

## FAQs

**Q: What is HarvXtra™ Alfalfa with Roundup Ready® Technology?**

A: HarvXtra™ Alfalfa with Roundup Ready® Technology is the industry’s first genetically enhanced alfalfa technology developed to maximize quality compared to conventional alfalfa at the same stage of maturity, by reducing the amount of lignin in the plant.

**Q: What are the benefits of HarvXtra™ Alfalfa with Roundup Ready® Technology?**

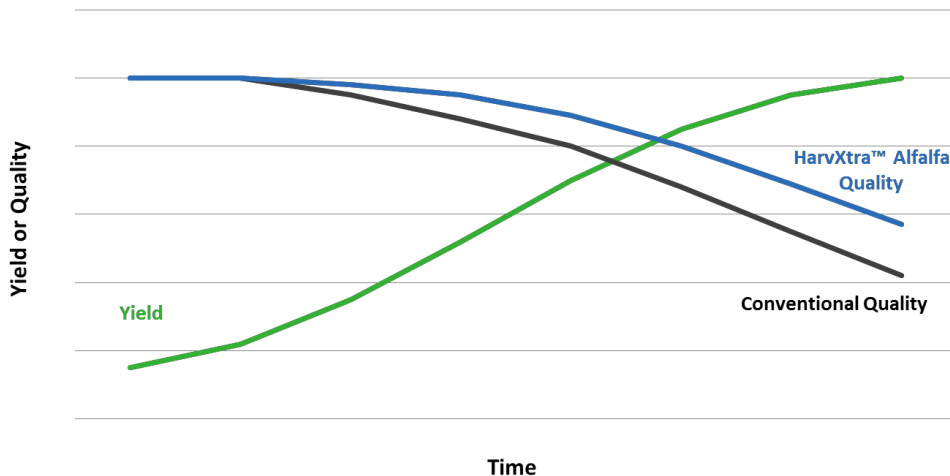
A: HarvXtra™ Alfalfa with Roundup Ready® Technology gives growers the ability to better manage the yield-versus-quality tradeoff. It offers more flexibility in the cutting schedule to achieve improved forage quality or greater yield potential, when compared to conventional alfalfa at the same stage of maturity.

**Q: What will HarvXtra™ Alfalfa with Roundup Ready® Technology do for growers?**

A: The HarvXtra™ technology provides unprecedented control by widening cutting windows, which gives growers the option to:

- Maintain their normal harvest schedules for higher-quality forage, or
- Delay harvest for 7-10 days for increased yield potential, without sacrificing forage quality, compared to conventional alfalfa at the same stage of maturity.
  - The ability to delay harvest, gives growers the option to decrease the number of cuttings over a growing season, which can reduce harvest costs and potentially improve the life of the alfalfa stand.

**Yield vs. Quality Tradeoff in Alfalfa**



**Q: What is the difference between HarvXtra™ Alfalfa with Roundup Ready® Technology and conventional alfalfa developed for improved quality?**

A: Genetically-enhanced HarvXtra™ technology fundamentally changes the relationship between forage quality and stage of maturity, by modifying lignin content beyond what is possible with conventional alfalfa breeding techniques.

- HarvXtra™ Alfalfa has on average 12-15% less lignin and 12-15% higher neutral detergent fiber digestibility (NDFD) and relative forage quality (RFQ) than conventional alfalfa harvested at the same stage of maturity.
- Since there is little genetic variation in lignin content in conventional alfalfa, breeding for increased digestibility is limited, and selection for improved quality often results in a decrease in forage yield potential, which is not seen in HarvXtra™ Alfalfa with Roundup Ready® Technology.

**Q: Who developed the technology?**

A: HarvXtra™ Alfalfa with Roundup Ready® Technology is the latest breakthrough in alfalfa technology from Forage Genetics International (FGI). It was developed through a strategic partnership formed among FGI, The Samuel Roberts Noble Foundation, the U.S. Dairy Forage Research Center and Pioneer, in conjunction with Monsanto.

**Q: How will HarvXtra™ Alfalfa with Roundup Ready® Technology be sold?**

A: HarvXtra™ Alfalfa will be stacked with Roundup Ready® Technology, which enables growers the ability to apply Roundup® brand glyphosate-only agricultural herbicides up to 5 days before cutting for unsurpassed weed control with excellent crop safety.

**Q: Where will HarvXtra™ Alfalfa with Roundup Ready® Technology be sold in Canada?**

A: HarvXtra™ Alfalfa with Roundup Ready® Technology is only for sale and planting in limited geographical areas (the Canadian provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland). Growers must direct any product produced from HarvXtra™ Alfalfa with Roundup Ready® Technology for Canadian or US domestic use only.



■ Approved Usage Area

**Q: For a given stage of maturity, are the crude protein levels in HarvXtra™ Alfalfa with Roundup Ready® Technology any higher than those observed in conventional alfalfa?**

A: The HarvXtra™ trait significantly reduces the amount of lignin in the plant, so any direct impact on crude protein levels in HarvXtra™ Alfalfa with Roundup Ready® Technology would not be expected. However, over a large number of replicated field trials in the Midwestern and Northeastern U.S., we have observed consistent improvements in crude protein percentages for HarvXtra™ Alfalfa with Roundup Ready® Technology when compared side-by-side with conventional alfalfas at the same stage of maturity.

**Q: Is lodging a concern with HarvXtra™ Alfalfa with Roundup Ready® Technology?**

A: Lodging potential for HarvXtra™ Alfalfa with Roundup Ready® Technology is equal to most commercial varieties harvested at the same maturity. Delaying harvest will increase risk of lodging for all alfalfa varieties.

**Q: Will there be a yield drag with HarvXtra™ Alfalfa with Roundup Ready® Technology?**

A: No, forage yield will be comparable to currently available alfalfa products.

**Q: Is the drydown with HarvXtra™ Alfalfa with Roundup Ready® Technology the same as conventional alfalfa?**

A: Yes, drydown of HarvXtra™ Alfalfa with Roundup Ready® Technology is comparable to products currently available.

Export and planting restrictions apply. See <http://www.monsanto.ca/ourcommitments/Pages/TUG.aspx> for more information.

**Use Limitations for HarvXtra™ Alfalfa with Roundup Ready® Technology.** HarvXtra™ Alfalfa with Roundup Ready® Technology hay or hay products must be directed only to Canadian or U.S. domestic uses. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their product purchaser to confirm their buying position for this product. This technology may be sold and plated only in the provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland. Please contact Forage Genetics International at 855-237-9897 or refer to the Technology Use Guide for additional information. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** Roundup Ready® technology contains genes that confer tolerance to glyphosate, an active ingredient in Roundup® brand agricultural herbicides. Agricultural herbicides containing glyphosate will kill crops that are not tolerant to glyphosate. Roundup Ready® and Roundup® are registered trademarks of Monsanto Technology LLC, Monsanto Canada, Inc. licensee. HarvXtra™ is a trademark of Forage Genetics Internal, LLC. HarvXtra™ Alfalfa with Roundup Ready® Technology is enabled with Technology from The Samuel Roberts Noble Foundation, Inc.