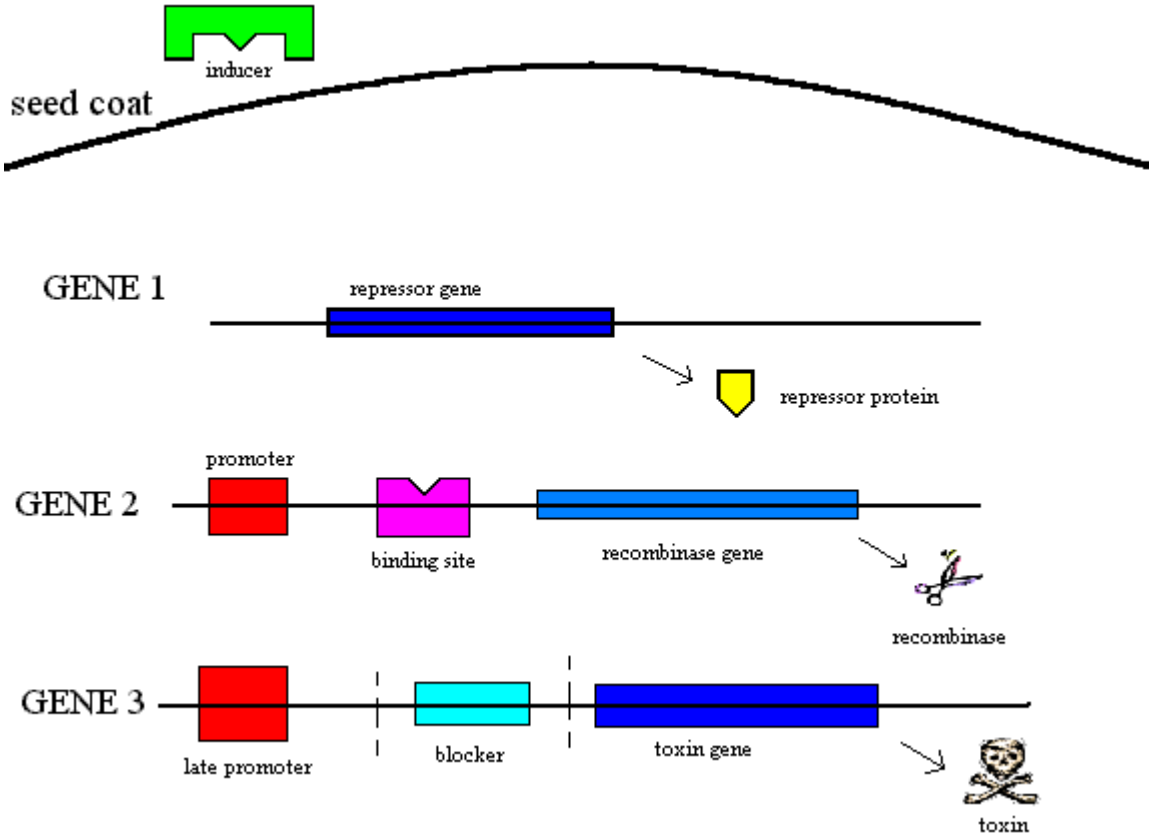
ONE WAY TERMINATOR TECHNOLOGY MIGHT WORK




Terminator technology consists of three genes.

GENE I

Gene I is a repressor gene that produces a repressor protein that interacts with a binding site near Gene II.

GENE II

Gene II is a recombinase gene that is controlled by a promoter. Between the gene and the promoter is a binding site for the repressor from Gene I. The recombinase gene produces a recombinase protein that is an enzyme and snips out pieces of DNA.

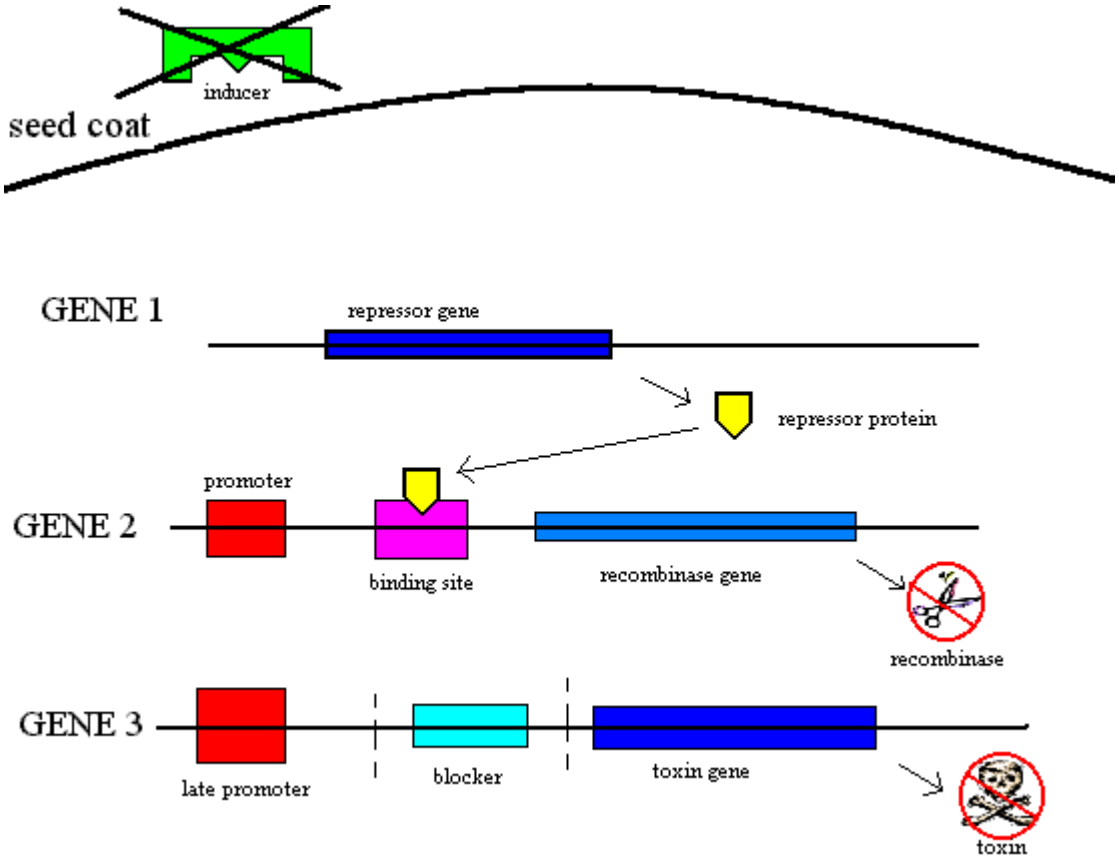
GENE III

Gene III produces a toxin that is lethal to embryos. The gene is controlled by a late promoter, which is active only during the late stage of seed development when the embryo is developing. Between the late promoter and the toxin gene is a piece of DNA called a blocker, which interferes with the ability of the promoter to turn on the toxin gene.

INDUCER

The inducer is a chemical applied to the seed by the seed company that will initiate the terminator gene interactions.

If the seed company does not want to initiate the terminator genes, it will not apply the inducer. This allows the repressor protein to bind to the binding site on Gene II, preventing the production of recombinase. In the absence of recombinase, the blocker on Gene III is not snipped out, and the toxin is not produced. This allows the seed company to raise enough seed to sell to farmers.



Before the seed company sells the seed to the farmers, it applies the inducer. The inducer blocks the binding site on Gene II preventing the repressor protein to bind. Gene II then produces recombinase which snips out the blocker on Gene III. With the blocker removed, the late promoter is able to turn on production of the toxin gene late in the season.