

Q: WHAT IS DNA FINGERPRINTING? IS THIS A NEW TECHNOLOGY?

A: DNA fingerprinting is a molecular and bioinformatics technology that allows identification of individuals and family relationships based from a DNA sample. Fingerprinting technology in humans, or DNA profiling, has been in use since the early 1980's for forensics, paternity testing, and other types of DNA-based identification. FGI adopted this technology in 2020 to provide additional protection for Roundup Ready® alfalfa products.

Q: HOW DOES FGI USE FINGERPRINTING?

A: We use fingerprinting as a tool to characterize and identify our proprietary genetics, and better understand the genetics of products or varieties developed using FGI germplasm. Basically, having genetic fingerprints of our germplasm base allows us to identify in a blind test whether alfalfa seed or plants originated within FGI. It also allows us to infer relationships among alfalfa populations, similar to genealogy and ancestry testing in humans. Another way to say this is that it is a forensics-based approach to tracing and protecting our germplasm through DNA analysis.

Q: WHAT DOES FINGERPRINTING DO? HOW DOES IT PROTECT THE GROWER?

A: By fingerprinting our germplasm, we can confirm that the seed going into the bag has the expected genetic makeup. This provides assurance to the grower that the product is developed from authenticated and quality-checked genetics, and therefore they are getting an added measure of quality and authenticity.

Q: HOW DOES FINGERPRINTING PROTECT THE SEED INDUSTRY?

A: DNA fingerprinting technology brings the power and precision of molecular tools to variety identification and differentiation. It adds to the tools available to product developers to ensure that patented seed varieties are unique. The DNA fingerprint is an objective measure of uniqueness because it is based on reportable DNA sequence information.

Q: HOW AND WHEN IS FINGERPRINTING DONE?

A: To generate a fingerprint for a given variety, alfalfa material is collected, and the DNA is extracted and isolated in a laboratory. The DNA sequence is then determined at over 5000 positions to generate a fingerprint, which is added to FGI's bioinformatic database projected to represent over 50,000 plants by fall of 2023. Fingerprints are analyzed by statisticians to confirm the expected genetic makeup and relationships to other materials in the database. The testing can be completed within 4-8 weeks. FGI fingerprints new varieties before commercial launch as a step-in variety patent and product development processes, long before the products reach the market.

Q: IS THERE AN ADDED COST ASSOCIATED WITH BUYING FINGERPRINTED PRODUCTS?

A: No, there is no additional cost associated with fingerprinted products. The fingerprinting process is part of FGI's product development pipeline and quality assurance, and we will not pass that on to the grower. Growers that buy FGI alfalfa products can rest assured that the product meet strict performance standards, including trait purity and yield.

Harvesting for seed or planting patented seed saved from a prior harvest without the patent owner's permission is illegal.

- Numerous patented traits are present in alfalfa products and other crops.
- Germplasm may or may not be protected by patents and/or other intellectual property rights.
- Persons who actively encourage or induce farmers to harvest for seed and plant saved seed that is protected may be liable for infringement.
- Growers must follow all terms and conditions in any limited use license, including the Technology Stewardship Agreement (TSA) and Seed & Feed Use Agreement (SFA).
 - These guidelines are in place to help preserve investment and seed trait value for all growers. They also ensure that research and development efforts will continue to bring new innovations to the marketplace.
- For questions regarding seed intellectual property, or to anonymously report a saved seed tip, you can contact FGI in the following ways:
 - Call 1-855-227-8917
 - Send a letter:
FGI Trait Stewardship
P.O. Box 64101
St. Paul, MN 55164-0101
 - Submit a contact request at foragegenetics.com/contact
or scan the QR code



Any seed, regardless of brand, that contains any of the following traits is patented and can only be obtained through and used pursuant to the terms of a limited use license such as the TSA or SFA:

Alfalfa: Roundup Ready® Alfalfa, HarvXtra® Alfalfa with Roundup Ready® Technology and UltraCut® Disease Package

A grower harvesting for seed or planting saved seed containing one or more of these traits will be liable for infringement of one or more patents and subject to a monetary judgment and/or injunction.

Most alfalfa seeds containing that trait are still covered by other forms of intellectual property in the United States, including patents on specific alfalfa varieties, native trait patents and Plant Variety Protection certificates that plant breeders obtain when they develop a new variety.

For a list of FGI's trait patents visit foragegenetics.com/patents