Report from MinkSim

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Results from MinkSim

A variety of key figures and plots will be generated

Table of Contents

1. Litter size and reproduction results

Summary statistics

```
## Warning: dataframe contains replicate names
```

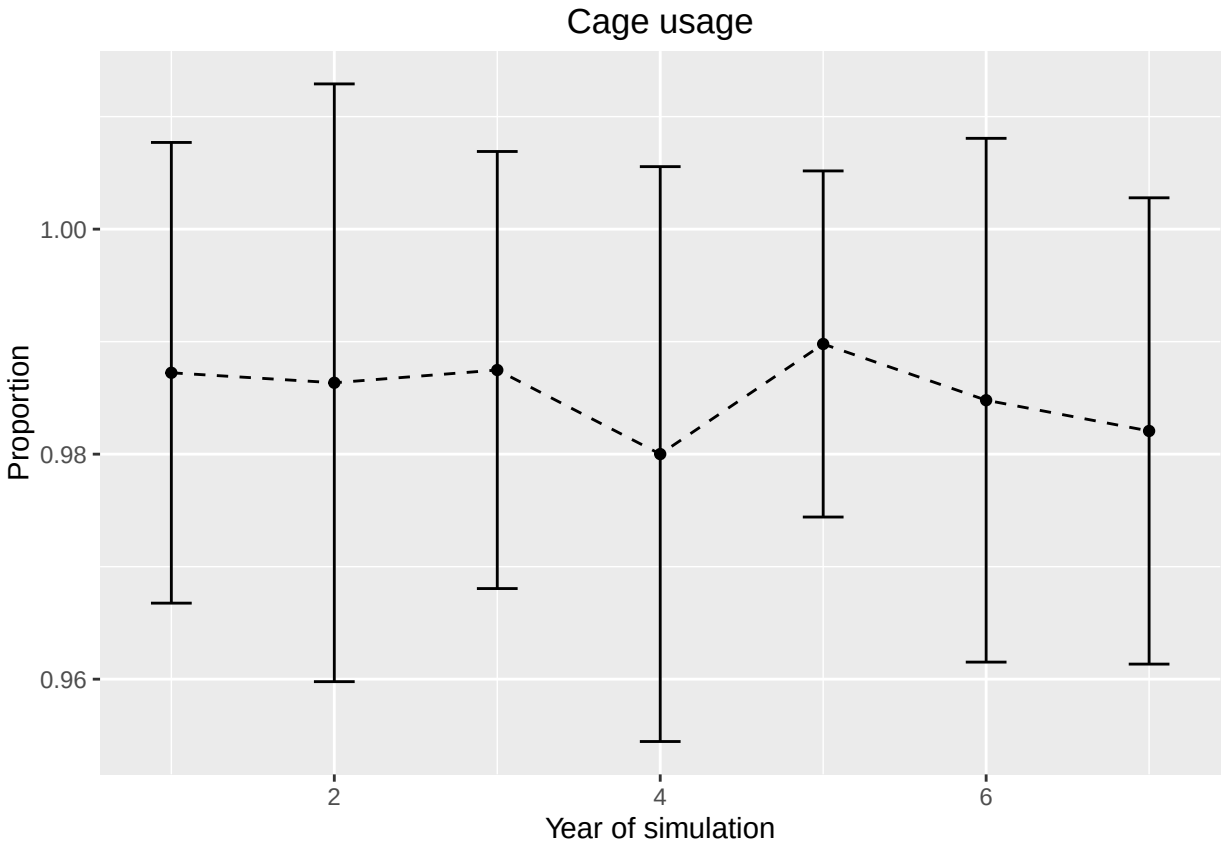
```
## Warning in matrix(c("Mated females", "Barren females%", "% kits w false
## sires", : data length [11] is not a sub-multiple or multiple of the number
## of rows [5]
```

Table 1: Key Figures

Mated females	961.22
Barren females%	10.34
% kits w false sires	2.8
% females with same male 2	82.4
% females single-mated	0

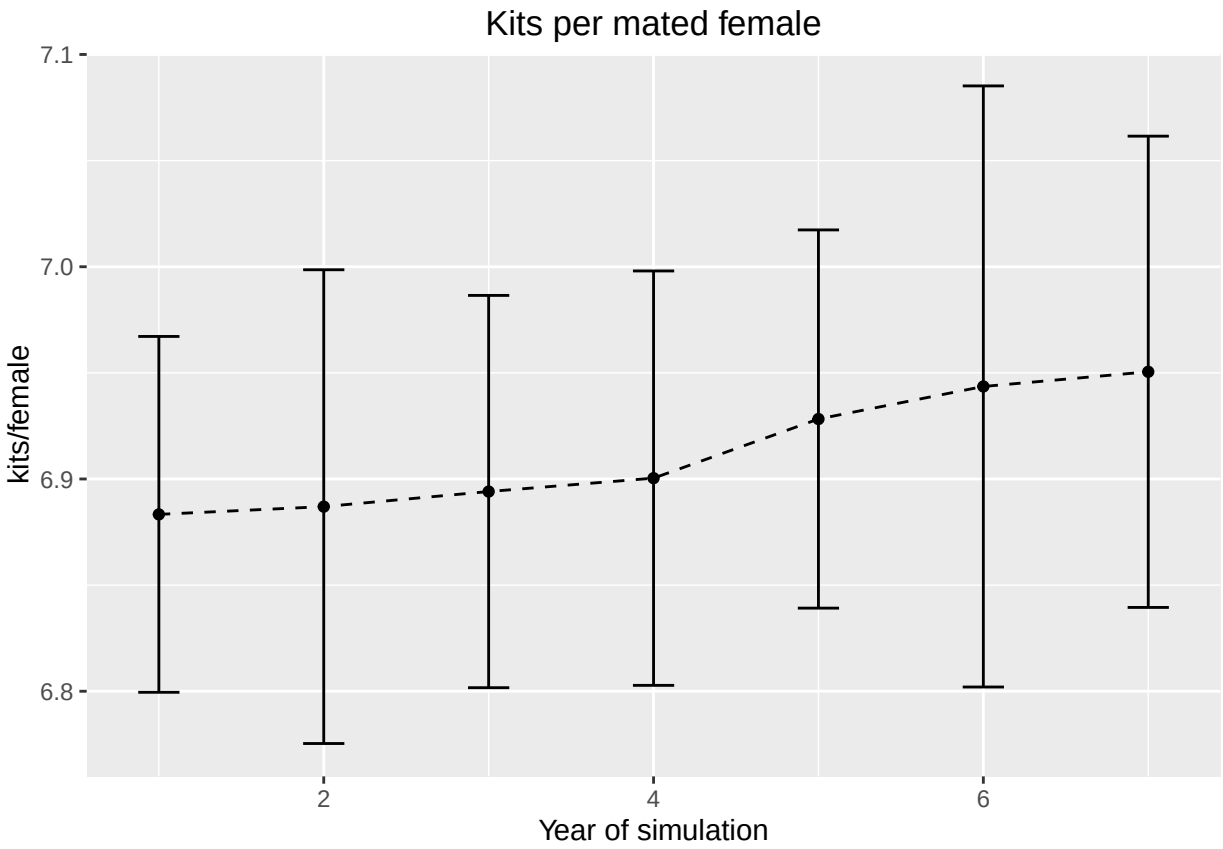
Cage use

This shows how big a proportion of the cages were occupied in each year of the simulation



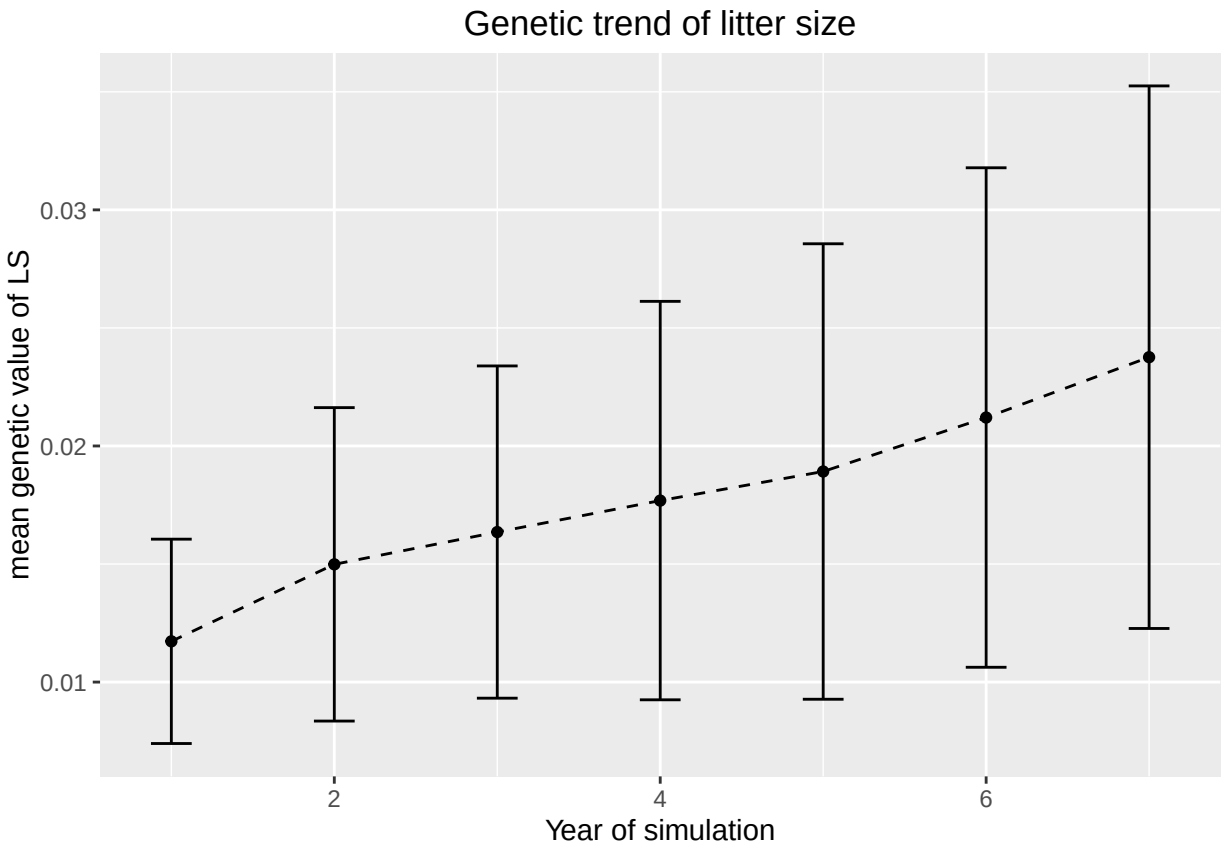
Litter size per mated female

This is defined as kits born alive. Bars show standard deviation of each replicate.



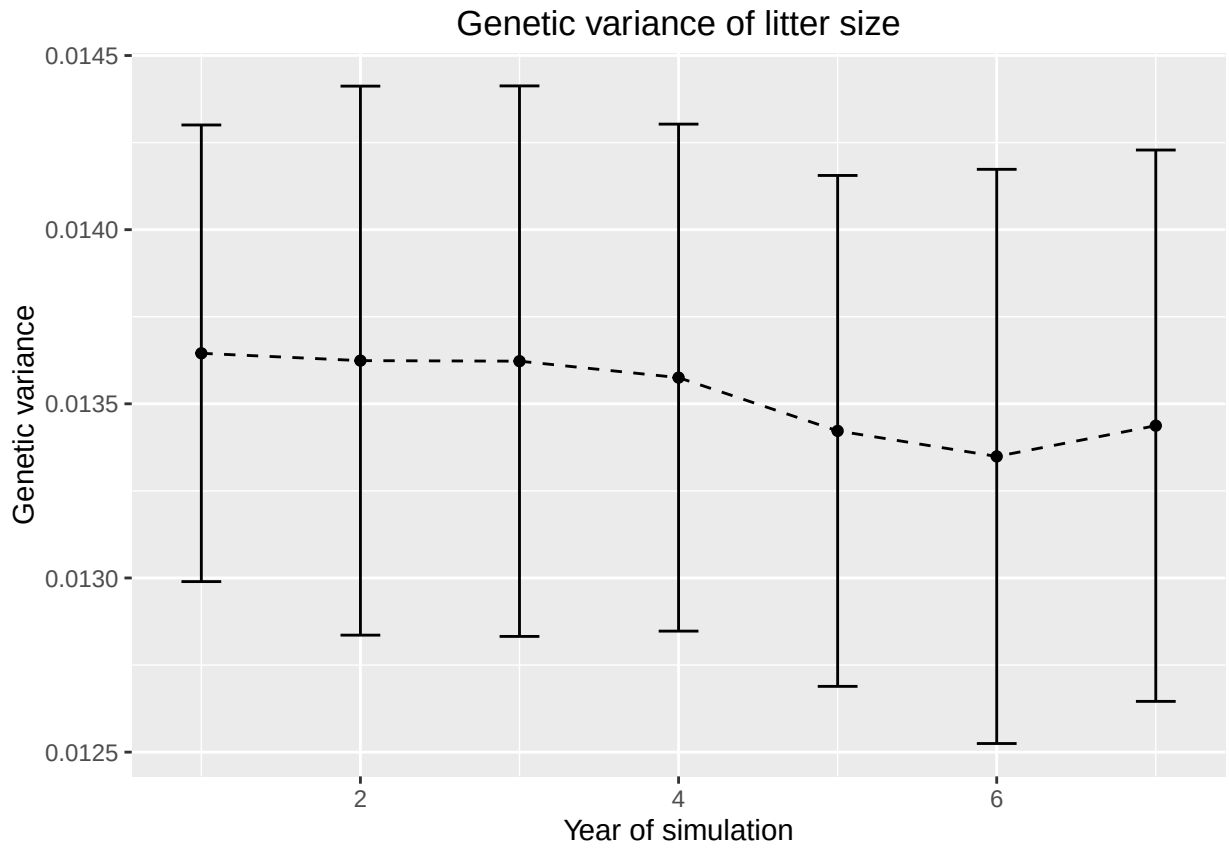
Genetic trend for litter size

Genetic trend of litter size within age cohort



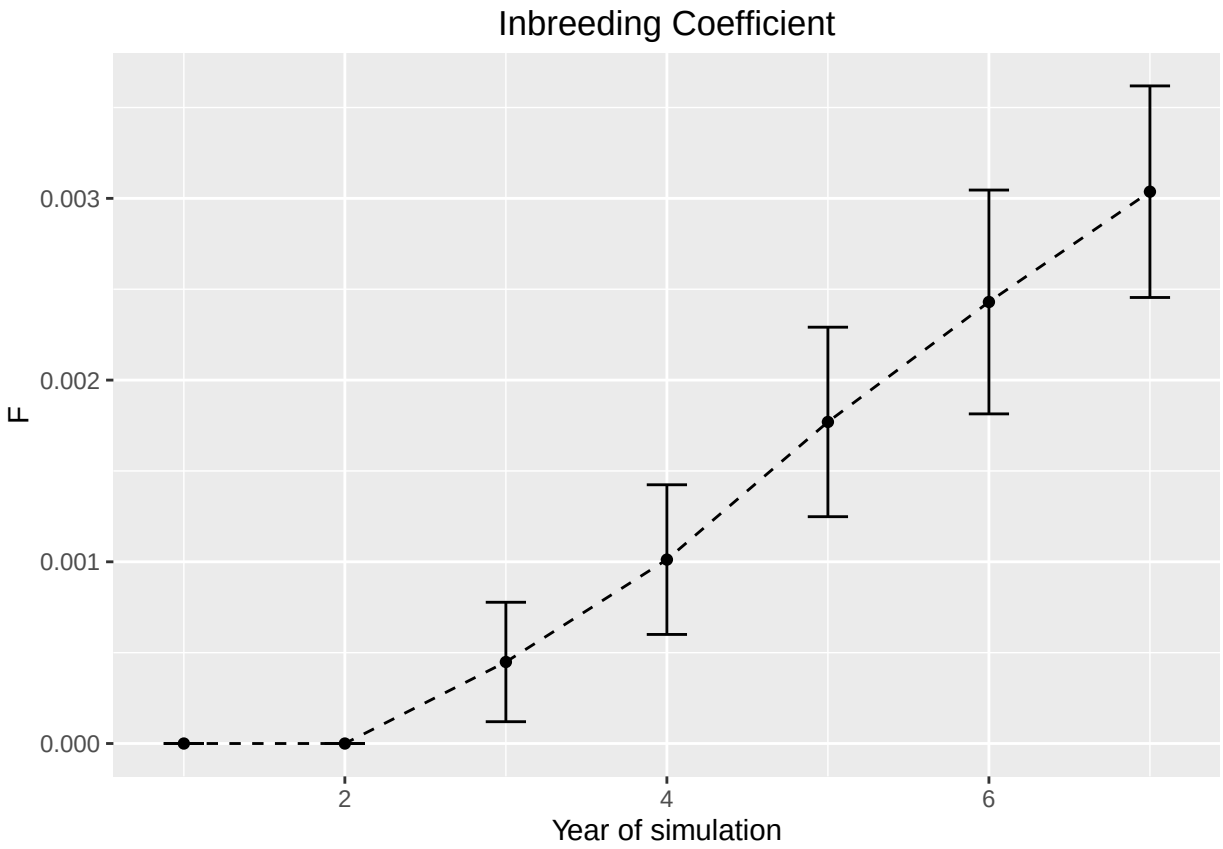
Genetic variance of litter size

Shows the trend in the genetic variance of litter size through the simulation. Theoretically it should slowly decrease over time. Increase indicates assortative mating or possible, a bug.



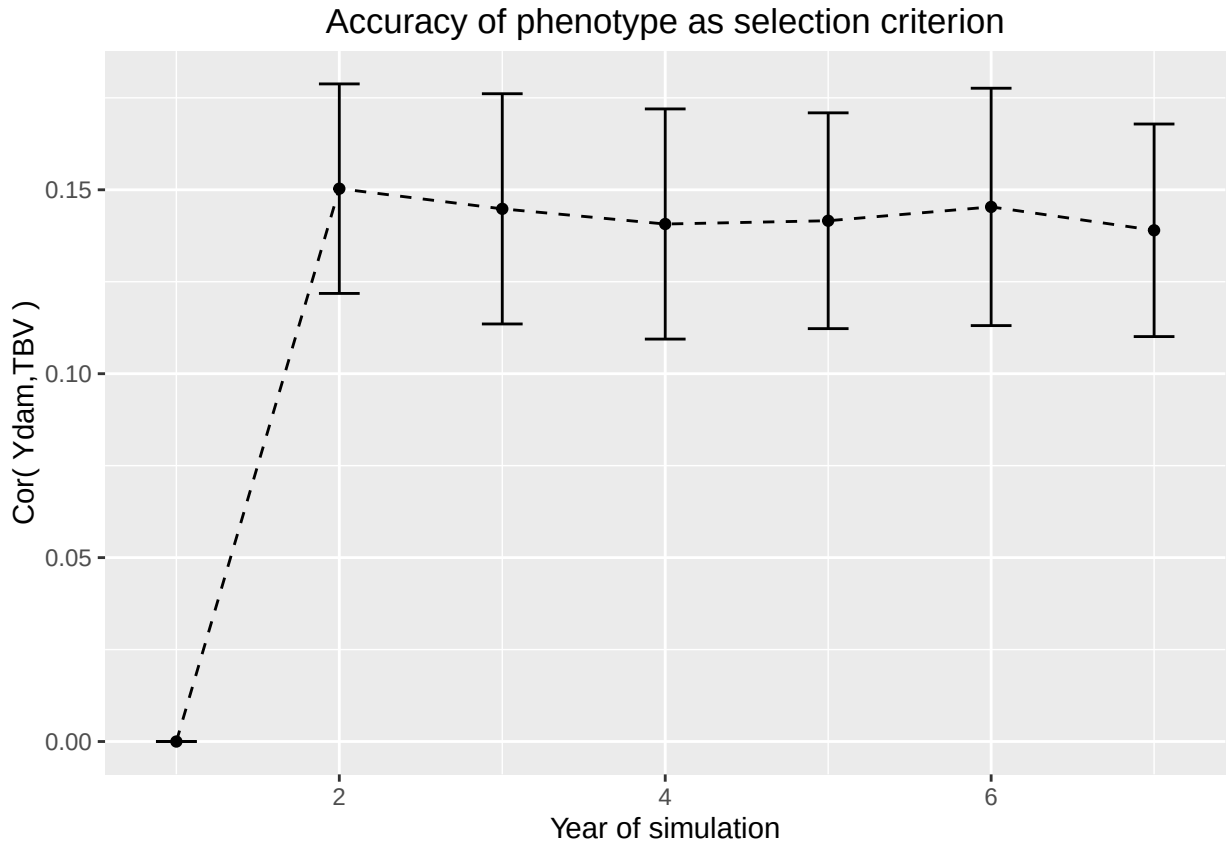
Inbreeding coefficient

Program tracks inbreeding through the simulation.



Accuracy of selection criterion

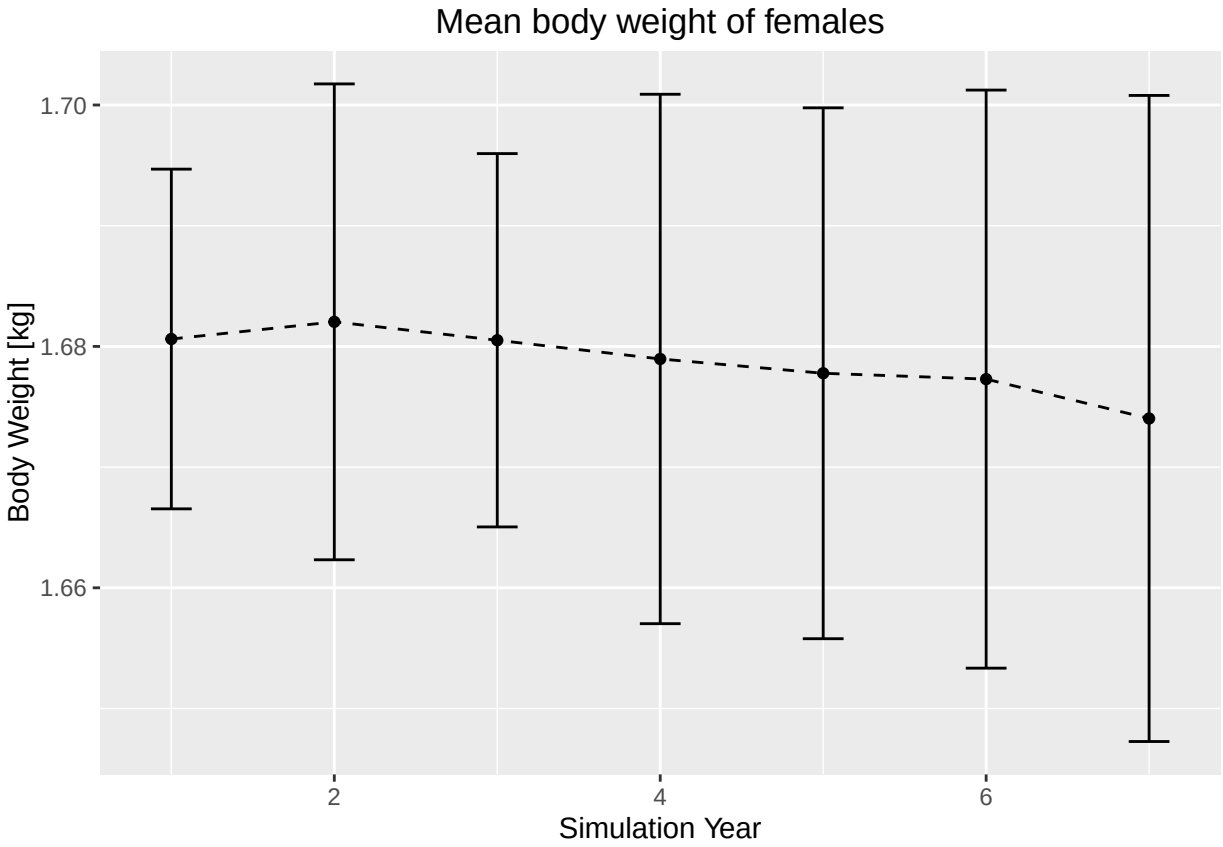
This is defined as the correlation between the phenotype of the kits dam to the true breeding value of the kit



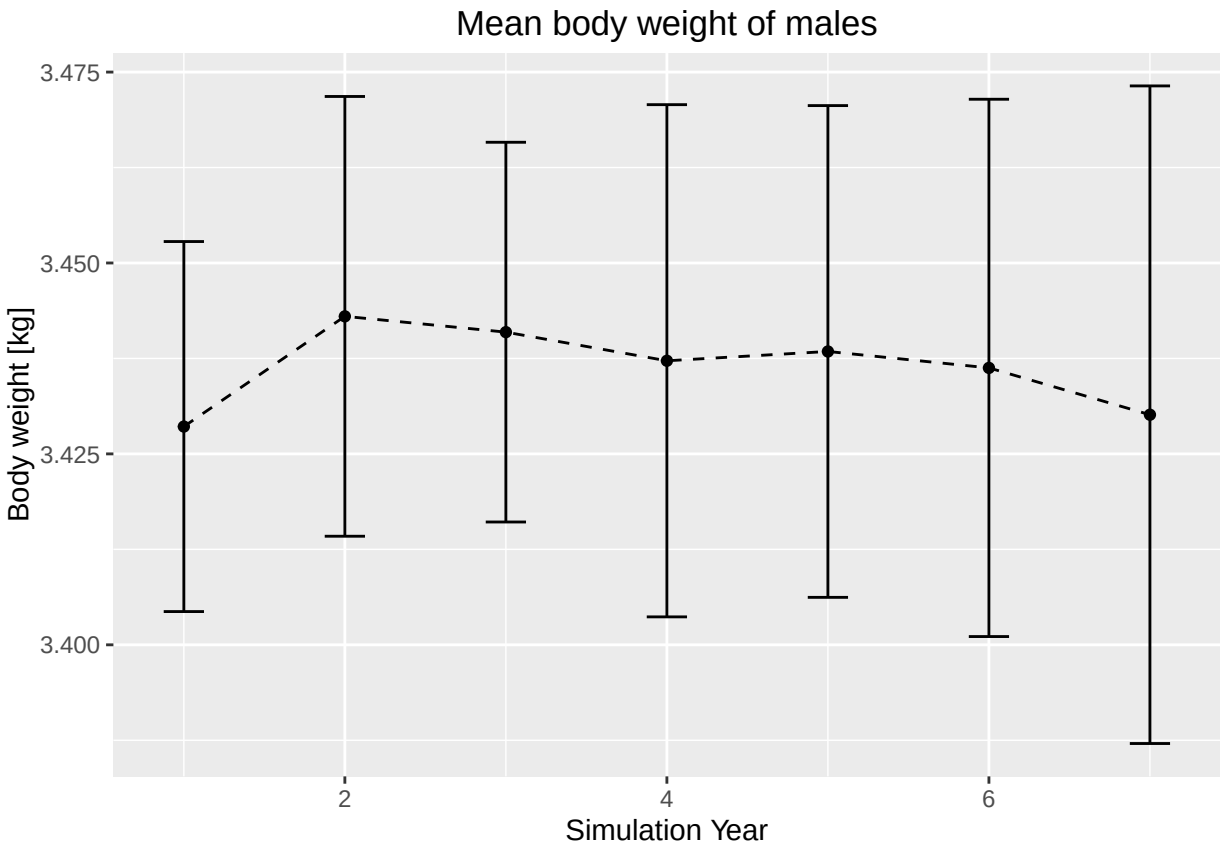
2. Body weight and skin length

Body weight of females

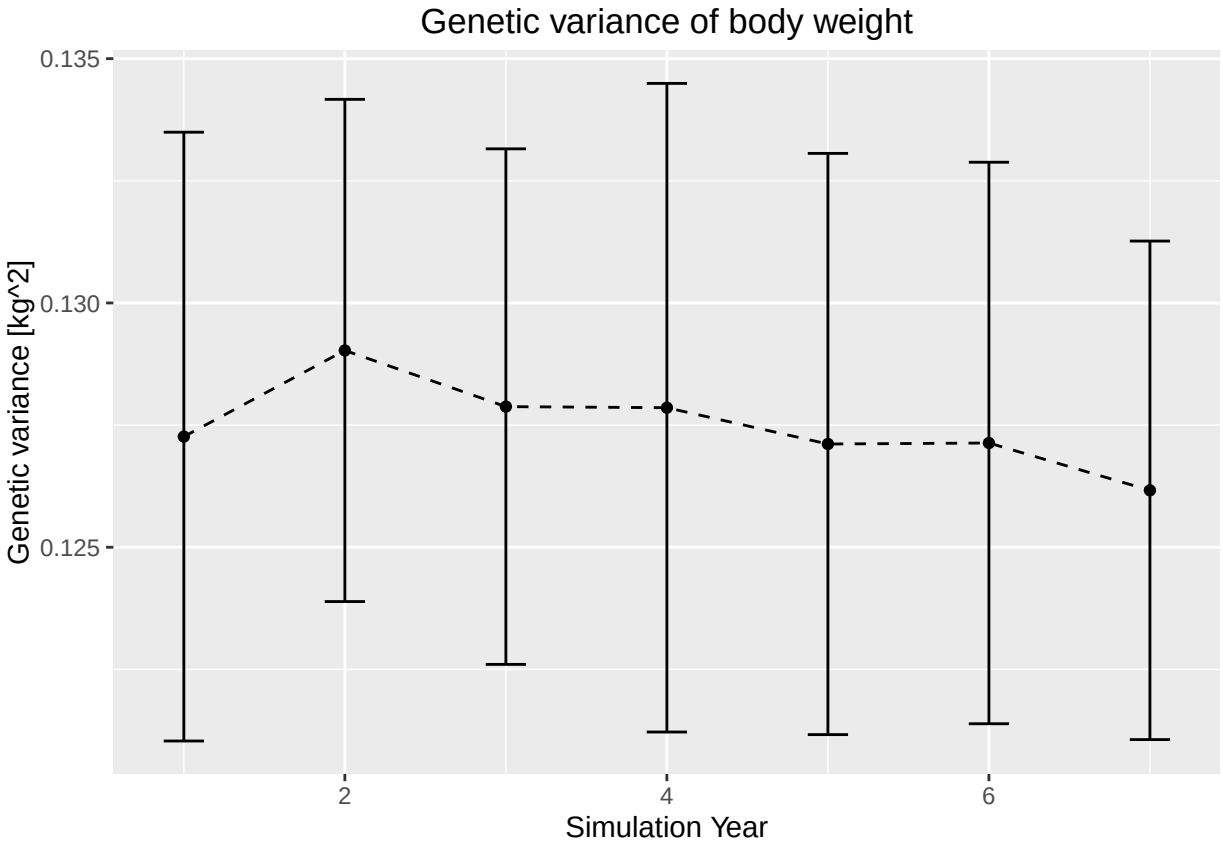
Body weight of females at 205 days of age, mean within age cohort.



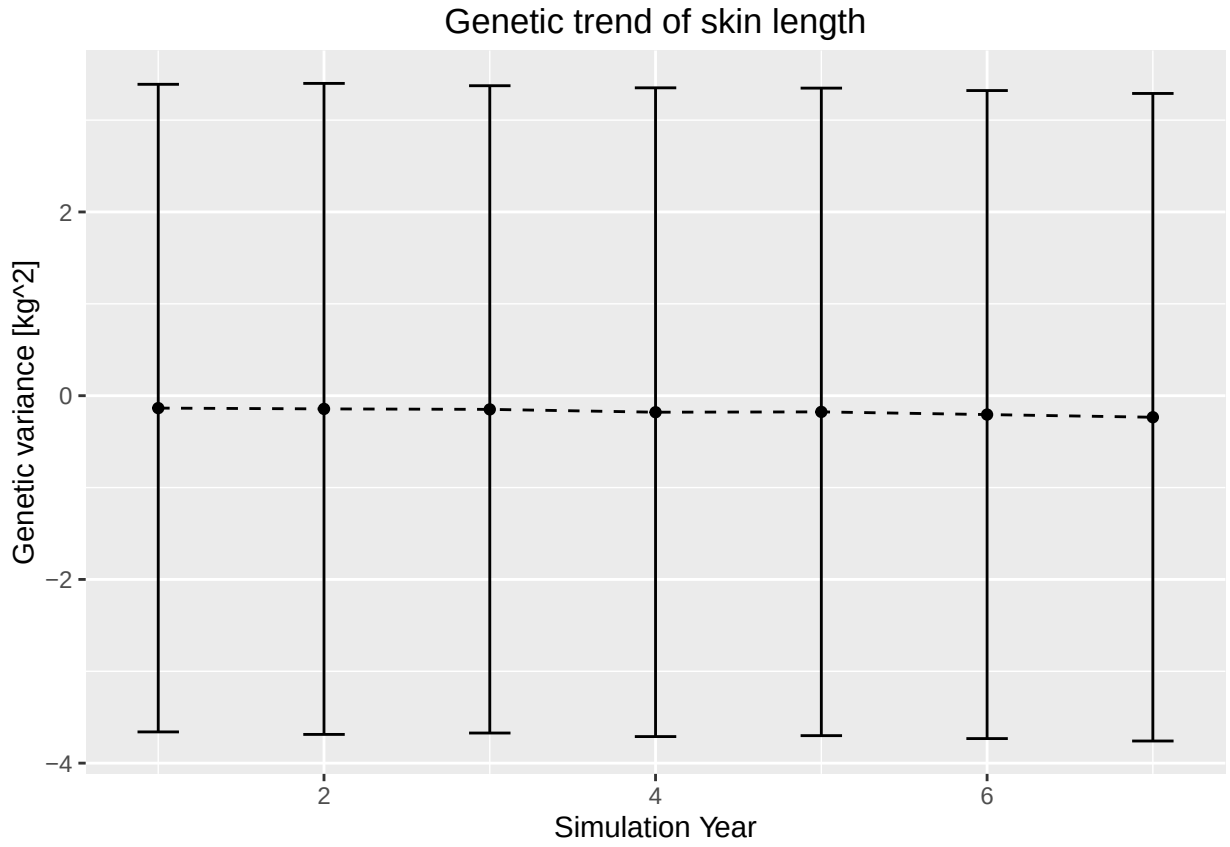
Body weight of males Body weight of males at 205 days of age, mean within age cohort.


Mean body weight of males
Body weight [kg]
3.475
3.450
3.425
3.400
2
4
6
Simulation Year

Genetic variance of body weight

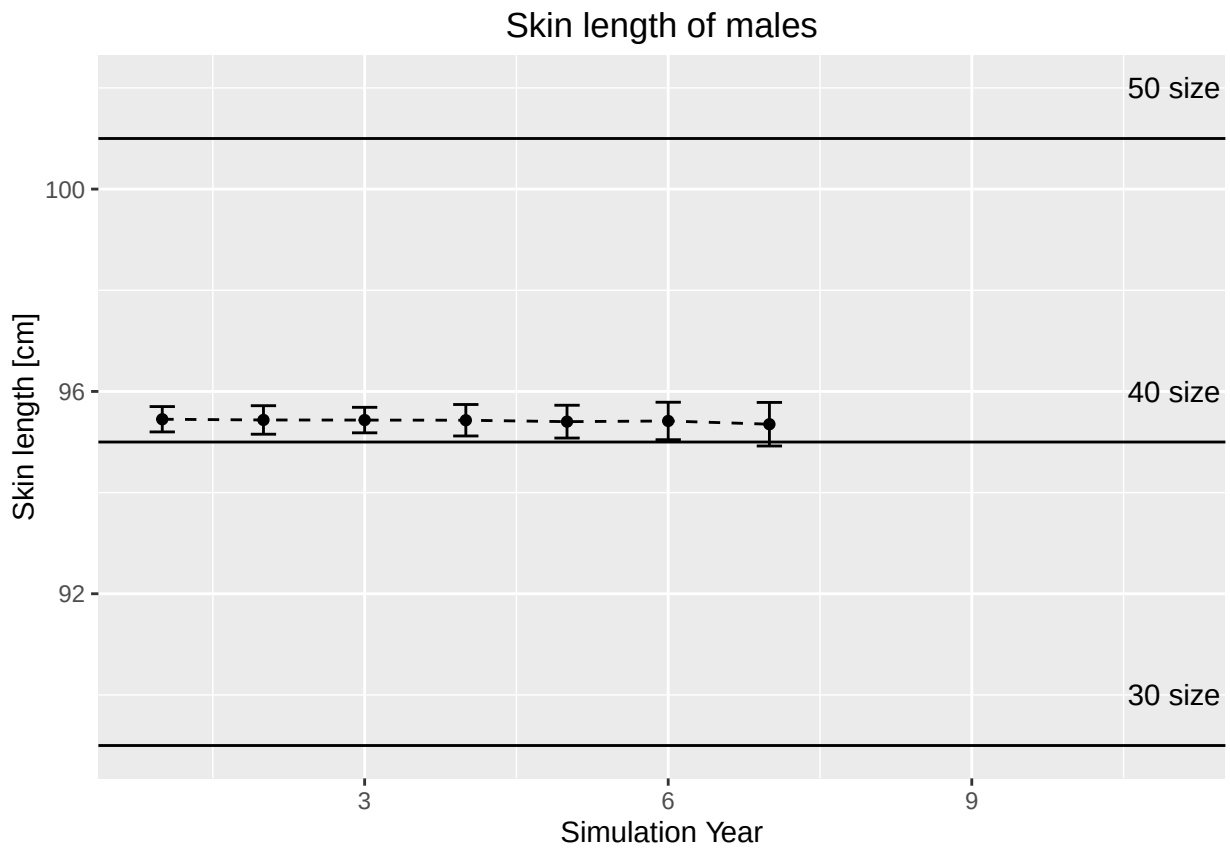


Genetic trend of male skin length



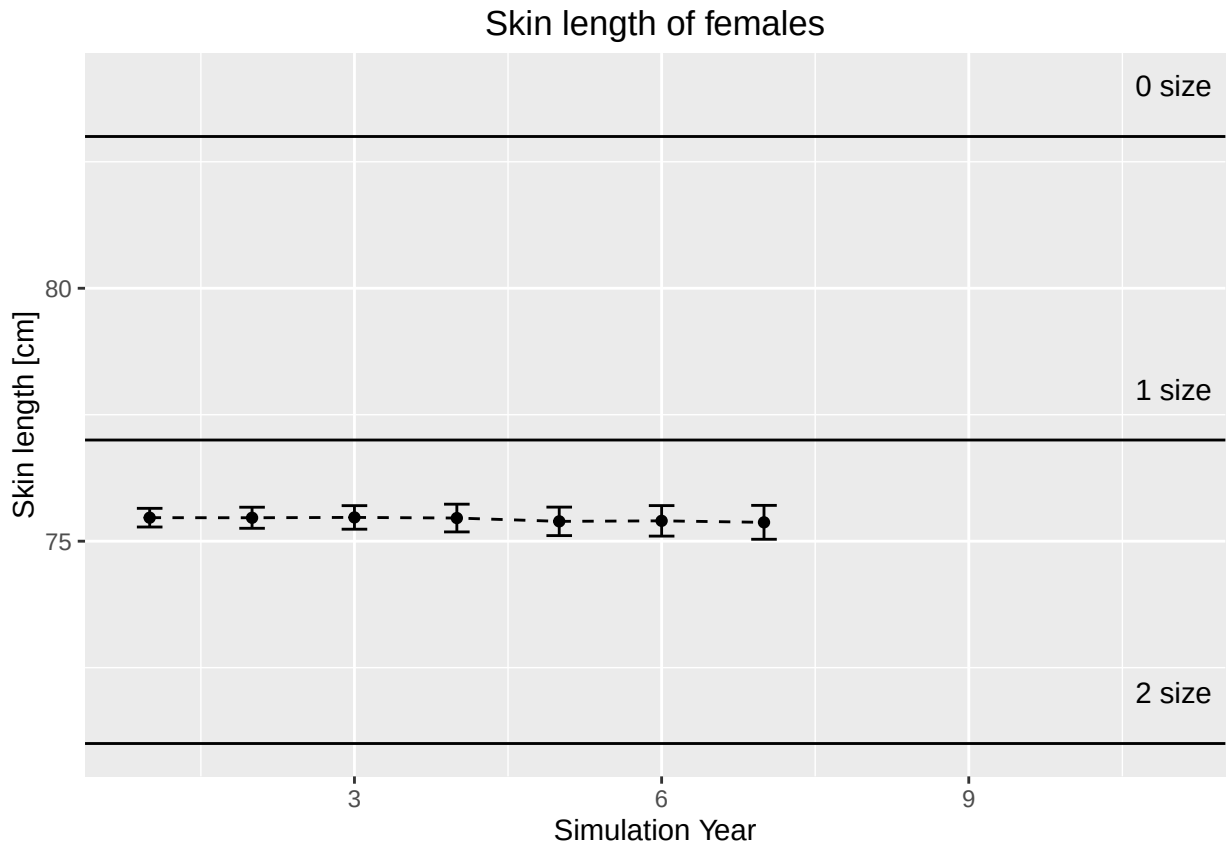
Skin length phenotype, male skins

This shows the development in average skin length, note that this is within age cohort and includes all animals, even those not pelted



Skin length phenotype, female skins

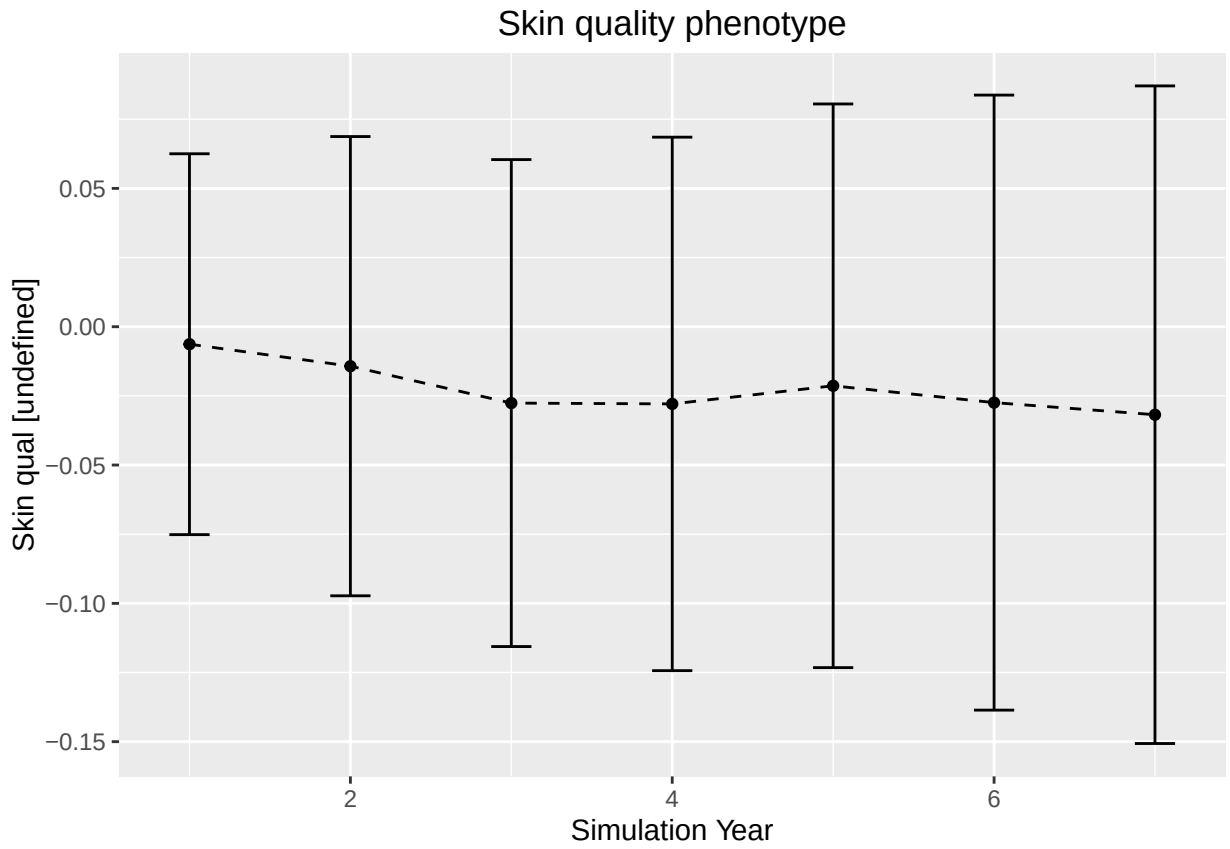
This shows the development in average skin length, note that this is within age cohort and includes all animals, even those not pelted



3. Skin quality and live graded quality

Average quality of skins

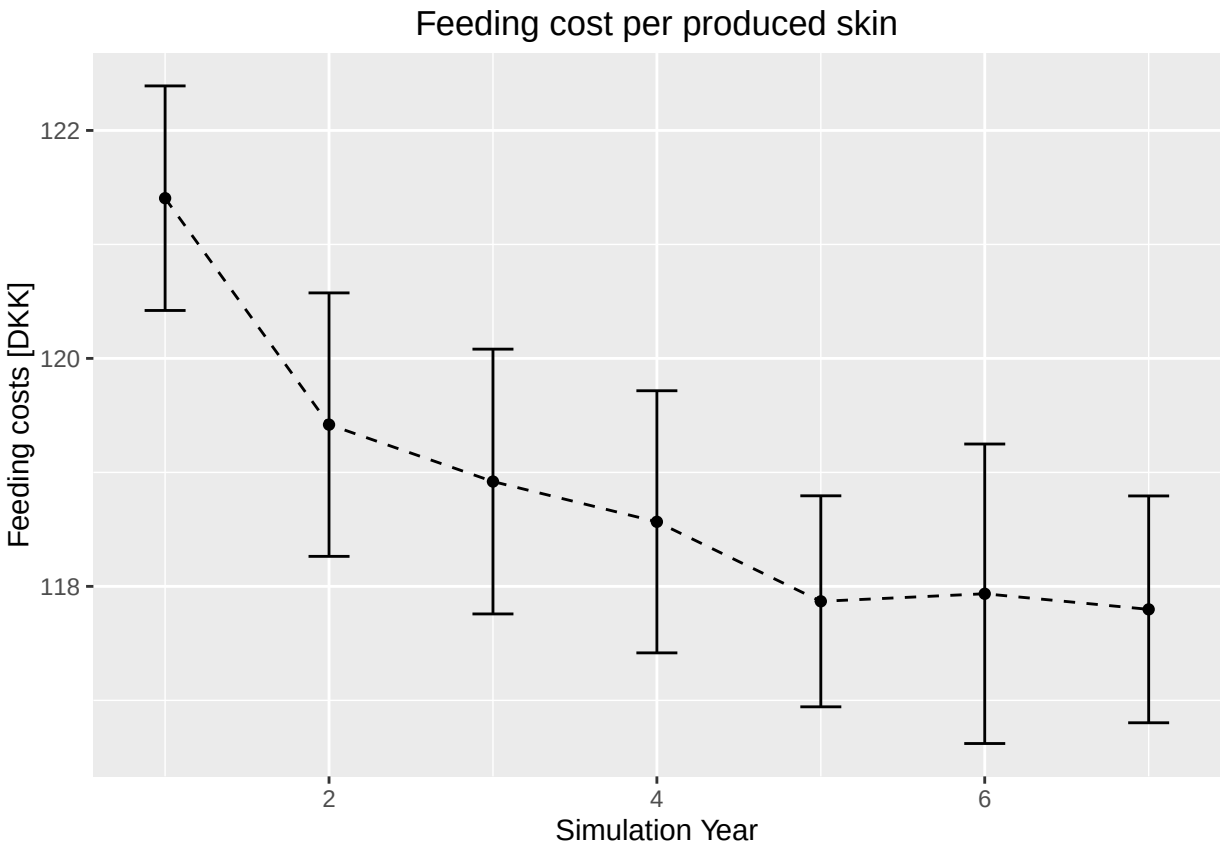
Note that the unit here is difficult to interpret. It is in phenotypic units, i.e. includes both environment and genetic part. Defined to start as the average distribution of skins in 2015 from Norway, Sweden, Denmark and Iceland. Quality of all other skins sold are fixed.



4. Feed costs

Feed costs per produced skin

Note that this is a beta version with all the feeding costs, minus the amount kits eat in weeks 6-9

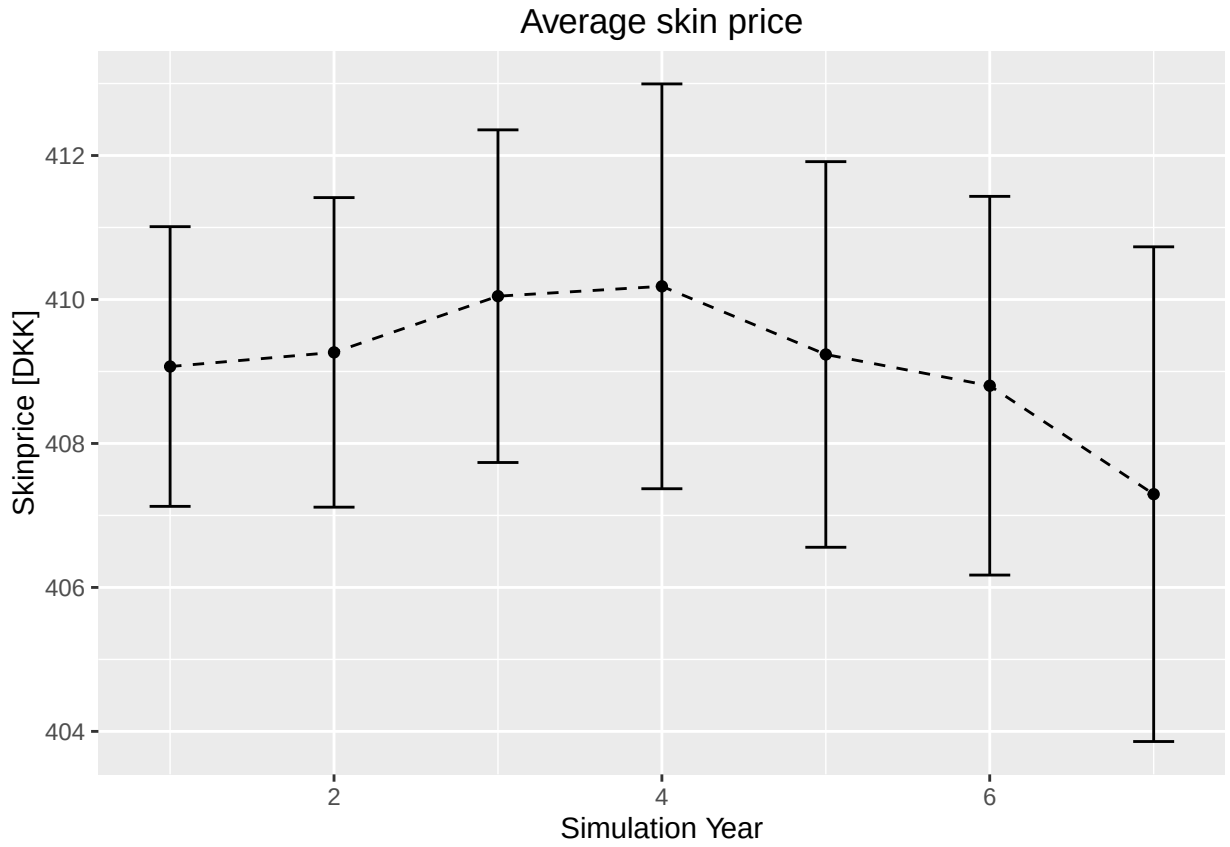


5. Economics

Here i will put in economical analyses of the runs, given some assumptions. I want to include margin pr farm, pr female and pr skin

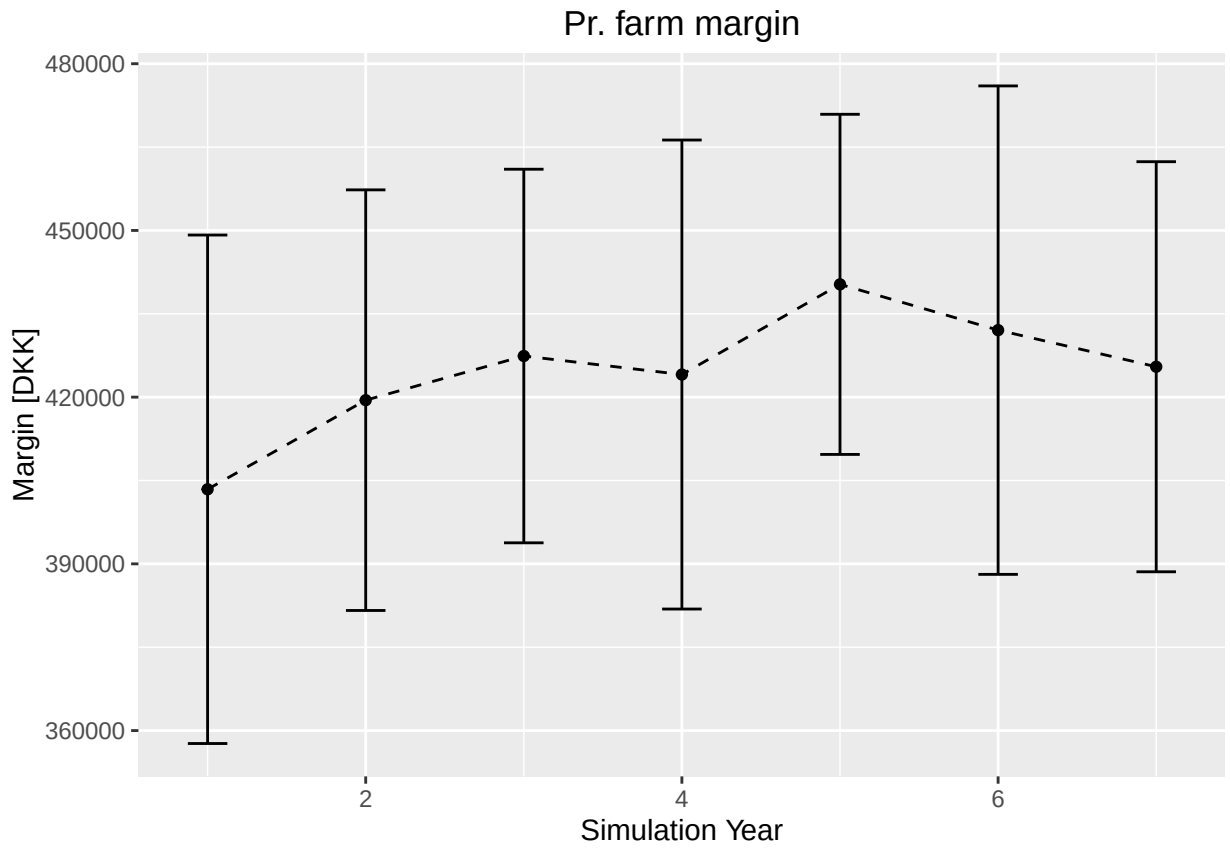
Average skin price across farm

Here is the raw average of sold skins. It is important to keep in mind that there is a bias upwards in this price when the litter size drops as proportionally fewer female skins will be sold.



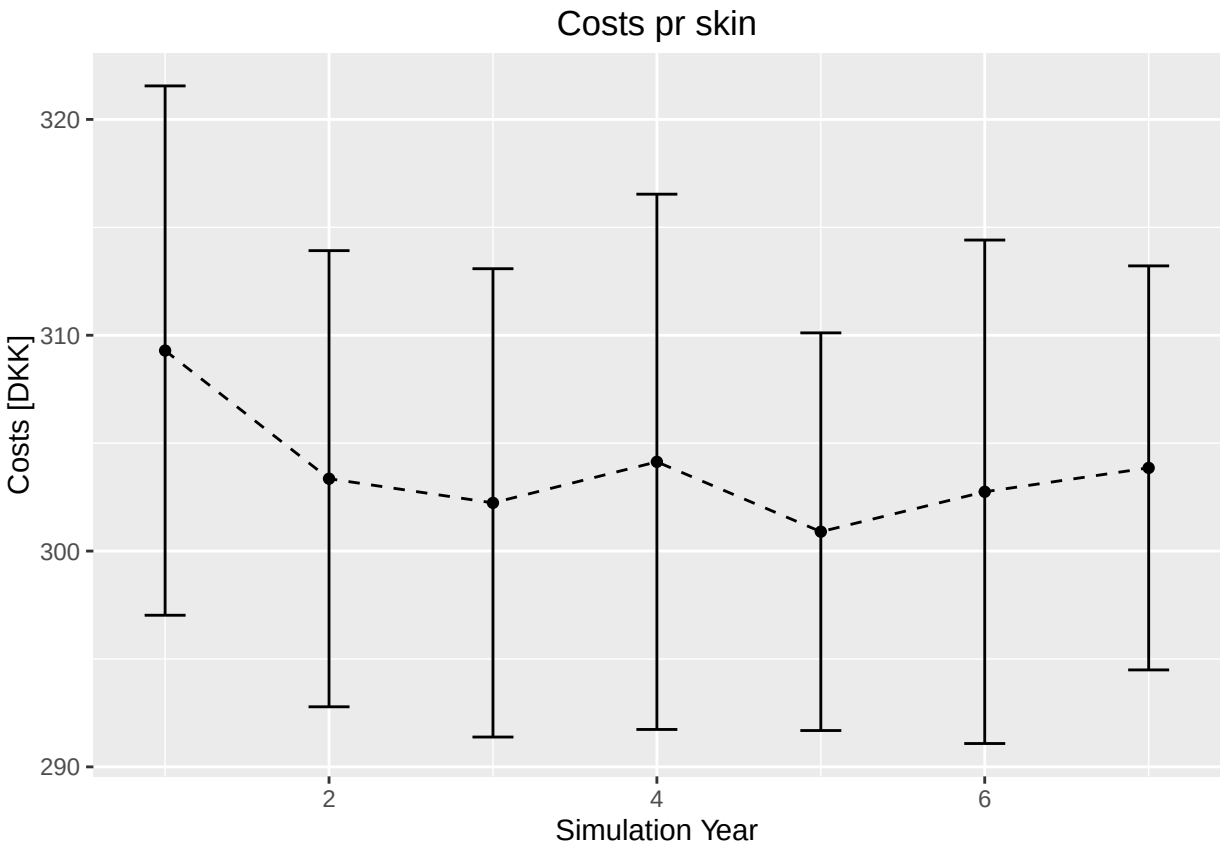
Margin per farm pr year

This is calculated as income from skins minus the variable costs+fixed+pelting+feeding The fixed costs are determined in year 0 by the number of breeding females. Variable costs are fixed pr breeding female and are adjusted within year by the number of breeding females on the farm. Pelting costs are fixed pr pelt and feeding costs are based on the weight of the animals pr farm.



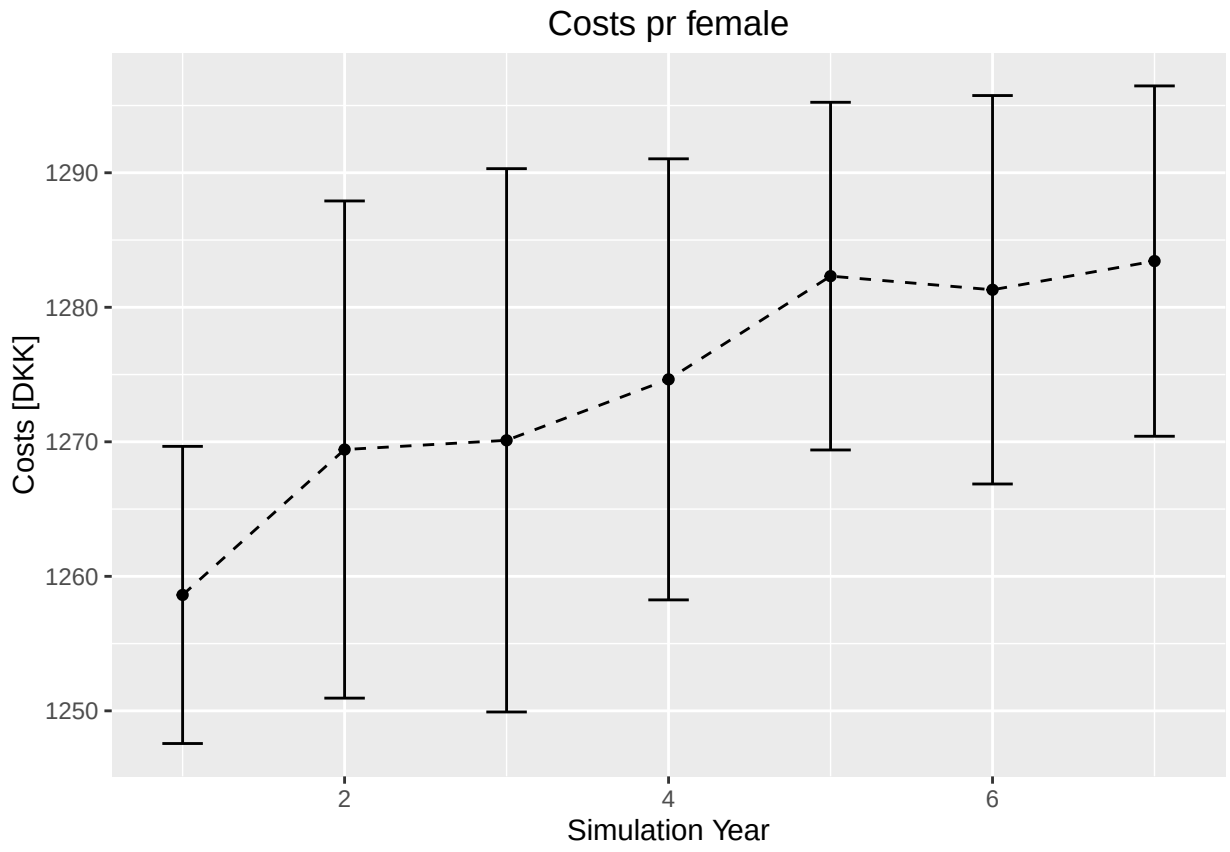
Costs pr skin

This is calculated as the average sum of all production costs Variable, fixed, pelting and feeding divided by the number of skins sold within year



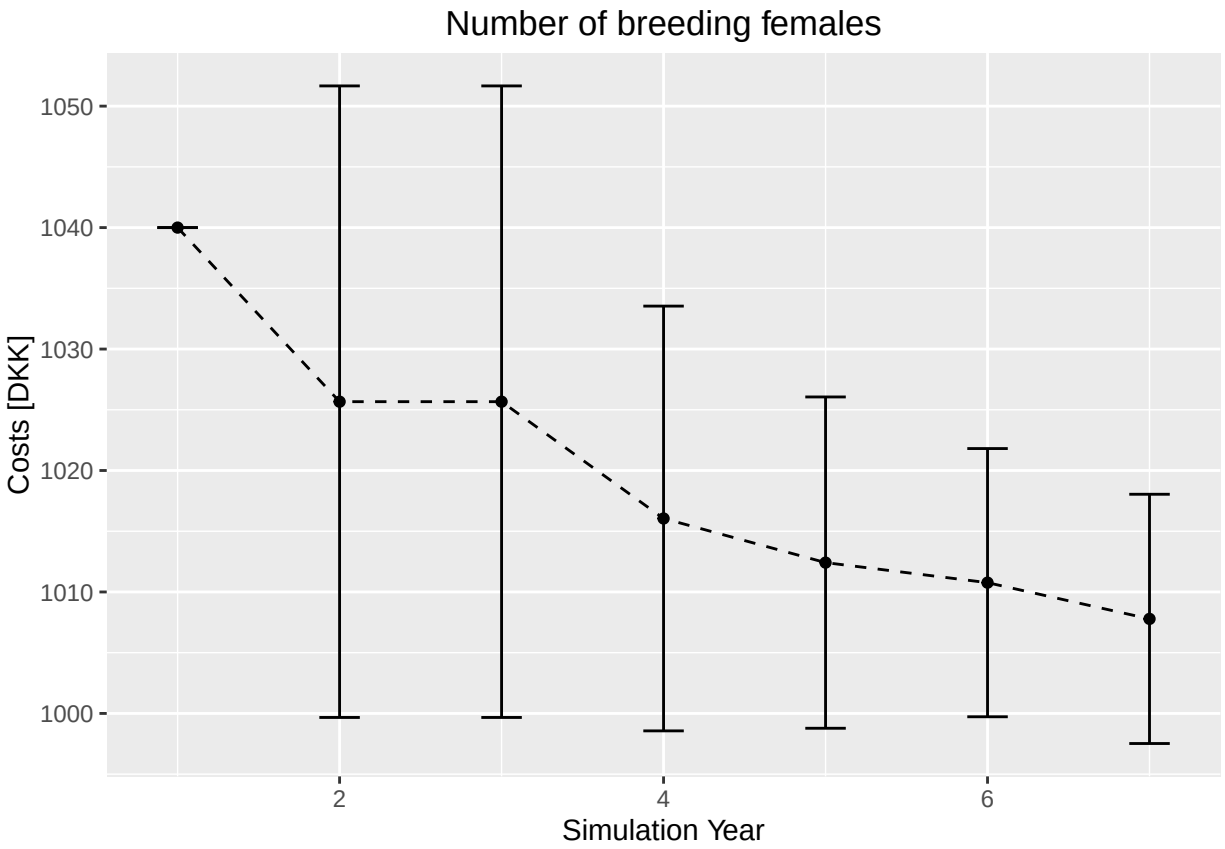
Costs pr female

This is calculated as the average sum of all production costs Variable, fixed, pelting and feeding divided by the number of females at the start of the year

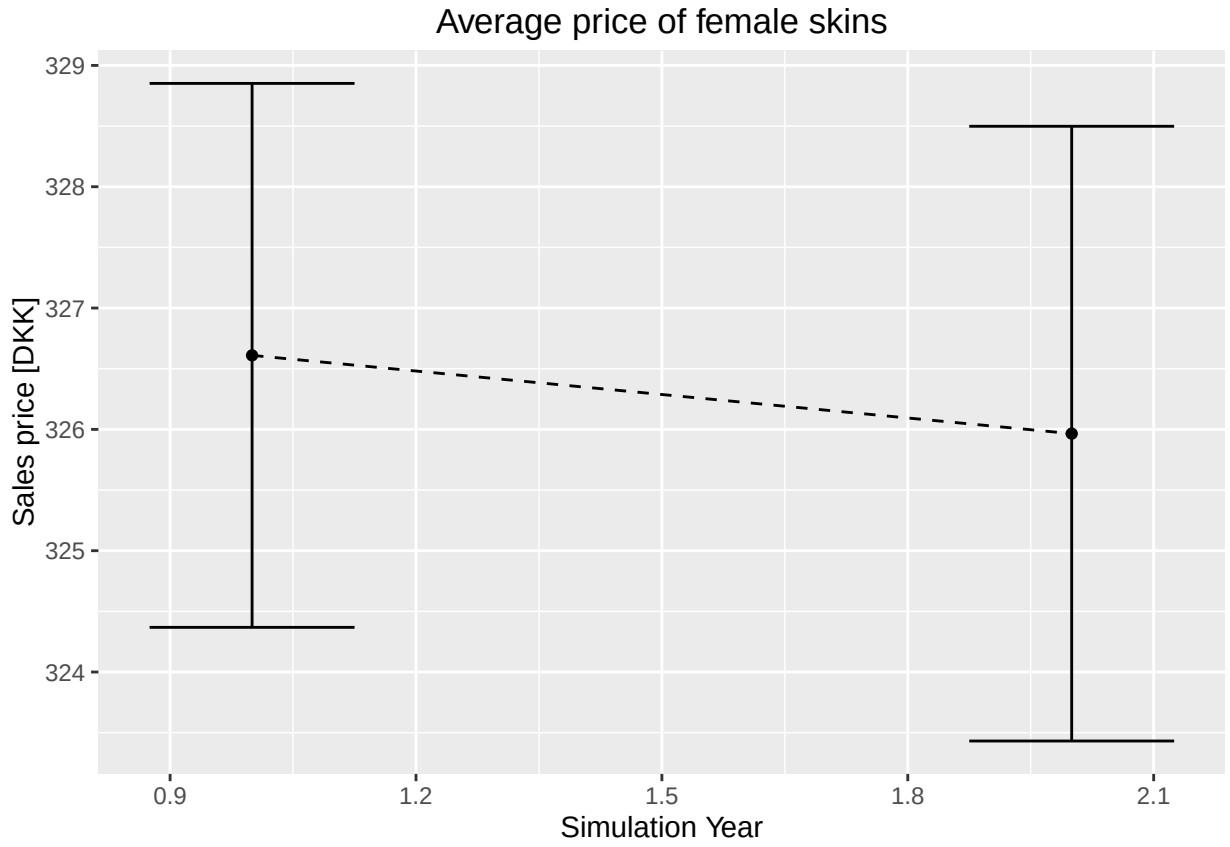


Number of female breeders

The program adjust the number of breeding animals between year to try and optimize cage usage. It uses linear programming to optimize the number subject to the constraint that number of kits should fit into the cages. If there are more kits than it guessed, the farm sells of the extra kits at a fixed prize (80 kr pr kit)


Number of breeding females
Costs [DKK]
1050
1040
1030
1020
1010
1000
2
4
6
Simulation Year

Average price of female skins



Average price of male skins

Average price of female skins