lowa/18TOSU0599/2018	MK705548	MK705546	MK705544	MK705549	MK705550	MK705543	MK705545	MK705547
A/swine/lowa/18TOSU0602/2018	MK705556	MK705554	MK705552	MK705557	MK705558	MK705551	MK705553	MK705555
	MK705564	MK705562	MK705560	MK705565	MK705566	MK705559	MK705561	MK705563
A/swine/lowa/18TOSU0603/2018	MK705568	MK705572	MK705570	MK705575	MK705576	MK705569	MK705571	MK705567
	MK705574	MK705582	MK705578	MK705580	MK705581	MK705577	MK705579	MK705573
A/swine/lowa/18TOSU0604/2018	MK705588	MK705586	MK705584	MK705589	MK705590	MK705583	MK705585	MK705587
A/swine/lowa/18TOSU0605/2018	MK705596	MK705594	MK705592	MK705597	MK705598	MK705591	MK705593	MK705595
A/swine/lowa/18TOSU0608/2018	MK705604	MK705602	MK705600	MK705605	MK705606	MK705599	MK705601	MK705603
A/swine/lowa/18TOSU0609/2018	MK705612	MK705610	MK705608	MK705613	MK705614	MK705607	MK705609	MK705611
A/swine/lowa/18TOSU0614/2018	MK705620	MK705618	MK705616	MK705621	MK705622	MK705615	MK705617	MK705619



A/swine/lowa/18TOSU0625/2018	MK705628	MK705626	MK705624	MK705629	MK705630	MK705623	MK705625	MK705627
A/swine/lowa/18TOSU0626/2018	MK705636	MK705634	MK705632	MK705637	MK705638	MK705631	MK705633	MK705635
A/swine/lowa/18TOSU0636/2018	MK705644	MK705642	MK705640	MK705645	MK705646	MK705639	MK705641	MK705643
A/swine/lowa/18TOSU0641/2018	MK705660	MK705658	MK705648	MK705661	MK705662	MK705647	MK705651	MK705659
	MK705654	MK705652	MK705650	MK705655	MK705656	MK705649	MK705657	MK705653
A/swine/lowa/18TOSU0642/2018	MK705668	MK705666	MK705664	MK705669	MK705670	MK705663	MK705665	MK705667
A/swine/lowa/18TOSU0644/2018	MK705676	MK705674	MK705672	MK705677	MK705678	MK705671	MK705673	MK705675
A/swine/lowa/18TOSU0645/2018	MK705684	MK705682	MK705680	MK705685	MK705686	MK705679	MK705681	MK705683
A/swine/lowa/18TOSU0649/2018	MK705692	MK705690	MK705688	MK705693	MK705694	MK705687	MK705689	MK705691
A/swine/lowa/18TOSU0739/2018	MK705252		MK705253	MK705251	MK705255	MK705250	MK705254	MK705249
A/swine/lowa/18TOSU0750/2018	MK705700	MK705698	MK705696	MK705701	MK705702	MK705695	MK705697	MK705699
A/swine/lowa/18TOSU0751/2018	MK705708	MK705706	MK705704	MK705709	MK705710	MK705703	MK705705	MK705707
	MK705714		MK705715	MK705713	MK705717	MK705712	MK705716	MK705711
A/swine/lowa/18TOSU0767/2018	MK705723	MK705721	MK705719	MK705724	MK705725	MK705718	MK705720	MK705722
A/swine/lowa/18TOSU0771/2018	MK705731	MK705729	MK705727	MK705732	MK705733	MK705726	MK705728	MK705730
A/swine/lowa/18TOSU0774/2018	MK705739	MK705737	MK705735	MK705740	MK705741	MK705734	MK705736	MK705738
A/swine/lowa/18TOSU0775/2018	MK705747	MK705745	MK705743	MK705748	MK705749	MK705742	MK705744	MK705746
A/swine/lowa/18TOSU2663/2018	MN198917	MN198916	MN198915	MN198910	MN198913	MN198912	MN198911	MN198914
A/swine/lowa/18TOSU2664/2018	MN686497	MN686496	MN686494	MN686491	MN686495	MN686490	MN686492	MN686493
A/swine/Kentucky/18TOSU1487/2018	MN198613	MN198612	MN198611	MN198606	MN198609	MN198608	MN198607	MN198610
A/swine/Kentucky/18TOSU1508/2018	MN198341	MN198340	MN198339	MN198334	MN198337	MN198336	MN198335	MN198338
A/swine/Kentucky/18TOSU1512/2018	MN198812	MN198811	MN198810	MN198805	MN198808	MN198807	MN198806	MN198809
A/swine/Kentucky/18TOSU1535/2018	MN198828	MN198827	MN198826	MN198821	MN198824	MN198823	MN198822	MN198825
A/swine/Kentucky/18TOSU1555/2018	MN198303	MN198302	MN198301	MN198296	MN198299	MN198298	MN198297	MN198300
A/swine/Kentucky/18TOSU1596/2018	MN198365	MN198364	MN198363	MN198358	MN198361	MN198360	MN198359	MN198362
A/swine/Kentucky/18TOSU1612/2018	MN198820	MN198819	MN198818	MN198813	MN198816	MN198815	MN198814	MN198817
A/swine/Kentucky/18TOSU1636/2018	MN198804	MN198803	MN198802	MN198797	MN198800	MN198799	MN198798	MN198801
A/swine/Kentucky/18TOSU1638/2018	MN198525	MN198524	MN198523	MN198518	MN198521	MN198520	MN198519	MN198522
A/swine/Kentucky/18TOSU1648/2018	MN198255	MN198254	MN198253	MN198248	MN198251	MN198250	MN198249	MN198252
A/swine/Kentucky/18TOSU1939/2018	MN198421	MN198420	MN198419	MN198414	MN198417	MN198416	MN198415	MN198418
A/swine/Kentucky/18TOSU1953/2018	MN198199	MN198198	MN198197	MN198192	MN198195	MN198194	MN198193	MN198196
A/swine/Kentucky/18TOSU1961/2018	MN198732	MN198731	MN198730	MN198725	MN198728	MN198727	MN198726	MN198729
A/swine/Kentucky/18TOSU2014/2018	MN198796	MN198795	MN198794	MN198789	MN198792	MN198791	MN198790	MN198793
A/swine/Kentucky/18TOSU2043/2018	MN198676	MN198675	MN198674	MN198669	MN198672	MN198671	MN198670	MN198673
A/swine/Kentucky/18TOSU3005/2018	MN687436	MN687442	MN687443	MN687441	MN687440	MN687439	MN687437	MN687438
A/swine/Kentucky/18TOSU3008/2018	MN686246		MN686252	MN686247	MN686251	MN686250	MN686249	MN686248
A/swine/Michigan/18TOSU4181/2018	MN686487	MN686482	MN686484	MN686488	MN686485	MN686486	MN686489	MN686483
A/swine/Michigan/18TOSU4199/2018	MN687451	MN687449	MN687448	MN687444	MN687445	MN687446	MN687450	MN687447
A/swine/Michigan/18TOSU4584/2018	MN686332	MN686326	MN686331	MN686328	MN686325	MN686329	MN686327	MN686330
A/swine/Michigan/18TOSU4588/2018	MN686378		MN686372	MN686377	MN686374	MN686376	MN686373	MN686375
A/swine/Michigan/18TOSU4593/2018	MN686456	MN686454	MN686453	MN686455	MN686451	MN686452	MN686450	MN686449
A/swine/Michigan/18TOSU4887/2018	MN687322		MN687317	MN687320	MN687318		MN687319	MN687321
A/swine/Michigan/18TOSU4897/2018	MN686232	MN686230	MN686231	MN686233	MN686229	MN686226	MN686228	MN686227
A/swine/Ohio/18TOSU0243/2018	MN198668	MN198667	MN198666	MN198661	MN198664	MN198663	MN198662	MN198665

A/swine/Ohio/18TOSU0251/2018	MN198861	MN198860	MN198859	MN198854	MN198857	MN198856	MN198855	MN198858
A/swine/Ohio/18TOSU0265/2018	MN198684	MN198683	MN198682	MN198677	MN198680	MN198679	MN198678	MN198681
A/swine/Ohio/18TOSU0282/2018	MN198637	MN198636	MN198635	MN198630	MN198633	MN198632	MN198631	MN198634
A/swine/Ohio/18TOSU0288/2018	MN198381	MN198380	MN198379	MN198374	MN198377	MN198376	MN198375	MN198378
A/swine/Ohio/18TOSU0289/2018	MN198557	MN198556	MN198555	MN198550	MN198553	MN198552	MN198551	MN198554
A/swine/Ohio/18TOSU0296/2018	MN198740	MN198739	MN198738	MN198733	MN198736	MN198735	MN198734	MN198737
A/swine/Ohio/18TOSU0303/2018	MN198429	MN198428	MN198427	MN198422	MN198425	MN198424	MN198423	MN198426
A/swine/Ohio/18TOSU0306/2018	MN198287	MN198286	MN198285	MN198280	MN198283	MN198282	MN198281	MN198284
A/swine/Ohio/18TOSU0313/2018	MN198485	MN198484	MN198483	MN198478	MN198481	MN198480	MN198479	MN198482
A/swine/Ohio/18TOSU0330/2018	MN198349	MN198348	MN198347	MN198342	MN198345	MN198344	MN198343	MN198346
A/swine/Ohio/18TOSU0332/2018	MN198279	MN198278	MN198277	MN198272	MN198275	MN198274	MN198273	MN198276
A/swine/Ohio/18TOSU0333/2018	MN198501	MN198500	MN198499	MN198494	MN198497	MN198496	MN198495	MN198498
A/swine/Ohio/18TOSU0342/2018	MN198845	MN198844	MN198842 MN198843	MN198837 MN198838		MN198840	MN198839	MN198841
A/swine/Ohio/18TOSU0344/2018	MN198565	MN198564	MN198563	MN198558	MN198561	MN198560	MN198559	MN198562
A/swine/Ohio/18TOSU0786/2018	MN198357	MN198356	MN198355	MN198350	MN198353	MN198352	MN198351	MN198354
A/swine/Ohio/18TOSU0814/2018	MN198509	MN198508	MN198507	MN198502	MN198505	MN198504	MN198503	MN198506
A/swine/Ohio/18TOSU0817/2018	MN198748	MN198747	MN198746	MN198741	MN198744	MN198743	MN198742	MN198745
A/swine/Ohio/18TOSU0822/2018	MN198581	MN198580	MN198579	MN198574	MN198577	MN198576	MN198575	MN198578
A/swine/Ohio/18TOSU0852/2018	MN198836	MN198835	MN198834	MN198829	MN198832	MN198831	MN198830	MN198833
A/swine/Ohio/18TOSU0888/2018	MN198517	MN198516	MN198515	MN198510	MN198513	MN198512	MN198511	MN198514
A/swine/Ohio/18TOSU0937/2018	MN198597	MN198596	MN198595	MN198590	MN198593	MN198592	MN198591	MN198594
A/swine/Ohio/18TOSU0944/2018	MN198231	MN198230	MN198229	MN198224	MN198227	MN198226	MN198225	MN198228
A/swine/Ohio/18TOSU0973/2018	MN198469	MN198468	MN198467	MN198462	MN198465	MN198464	MN198463	MN198466
A/swine/Ohio/18TOSU0974/2018	MN198207	MN198206	MN198205	MN198200	MN198203	MN198202	MN198201	MN198204
A/swine/Ohio/18TOSU0980/2018	MN198389	MN198388	MN198387	MN198382	MN198385	MN198384	MN198383	MN198386
A/swine/Ohio/18TOSU0982/2018	MN198573	MN198572	MN198571	MN198566	MN198569	MN198568	MN198567	MN198570
A/swine/Ohio/18TOSU1022/2018	MN198413	MN198412	MN198411	MN198406	MN198409	MN198408	MN198407	MN198410
A/swine/Ohio/18TOSU1050/2018	MN198541	MN198540	MN198539	MN198534	MN198537	MN198536	MN198535	MN198538
A/swine/Ohio/18TOSU1064/2018	MN198764	MN198763	MN198762	MN198757	MN198760	MN198759	MN198758	MN198761
A/swine/Ohio/18TOSU1093/2018	MN198247	MN198246	MN198245	MN198240	MN198243	MN198242	MN198241	MN198244
A/swine/Ohio/18TOSU1164/2018	MN198653	MN198652	MN198651	MN198646	MN198649	MN198648	MN198647	MN198650
A/swine/Ohio/18TOSU1193/2018	MN198437	MN198436	MN198435	MN198430	MN198433	MN198432	MN198431	MN198434
A/swine/Ohio/18TOSU1194/2018	MN198223	MN198222	MN198221	MN198216	MN198219	MN198218	MN198217	MN198220
A/swine/Ohio/18TOSU1198/2018	MN198756	MN198755	MN198754	MN198749	MN198752	MN198751	MN198750	MN198753
A/swine/Ohio/18TOSU1210/2018	MN198295	MN198294	MN198293	MN198288	MN198291	MN198290	MN198289	MN198292
A/swine/Ohio/18TOSU2072/2018	MN198925	MN198924	MN198923	MN198918	MN198921	MN198920	MN198919	MN198922
A/swine/Ohio/18TOSU2454/2018	MN198933	MN198932	MN198931	MN198926	MN198929	MN198928	MN198927	MN198930
A/swine/Ohio/18TOSU2498/2018	MN686440	MN686441	MN686443	MN686438	MN686442	MN686439	MN686445	MN686444
A/swine/Ohio/18TOSU3783/2018	MN687456		MN687453	MN687455	MN687452		MN687457	MN687454
A/swine/Ohio/18TOSU3790/2018	MN687364	MN687357	MN687358	MN687361	MN687360	MN687359	MN687362	MN687363
A/swine/Ohio/18TOSU3842/2018	MN687343		MN687347	MN687346	MN687345		MN687344	MN687348
A/swine/Ohio/18TOSU3860/2018	MN686642	MN686644	MN686641	MN686646	MN686645	MN686647	MN686640	MN686643
A/swine/Ohio/18TOSU4084/2018	MN686416	MN686415	MN686414	MN686412	MN686418	MN686417	MN686411	MN686413



A/swine/Ohio/18TOSU4098/2018	MN686406	MN686408	MN686409	MN686405	MN686410	MN686404	MN686403	MN686407
A/swine/Ohio/18TOSU4422/2018	MN687351	MN687350	MN687349	MN687356	MN687354	MN687352	MN687353	MN687355
A/swine/Ohio/18TOSU4439/2018	MN686726	MN686722	MN686724	MN686721	MN686723	MN686720	MN686725	MN686719
A/swine/Ohio/18TOSU4522/2018	MH922886	MH922881	MH922884	MH922878	MH922883	MH922888	MH922892	MH922889
A/swine/Ohio/18TOSU4536/2018	MH922890	MH922885	MH922887	MH922879	MH922891	MH922877	MH922882	MH922880
A/swine/Ohio/18TOSU4562/2018	MN686388	MN686387	MN686394	MN686392	MN686389	MN686391	MN686393	MN686390
A/swine/Ohio/18TOSU4576/2018	MN686426	MN686420	MN686422	MN686419	MN686421	MN686423	MN686425	MN686424
A/swine/Ohio/18TOSU4681/2018	MN686361	MN686356	MN686362	MN686358	MN686360	MN686355	MN686357	MN686359
A/swine/Ohio/18TOSU4684/2018	MN686502	MN686509	MN686506	MN686503	MN686504	MN686505	MN686507	MN686508
A/swine/Ohio/18TOSU5106/2018	MN686522		MN686523	MN686519	MN686518		MN686520	MN686521
A/swine/Ohio/18TOSU5117/2018	MN686266		MN686269	MN686271	MN686270		MN686267	MN686268