Genetic engineering in agriculture aims at improving traits with agricultural relevance. Recent genome editing techniques (CRISPR/Cas9) are paving the way for exciting perspectives in genetic engineering. Breeding 4.0 and rapid crop domestication are increasing access to new varieties and reducing pesticide use. GM crops have the potential to improve agriculture sustainability and livelihood of farmers. Increase profits. Accurate improvement of key traits. GM crops could build resilience against changing climates and reduce the environmental footprint of agriculture. Increase stress-tolerance in crops. Prevent soil erosion. Enable reduced tillage practices. Increase crop productivity. Lead to effective pest control. Enhance nutritional quality. Extend shelf-life. Supply micronutrients. Remove allergens from food. Reduce mycotoxins in food. GM crops could impact food availability, food access, food utilization and food stability. GM crops could address food safety and recombinant medicine production.