

California Seed Association Fact Sheet Series



Background

Genetic Use Restriction Technology is the name given to proposed methods for restricting the use of genetically modified plants by causing pollen or seeds to be sterile. GURTs were developed to prevent the escape of transgenes to conventional crops, organic crops, or wild species and to provide intellectual property protection in specialty crops in which there has been little research investment. The broader goal of GURTs is to be able to control the expression of specific traits in specific generations, which has many uses in plant breeding and crop production.

There are two kinds of GURTs: Varietal GURTs, once triggered, cause the seed to be normal in size but unable to germinate; and Trait GURTs, when triggered, cause the plants to express a specific trait. They are only triggered to express a trait when that specific trait is needed in a particular growing season.

Non-viable seeds produced on Varietal GURT plants could reduce propagation of volunteer plants. Volunteer plants can become an economic problem for larger-scale mechanized farming systems that incorporate crop rotation. Under warm, wet harvest conditions, non Varietal GURT grain can sprout, which lowers the quality of grain produced. Use of Varietal GURT technology could also prevent movement of transgenes into wild relatives and prevent impact on biodiversity.

More Information

Convention on Biological Diversity (CBD)

(<https://www.cbd.int/programmes/areas/agro/gurts.aspx>)

International Seed Federation (ISF)

(http://www.worldseed.org/en-us/international_seed/biotechnology.html)

Canadian Food Inspection Agency

(<http://www.inspection.gc.ca/english/plaveg/bio/gurtse.shtml>)



Q

I hear a lot about GURTs. What are they and how are they used?

A

GURTs stands for Genetic Use Restriction Technologies. GURTs are transgenic technologies which control the germination of seed or the expression of specific traits in plants.