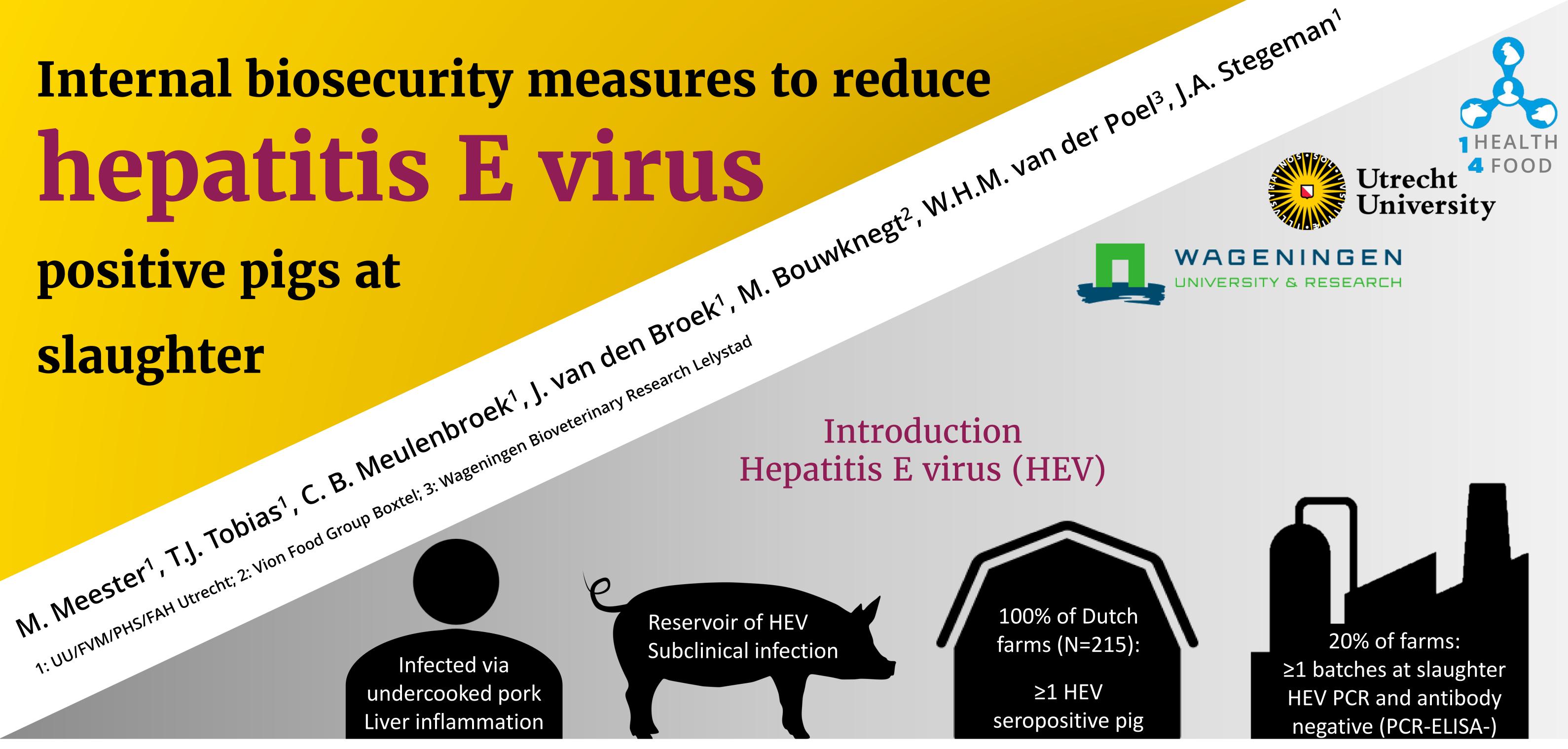
Utrecht

University

5 FOOD



AIM: Identify relevant biosecurity measures associated with HEV negative batches of pigs at slaughter

72 farms: either high % of PCR–ELISA– batches *or* high % of PCR+ELISA+ batches

Methods

Questionnaire and audit with as main topics internal and external biosecurity

Farmers and researchers blind for HEV results during farm visits

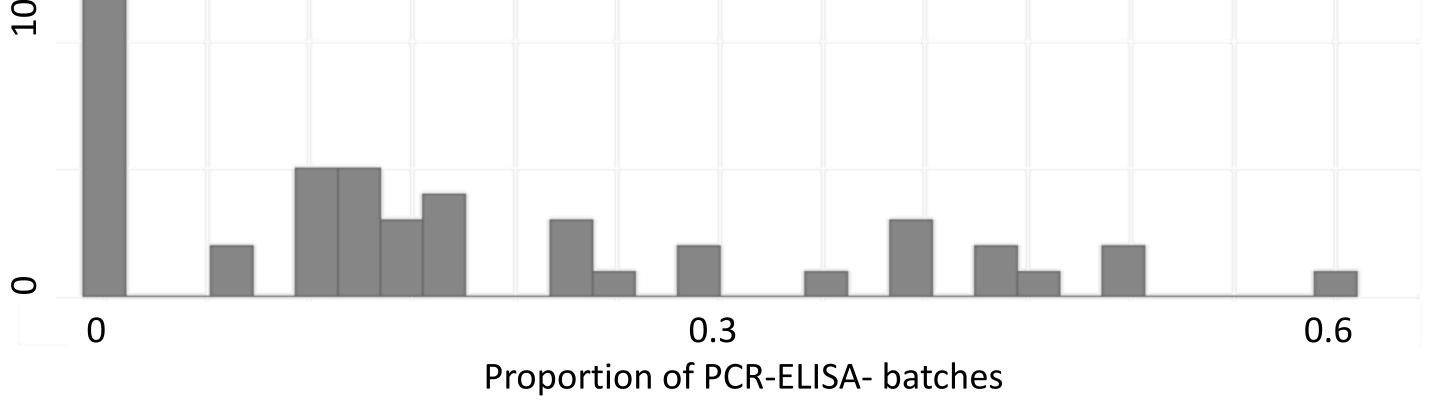
Data cleaning + multiple imputation by chained equations: dataset with 153 variables

Outcome: Odds of having a PCR-ELISA- batch (grouped logistic regression with ratio of PCR-ELISA- and other batches)

LASSO = shrinkage method to prevent overfitting of model on data and correct for multicollinearity between variables

Number of farms 20

30



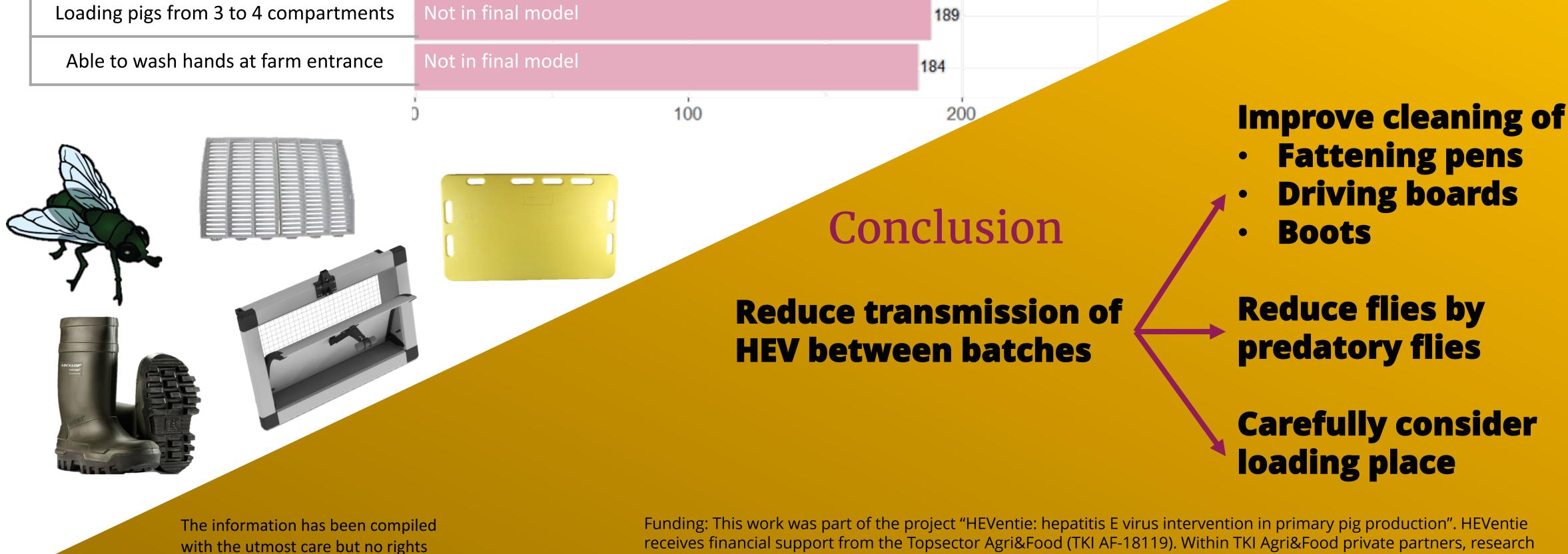
can be derived from its contents.

10-fold CV for  $\lambda$  nested in bootstrapped LASSO to rank variables based on how many times selected

Ranking of 10 highest variables in bootstrapped logistic LASSO regression & Odds Ratio with 95%CIs for having a PCR-ELISA- batch in a final logistic regression model with 7 variables

	0			
Variable	Odds Ratio	95% CI	Ranking	
Rubber floor material	5.9	3.0 - 12		445
Steel floor material	7.1	3.1 - 17	325	Results
Cleaning driving boards once a week	2.0	1.1 - 3.8	313	
Fattening period > 115 days	0.21	0.093 - 0.45	301	
Fly control with predatory flies	4.5	1.6 - 14	297	
Boots with profiled soles	0.81	0.32 - 2.3	288	Discussion
Loading place adjacent to air inlet barn	0.80	0.41 - 1.54	246	
High feed conversion ratio	Not in final model		193	
				Number of variables

institutes and government cooperate to innovations for safe and healthy food for 9 billion people on a resilient globe.



in a questionnaire

**Bootstrap LASSO** regression: useful multivariate method for variable selection.

Where to draw line in ranking?

**Faculty Veterinary Medicine Population Health Sciences** Farm Animal Health unit