FROM PLANTS • FOR PLANTS
READY • SET • GROW

Powered By LIGNITION™
Our LigniJoule Products

LigniJoule Products are powered by the Earth’s most fundamental process – photosynthesis. By capturing LIGNIN, a compound abundantly stored in all plant matter, LigniJoule products are able to support the efficiency of photosynthesis to higher levels. Plants are able to grow faster and develop stronger for longer periods of the crop year.

How It Works

LigniJoule products are comprised of a bio-polymer made using a patented process from a by-product of the pulp and paper industry. When paper is produced, lignin is extracted from the raw wood pulp so high-white papers can be produced. This is the raw material used in our process. Derived from plant-based raw materials – trees – our patented process creates products that are 100% water-soluble.

Dissolve LigniJoule Products in water and apply to any:

- **SEED**
- **SOIL**
- **FERTILIZER**
- **CROP LEAVES**

Once dissolved in water and applied, captured energy in the lignin supports the ongoing photosynthetic processes. The 100% soluble powders are extremely active needing only small amounts per acre or applied to seeds.

Generally, rates of use for seed applied are 40 bushels to 80 bushels per Litre. With foliar rates from 1/4 Litre to 3/4 Litre per acre.

What is Lignin?

Lignin is an essential organic carbon containing compounds that help support the structure of all plant material on Earth. Grown tight into the plants structures as the crop grows, lignin is found in stems, branches, leaves, as well as roots. This supports the plant’s tops as they capture solar radiation from the Sun to power photosynthesis. With no lignin, plants would be flat on the ground! Lignin is essential for carbon to cycle efficiently.

How We Know It Works

LigniJoule products are tested every year, not only for quality of the manufactured goods, but for ease of use as well as practical measurable results. Trials are conducted every year in small plots and also field test strip demonstrations.

Canola Trial 2016

3rd Party Research Data Conducted at M.A.R.A.

<table>
<thead>
<tr>
<th>Yield (Bu/Ac.)</th>
<th>After Treatment</th>
<th>Untreated Control</th>
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<tr>
<td>Control</td>
<td>60.5 Bu/Ac.</td>
<td>72.08 Bu/Ac.</td>
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<tr>
<td>With Herbicide</td>
<td>71.54 Bu/Ac.</td>
<td>70.56 Bu/Ac.</td>
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<tr>
<td>With Fungicide</td>
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For more information and trial data, find us online at these websites!

www.carlisleliquid.com  www.lignition.com
Benefits For Your Crops

With the power of LigniJoule products applied to your crops, your cropping systems will more efficiently access solar radiation, carbon dioxide, and even water. Productivity from the plant scale, to the acre basis, gives greater opportunity for profitability.

By tapping into the free power of photosynthesis, your crops and crop yields have the potential to:

- **GROW STRONGER:** Being more resilient for longer.
- **GROW FASTER:** Treating the seeds for the fastest start.
- **GROW TALLER:** A few centimetres taller makes the crop factory larger.
- **GROW BIOMASS:** To capture ever more sunlight to power photosynthesis.

Environmental Benefits

By treating your crops with LigniJoule products, you are investing in the vitality and viability of your yields and your fields, while also investing in the Earth's sustainability. As a result of a stronger and more resilient photosynthetic processes within your plants, more carbon dioxide (\( \text{CO}_2 \)) will be consumed by all LigniJoule treated crops. As crops grow larger and stronger, they need to absorb more \( \text{CO}_2 \) to support their own growth while also releasing clean oxygen into the air. This means less problematic \( \text{CO}_2 \) will be trapped in our atmosphere and impacting our air, water, and soil – all things imperative to sustaining human life.

By applying LigniJoule products to crops, you aren’t just enhancing your crop’s growth for your own yields, your helping to grow a more resilient environment for future generations.
Lignition Corporation is a small private company dedicated to making the full power of photosynthesis available to agriculture, and also to society’s general benefit. Whether viewed from how well Lignition treated crops can support photosynthesis and higher yields, or ultimately consume and “FIX” CO₂ – this process is evolving. Lignition Corp. is dedicated to working within the Earth’s existing cycles and processes, the most basic of which being photosynthesis and the cycling of carbon.

As society struggles with challenges such as carbon dioxide, food supplies, population pressures, and resource use efficiency, staying within the existing systems that have evolved over millions and millions of years is essential. Lignin and carbon are essential to society’s existence and progress.

The direction at Lignition Corp. is to support Canadian and worldwide agriculture endeavours.

### WESTERN CANADA & NORTHERN U.S.A. DISTRIBUTOR

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<th>Company</th>
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<td>Carlisle Liquid Starters</td>
<td>Darrel Carlisle</td>
<td>204-483-2774</td>
<td>Carroll, MB</td>
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<td>DSW Enterprises &amp; Consulting</td>
<td>D. Scott Walker</td>
<td>204-724-5706</td>
<td>Nesbitt, MB</td>
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<td>Oakwood Plant Foods Inc.</td>
<td>Frank Helen</td>
<td>204-292-8552</td>
<td>Oakbank, MB</td>
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<td>Payette Seeds</td>
<td>Mike Payette</td>
<td>204-526-0978</td>
<td>Rathwell, MB</td>
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<td>High Quality Grain</td>
<td>Dan Bullinger</td>
<td>701-228-8344</td>
<td>Bottineau, ND</td>
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<td>R.O.I. Enterprises LLC.</td>
<td>Jeremy Mosser</td>
<td>701-240-4076</td>
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<td>701-228-8799</td>
<td>Rolette, ND</td>
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<td>Synergy Ag</td>
<td>Ray Howell</td>
<td>306-731-7696</td>
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<td>Trent Zwingli</td>
<td>306-921-7234</td>
<td>Melfort, SK</td>
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### SASKATCHEWAN

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  - Govan, SK

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  - Trent Zwingli
  - 306-921-7234
  - Melfort, SK

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  - Schuler, AB

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  - Manning, AB

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  - Jordan Schmaus
  - 780-385-1221
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- **R A West Int.**
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  - Vulcan, AB

- **Synergy Ag**
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  - Provost, AB

### EASTERN CANADA DISTRIBUTOR

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  - 519-421-7936
  - Brantford, ON