



*....Making Carbon Green*

# **Microcatalytic Coal Liquefaction Green House Gas, Water, and Waste Management**

---



## ***Accelergy TerraSync™ Ideal Compliment To MCL***

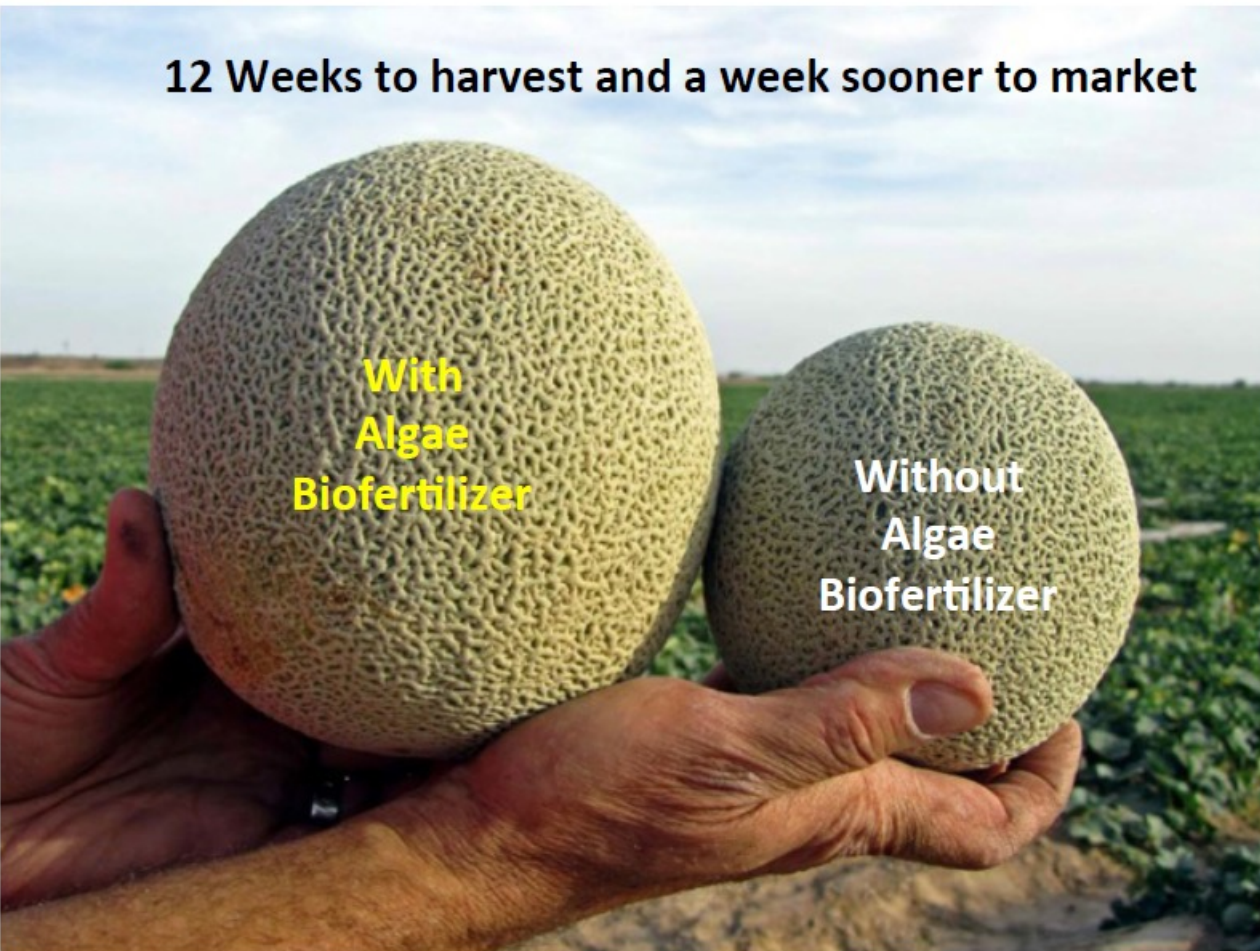
---

- **Combination of MCL and TerraSync™ proprietary**
- **Pure CO<sub>2</sub> and ammonia produced in MCL project provide feedstock for low cost TerraSync™ (bio-fertilizer) production**
- **Formulated live bio-fertilizer added to farm land**
- **Algae continues to grow via consumption of CO<sub>2</sub> from the atmosphere**
  - Also fixes nitrogen from the atmosphere
- **Because of continued growth, only requires processing of 5% of CO<sub>2</sub> produced in plant to offset plant emissions**
- **Initial testing exceeding expectations**

- Algae cultivated in simple PBR's adjacent to the melon field
- Algae distributed through drip irrigation system



12 Weeks to harvest and a week sooner to market



Yosemite Melons	
Germination	2X
Early Growth	2.5X
Plant Size & Density	3X
Early Melon Maturity	2X
Mature Melon Size	1.4X
Mature Melon Weight	1.5X
Taste (blind panel test)	14:1



## **NEXT – 82 Acre Demonstration**

- Rice – 32 Acres
- Alfalfa – 25 Acres
- Vegetables – 8 Acres
- Saline alkali soil remediation – 16 Acres



....Making Carbon Green

## ***Waste and Water Management Options***

---

- **Unconverted MCL bottoms disposal**
  - Coal is routinely used for fuel in cement plants
  - Bottoms can be used as a replacement for coal
- **Replacing coal with unconverted MCL bottoms has several advantages:**
  - Bottoms are dry; therefore, energy not required to vaporize water
  - No net CO<sub>2</sub> produced
  - Coal ash becomes part of cement thus eliminating land fill
- **Zero waste water discharge**
  - Where required, the MCL plant can be designed for zero waste water discharge
  - Waste water used in hydrogen production plant





....Making Carbon Green

## ***MCL Plant Can Be Designed To Eliminate Air, Water, and Solids Emissions***

---

- **The only products from a C2XX designed MCL plant would be:**
  - Fuels or chemicals
  - Bio-fertilizer
  - Cement