MutantXL is an algorithm for solving systems of polynomial equations that was proposed at SCC 2008 and improved in PQC 2008. This talk shows how the concept of mutants can be used to speed up the XL algorithm. The MutantXL algorithm is a new and very efficient alternative to solve multivariate polynomial equations on the function ring over $\mathbb{F}_2$. This talk also introduces a new efficient algorithm for computing Gröbner bases of zero-dimensional ideals called MXL$_3$. The MXL$_3$ is based on MutantXL algorithm, MXL$_2$ improvements, and a new sufficient condition for a set of polynomials to be a Gröbner basis. The experiments showed that both in classical cryptographic challenges and random systems, MXL$_3$ algorithm performs substantially better than the F$_4$ algorithm implemented in Magma, currently the best publicly available implementation of F$_4$. (Received September 12, 2009)