

Confirmed with separate field studies with a variety of experimental designs (keettlewell)

Industrial melanism

Phenomenon in which darker individuals come to predominate over lighter ones

-other moths in other industrialized areas showed the same trend to darken

Pollution control resulted in bark color being lighter again

Light-colored peppered moths now are dominant in the population

Agent of Selection?

Tutt's hypothesis about the agent of selection is currently being reevaluated

The current reconsideration of the agent of natural selection illustrates well the way in which scientific progress is achieved

Hypotheses, such as Tutt's are put forth and then tested; if rejected, new hypotheses are formulated, and the process begins anew

Artificial Selection

Operates by favoring individuals with certain phenotypic traits, allowing them to reproduce and pass their genes on the next generation

Drosophila melanogaster

Selected fruit flies with many bristles on abdomen

At the start average number of bristles was 9.5

Chose only those with most bristles to reproduce

86 generations later, average number of bristles had quadrupled to nearly 40

Differences have resulted from generations of human selection for desirable traits, such as greater milk production and larger corn ear size

Domestication

-Human-imposed selection has produced a variety of cats, dogs, pigeons, and others

-Breeds may have been developed for specific purposes

*Dachshunds for badger pursuit

Domestication may lead to unintentional selection for some traits

-Attempt to domesticate silver foxes

-Chose most docile animals only to breed