

Model equations

Variable	Equation	Unit
Births	Eggs/Incubation time	Chickens/Day
Chickens	Initial chicken population	Chickens
Cross roading	Stress	Dimensionless
Death risk	Normal death risk*Cross roading	1/Day
Deaths	Chickens*Death risk	Chickens/Day
Egg production	Chickens*Fertility effect	Eggs/Day
Eggs	Initial number of eggs	Eggs
Fertility effect	Normal fertility rate/Stress	Eggs/Chickens/Day
Stress	Chickens/Max. chicken capacity	Dimensionless
Incubation time	5	Day
Initial chicken population	1000	Chickens
Initial number of eggs	1000	Eggs
Max. chicken capacity	1000	Chickens
Normal death risk	0.2	1/Day
Normal fertility rate	0.2	Eggs/Chickens/Day