Soybean for Polyurethane Production

- Polyurethane production using soybean oil as a raw material provides opportunities to develop novel technologies for the automotive industry.
- The objectives of this study were to identify soybean lines for commercial production with fatty acid profiles optimal for polyurethane production and to identify the molecular and biochemical components determining the soybean oil fatty acid profile.

What the Researchers Did:

- Two field locations in Ontario were used to measure agronomic and seed traits of 20 soybean lines in 2010 and 2011.
- Different rates of phosphorus and potassium were applied to a high-linoleic soybean line to identify the optimal level for high linoleic seed production.
- DNA markers were used to identify regions of the genome associated with seed fatty acid content.

Can we Develop a Soybean Line for Polyurethane Production?

- Field evaluation identified soybean lines optimized for polyurethane production as commercially viable.
- A high potassium fertilizer treatment resulted in the optimal seed oil profile for polyurethane production.
- DNA markers associated with seed fatty acid contents were identified across a diverse set of soybean lines and across multiple locations.

What You Need To Know:

- Soybean lines developed for polyurethane production provide a sustainable green solution for the automotive industry in Ontario which may provide a premium for Ontario soybean producers.
- Development of bio-renewable feedstocks for polyurethane manufacturing supports global sustainability and stimulates local economy.

To know more
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Veggie-Based Car Parts
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