Frankenstein Corn

(1) Short for "genetically modified organism," GMOs have been making headlines recently for the role they play in the global food chain.

(2) In principle, genetically modifying the genes of a plant or animal in a laboratory is similar to doing so naturally, through a process called selective breeding. (3) In it, people identify the things that they like about a plant or animal, and allow the plants or animals with those things to multiply. (4) Thus, over time, organisms with qualities that people prefer become more and more prevalent.

(5) Thanks to modern science, people can quickly modify the traits of an organism. (6) It has unlocked the ability to combine genes across entirely different biological domains of life. (7) To grasp the enormity of this concept, consider that plants, animals, and fungi are all part of the domain eukarya. (8) Thanks to science, it is now possible to combine genes from plants with genes from the domains bacteria and archaea. (9) Bacteria and archaea are among the oldest living things on the planet.

(10) A famous example of this kind of genetic modification is Bt corn. (11) Bt, short for *Bacillus thuringiensis*, is a bacterium that produces toxins lethal to insects. (12) Bt has, since 1928, been used as a pesticide to kill insects and improve the yield of produce. (13) But it was not until 1995 that the genes responsible for the insect-killing toxins was isolated and combined with the genes of corn. (14) Bt corn proved so successful at staving off insects that the Bt genes were subsequently introduced into other plants, like cotton and potatoes.

(15) Proponents of GMOs point to the many meaningful ways that GMOs contribute to quality of life. (16) These supporters argue that GMOs like Bt organisms increase the productivity of farms, reduce the amount of chemical pesticides used on farms, have no material impact on the overall environment, and can even offer higher nutritional value than unmodified organisms.

(17) Opponents of GMOs maintain that GMOs are damaging to the body and to the environment. (18) They argue that that despite testing and oversight by government agencies, the long-term influence of GMOs on complex things – like the human body, or the global ecosystem – cannot be fully understood.