LIGNITION®

READY. SET. GROW.

Supporting Photosynthesis, Agriculture, and Fixing Carbon Dioxide!

How agriculture can help get a handle on society's most pressing problem.

Carbon dioxide (CO_2) is a naturally occurring gas found in the atmosphere of Earth and as records have clearly shown, levels of CO_2 have been rising over time. Why is this an issue for us? Although Earth does naturally produce CO_2, while it accumulates and stays trapped in our atmosphere it negatively impacts our life on Earth, but with **photosynthesis and Lignition products, we can actively begin to help manage our planet's CO_2 levels.**

A Little About CO_2

As a heat trapping gas, CO_2 helps to maintain the temperature (Greenhouse Effect) on Earth which allows humans to stay alive, thrive, and continue to develop. Without it our Earth would be a much colder place; approximately -18°C. With rising levels of CO_2 that are acting as a heat trapping gas, Earth's temperature has steadily risen and passed +1.5°C (+2.7°F) some time ago (base line 1750).

Human society has developed over many centuries on Earth, about 200,000 years, with Earth being about 4.5 billion years old. CO_2 has been present in Earth's atmosphere at about 270-280 parts per million (ppm) for a lot of this human time frame.

Starting in about 1750 with the first signs of industrial activity and expansion, steadily but surely CO_2 levels in the atmosphere have been rising. Today, we have reached levels that have not been experienced on Earth for ~10 to 15 million years. Latest levels are now recorded at 414.27 ppm* at a peak, and still rising at an increasing rate. Considering the typical historical natural rate of change is ~100 ppm in 5,000 to 20,000 years, we're seeing a ~40 to 160 times faster rate of change!

Projections are regularly made using computer climate models that put CO_2 levels at well over 450 ppm by 2050, with even higher levels by 2100 at approximately 550+ ppm. Humans are facing a potential crisis from the worldwide unrelenting burning of fossil fuels which is adding to the already long-lasting CO_2 from previous generations and needs to be mitigated in all ways possible, and not just through emissions control; now **CO_2 removal is essential.**

Human society is adding CO_2 to the Earth's atmosphere ~29 billion tonnes per year!

Why is CO2 Rising?

Industrial and human activity continue to increase the CO2 levels steadily as a result of human society's heavy use of fossil fuels. As CO2 levels rise so does the Earth's temperature, along with an increase in the release of gases from natural sources.

CO2 that ends up in the atmosphere remains there for a very long time, possibly thousands of years, or even forever! Certain reactions among the Earth's existing systems will sequester/store CO2 for various lengths of time, potentially trying to balance Earth's systems. We know part of this process as photosynthesis; and our source of oxygen by the way!

However, human interactions have disrupted this in a big way. One of the largest consumers of CO2 is green plant matter; trees, grasses, all crops and plants or even algae. Photosynthesis has been performing the role of a natural sponge of CO2 as it helps to sequester CO2 in plants, as well as in roots and soils, in order to generate growth. Photosynthesis is the basis for all life on Earth.

Use More CO2 For Bigger and More Productive Crops!

Think of CO2 as plant food. Photosynthesis combines CO2 along with water and sunlight energy to grow crop yield and biomass. Biomass is about half made up of carbon which comes from CO2. Utilizing the increasing levels of CO2 in Earth's atmosphere as plant food makes it possible to grow larger amounts of stronger, bigger crops delivering more yield - and using up CO2.

Capturing CO2 builds biomass (crop top growth) which in turn will capture more solar radiation/sunlight using bigger leaves and stems, taller plants and increased leaf pigments to power and energize yet more photosynthesis in active positive feedback loops.

Using Lignition products (www.lignition.com), you can utilize the increasing CO2 trapped in our atmosphere for your crops. Our products are readily able to support the existing efficiency of photosynthesis to higher levels by adding energy allowing crops to capture these higher levels of CO2. Plants are able to grow faster and develop stronger for longer periods of the crop year.

Growing maximum agricultural crops that photosynthesize at the highest efficiency possible makes the drawdown of CO2 a practical option over every acre of crop land. Using only low rates of added crop inputs per acre to produce bigger and better yields is a key part of the total solution. Major crops absorb multiple tonnes of CO2 per acre. For example, corn can absorb up to ~14+ tonnes per acre, soybeans up to ~5 tonnes per acre and wheat up to ~5 tonnes per acre. Photosynthesis has slowly and steadily evolved over >700,000,000 years - **So let's use it!**

This is a practical **solution that is readily available RIGHT NOW!** A difference can be made and the growers choosing to follow this plan can do so in the knowledge that their efforts can be rewarded right from the market. **Bigger yields pay better. With potential for 9-10 billion (~7.5 billion now) people on the horizon, more food will need to be produced. A lot more!**

Maximize FREE Crop Inputs to Grow Bigger Yields on YOUR acres every season

Make a practical contribution to lowering CO2 in the atmosphere with the use of our photosynthesis supporting products **LIGNISEED, LIGNILEAF** and **SUN FIX** for general application to all agricultural and horticultural crops. **Use the natural power of photosynthesis!**

*Measured NOAA Mauna Loa Hawaii, February 9, 2019

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