

Supplementary data for the general research project report - Risk factors associated with the abundance of antimicrobial resistance gene *tet(W)* and class 1 integron (*int1*) in pigs in the Netherlands

Table 6 – Univariable analysis for the *tet(W)* model including all farms

Determinants	Category	N	Estimate	95% CI	p-value
Farm characteristics					
Average lactation period (days)*		372	0.0095	-0.0010-0.5609	0.06
Mean number of weaned piglets per litter*		372	0.0256	0.0036-0.0459	0.02
Mean number of weaned piglets per sow per year*		372	0.0097	0.0008-0.018	0.03
Mean growth per piglet per day		367	0.0011	0.0003-0.0017	0.002
Frequency of removal of rearing gilts*		362	-0.0055	-0.0085-(-0.0019)	0.002
Percentage of loss of sows per year		348	-0.0017	-0.0031-(-0.0002)	0.03
Hygiene					
On the farm, there are also sheep present*	No	307	0.57	Ref	-
	Yes	70	-0.12	-0.23-0.01	0.04
When treating piglets, gloves are always worn*	No	289	0.49	Ref	-
	Yes	83	0.21	0.05-0.31	<0.01
Biosecurity					
There is only one entrance to the farm, which is the hygiene lock, other doors are locked	No	163	0.54	Ref	-
	Yes	209	-0.07	-0.15-(-0.001)	0.06
The farm's terrain is paved and cleaned up	No	40	0.62	Ref	-
	Yes	327	-0.13	-0.23-(-0.02)	0.03
The farmer and his co-workers use the hygiene lock in the same way as visitors do	No	192	0.57	Ref	-
	Yes	180	-0.09	-0.16-(-0.01)	0.03
Birds are able to enter the sheds	No	278	0.51	Ref	-
	Yes	90	0.09	0.01-0.18	0.05
There is a delivery platform for the piglets, preventing the truck from parking directly against the shed*	No	222	0.54	Ref	-
	Yes	135	-0.17	-0.25-(-0.09)	<0.001
Transport trucks are clean, empty and disinfected when they arrive on the farm to load the sows*	No	115	0.47	Ref	-
	Yes	257	0.11	0.01-0.19	0.02
Small destruction materials can be thrown into the cooler from the clean road	No	248	0.51	Ref	-
	Yes	124	0.08	-0.02-0.16	0.08
Animal care					
All piglets are given an injection of antibiotics in their first week of life	No	133	0.41	Ref	-
	Yes	229	0.13	0.04-0.21	0.01
When treating the piglets, gloves are worn	No	254	0.48	Ref	-
	Yes	118	0.11	-0.01-0.20	0.03
Needles for vaccination of sows are renewed*	Once a day	103	0.58	Ref	-
	Once a week	45	-0.01	-0.16-0.14	0.88
	When necessary	80	-0.16	-0.26-(-0.04)	<0.001
	Multiple times a day	144	0.13	-0.22-(-0.01)	0.01
After the third day, piglets can still be switched	No	228	0.53	Ref	-
	Yes	144	-0.11	-0.18-(-0.03)	0.01
Supervision of the animals is possible from the central hall way	No	189	0.61	Ref	-
	Yes	148	-0.07	-0.15-0.002	0.08
Cadaver bags are used.	No	268	0.54	Ref	-
	Yes	104	-0.08	-0.17-0.01	0.07
Cleaning					

After cleaning the piglet section, there is a dry period of at least 24 hours	No	104	0.60	Ref	-
	Yes	268	-0.10	-0.17-(-0.03)	0.01
After cleaning the farrowing passage, there is a dry period of at least 24 hours*	No	323	0.49	Ref	-
	Yes	49	0.11	-0.01-0.21	0.06
After cleaning the rearing gilt passage, there is a dry period of at least 24 hours	No	313	0.48	Ref	-
	Yes	59	0.14	0.03-0.24	<0.01
Piglet passage is cleaned with soaking agent	No	313	0.54	Ref	-
	Yes	59	-0.09	-0.19-0.002	0.07
Piglet passage is cleaned by sweeping	No	312	0.54	Ref	-
	Yes	60	-0.13	-0.22-(-0.03)	0.01
Gilt passage is cleaned with disinfection agent	No	313	0.51	Ref	-
	Yes	59	0.11	-0.02-0.21	0.05
Gilt passage is cleaned by sweeping	No	242	0.55	Ref	-
	Yes	130	-0.07	-0.14-0.0001	0.05
Mating section is cleaned with cold water	No	89	0.42	Ref	-
	Yes	283	0.09	0.06-0.19	0.03
After cleaning the mating section, there is a dry period of at least 24 hours	No	332	0.50	Ref	-
	Yes	40	0.10	-0.02-0.20	0.10
Mating section is not cleaned*	No	323	0.51	Ref	-
	Yes	49	-0.12	-0.24-(-0.01)	0.04
Planning					
Work is visibly done with a day planner	No	188	0.58	Ref	-
	Yes	169	-0.11	-0.19-(-0.03)	0.01
Feeding					
Piglets with sow are fed with dry feed	No	90	0.57	Ref	-
	Yes	282	-0.11	-0.19-(-0.02)	0.02
Piglets with sow are fed with milk	No	205	0.45	Ref	-
	Yes	167	0.12	0.06-0.18	<0.01
Piglets with sow are fed with mush/pulp	No	203	0.32	Ref	-
	Yes	169	0.22	0.13-0.29	<0.01
Water supply					
In the gilt section drinking water is mainly supplied via a nipple	No	147	0.59	Ref	-
	Yes	225	-0.09	-0.16-(-0.007)	0.02
In the farrowing section drinking water is mainly supplied via a nipple	No	44	0.67	Ref	-
	Yes	328	-0.17	-0.28-(-0.03)	0.01
In the piglet section drinking water is mainly supplied via a water bowl	No	85	0.57	Ref	-
	Yes	287	-0.12	-0.21-(-0.04)	0.01

* Variable was excluded from the backward elimination analysis due to VIF score>5

Table 7 - Univariable analysis for the tet(W) model including farrow-to-finish farms

Determinants	Category	N	Estimate	95% CI	p-value
Farm characteristics					
Average lactation period (days)*		243	0.0117	0.0005-0.0228	0.04
Mean number of weaned piglets per sow per year*		243	0.0082	-0.0014-0.017	0.09
Mean growth per piglet per day		238	0.0009	0.0002-0.0017	0.01
Mean growth per fatterer pig per year*		228	0.0002	0.00002-0.0005	0.03
Frequency of removal of rearing gilts		233	0.0121	-0.0211-(-0.0024)	0.008
Percentage of loss of sows per year		223	-0.0016	-0.0031-0.00002	0.07
Hygiene					
When treating piglets, gloves are always worn*	No	165	0.54	Ref	-
	Yes	78	0.18	0.0003-0.34	0.01
On the farm, there are also cattle present	No	208	0.55	Ref	-
	Yes	35	0.12	-0.02-0.26	0.10
Considering hygienic measures, direction of work is from young to old	No	89	0.61	Ref	-
	Yes	149	-0.08	-0.17-0.004	0.07
Biosecurity					
The farm's terrain is paved and cleaned up	No	30	0.74	Ref	-
	Yes	213	-0.20	-0.32-(-0.07)	0.01
The farmer and his co-workers use the hygiene lock in the same way as visitors do	No	118	0.62	Ref	-
	Yes	125	-0.09	-0.18-0.004	0.08
There is a delivery platform for the piglets, preventing the truck from parking directly against the shed	No	158	0.62	Ref	-
	Yes	70	-0.18	-0.28-(-0.09)	<0.01
There is a delivery room for materials and bagged goods. Materials are not delivered directly to the farm (passages)	No	79	0.63	Ref	-
	Yes	149	-0.09	-0.17-0.002	0.07
Pest control is handed over to a professional organisation	No	74	0.50	Ref	-
	Yes	169	0.15	0.04-0.25	0.01
Animal care					
All piglets are given an injection of antibiotics in their first week of life.	No	79	0.49	Ref	-
	Yes	154	0.14	0.04-0.24	0.01
The piglets and/or fatteners are vaccinated	No	70	0.50	Ref	-
	Yes	173	0.15	0.06-0.24	<0.01
Needles for vaccination of sows are renewed*	Once a day	43	0.64	Ref	-
	Once a week	45	0.001	-0.16-0.15	0.96
	When necessary	60	-0.18	-0.32-0.16	0.01
	Multiple times a day	95	-0.7	-0.21-(-0.02)	0.33

After the third day, piglets can still be switched*	No	169	0.58	Ref	-
	Yes	74	-0.11	-0.21-(-0.01)	0.03
Cleaning					
After cleaning the piglet section, there is a dry period of at least 24 hours*	No	59	0.69	Ref	-
	Yes	184	-0.12	-0.21-(-0.02)	0.02
Piglet passage is cleaned by sweeping	No	208	0.60	Ref	-
	Yes	35	-0.13	-0.26-0.01	0.06
Gilt passage is cleaned by sweeping	No	158	0.63	Ref	-
	Yes	85	-0.09	-0.18-0.01	0.07
Fattener passage is cleaned with disinfection agent	No	194	0.59	Ref	-
	Yes	49	-0.13	-0.24-(-0.02)	0.04
Fattener passage is cleaned with soaking agent	No	194	0.58	Ref	-
	Yes	49	-0.12	-0.23-(-0.01)	0.04
Planning					
Work is visibly done with a day planner*	No	109	0.65	Ref	-
	Yes	119	-0.14	-0.23-(-0.05)	<0.01
The date of placement is present on the section doors*	No	40	0.65	Ref	-
	Yes	198	-0.14	-0.25-(-0.02)	0.03
Feeding					
Piglets with sow are fed with dry feed	No	55	0.65	Ref	-
	Yes	188	-0.11	-0.23-0.008	0.03
Piglets with sow are fed with milk	No	130	0.49	Ref	-
	Yes	113	0.16	0.08-0.24	<0.01
Piglets with sow are fed with mush/pulp*	No	124	0.33	Ref	-
	Yes	119	0.26	0.16-0.35	<0.01
Water supply					
In the gilt section drinking water is mainly supplied via a nipple*	No	78	0.70	Ref	-
	Yes	165	-0.13	-0.22-(-0.04)	0.01
In the piglet section drinking water is mainly supplied via a water bowl*	No	80	0.62	Ref	-
	Yes	163	-0.12	-0.21-(-0.03)	0.02
In the fattener section drinking water is mainly supplied via a water bowl*	No	199	0.55	Ref	-
	Yes	44	-0.12	-0.24-0.007	0.08
A separate medication pipe is present on the farm*	No	75	0.65	Ref	-
	Yes	153	-0.15	-0.24-(-0.06)	0.01
Water medication is possible per section*	No	35	0.68	Ref	-
	Yes	193	-0.15	-0.27-(-0.03)	0.02

* Variable was excluded from the backward elimination analysis due to VIF score>5

Table 8 - Univariable analysis for the intl1 model

Determinants	Category	N	Estimate	95% CI	p-value
Farm characteristics					
Average lactation period (days)		358	-0.04	-0.06-(-0.01)	0.004
Mean number of weaned piglets per litter*		358	-0.11	-0.17-(-0.05)	<0.001
Mean number of weaned piglets per sow per year		358	-0.04	-0.07-(-0.02)	<0.001
Mean growth per piglet per day		353	-0.003	-0.005-(-0.001)	0.002
Hygiene					
Information about the possibility of pets entering the shed is missing	No	309	-2.61	Ref	-
	Yes	49	0.35	0.08-0.62	0.01
Biosecurity					
Newly delivered animals are placed in quarantine	No	226	-2.62	Ref	-
	Yes	132	0.25	-0.02-0.52	0.08
When pigs are moved, they have to go outside	No	184	-2.41	Ref	-
	Yes	166	-0.17	-0.34-0.02	0.09
The carcass storage is cooled and locked.	No	38	-2.05	Ref	-
	Yes	320	-0.47	-0.77-(-0.17)	<0.01
Animal care					
There is a care option for sick and cripple animals at their own group/section	No	265	-2.59	Ref	-
	Yes	73	0.22	-0.02-0.44	0.07
Cleaning					
Farrowing section is cleaned with soaking agent	No	62	-2.34	Ref	-
	Yes	296	-0.25	-0.49-(-0.003)	0.05
Farrowing section is cleaned with disinfection agent.	No	106	-2.38	Ref	-
	Yes	252	-0.22	-0.42-(-0.03)	0.03
Mating passage is cleaned by sweeping.	No	209	-2.48	Ref	-
	Yes	149	-0.17	-0.35-0.02	0.08
Feeding					
Piglets with sow are fed with dry feed.	No	87	-2.64	Ref	-
	Yes	271	0.22	-0.01-0.43	0.06
Piglets with sow are fed with mush/pulp	No	198	-2.29	Ref	-
	Yes	160	-0.27	-0.47-(-0.06)	0.01
Water supply					
In the piglet section drinking water is mainly supplied via a nipple	No	199	-2.46	Ref	-
	Yes	159	-0.16	-0.33-0.02	0.10

* Variable was excluded from the backward elimination analysis due to VIF score>5