

Abstract Submitted
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Dependence of gene copy number variation on reproductive processes JACOB WEIDNER, KEVIN WABICK, BRIAN CLARK, Illinois State University — DNA is divided into genes, which are generally thought to come in pairs and code for a trait or part of a trait. Recently, evidence shows that there are multiple copies of a non-trivial number of genes and that the number of copies of some genes varies greatly from individual to individual. The role of fundamental processes including mutation, crossover, and inversion in determining the number of copies of specific genes is not understood. We report on the relationship between these fundamental processes and copy number variation as investigated via a numerical simulation. In the simulation, individuals are modeled by a single strand of DNA consisting of a set number of genes assigned to different traits. Individuals reproduce according to their fitness as calculated with the two most fit genes assigned to one specific trait.

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