

PWMAS

(Powell Water Micro Algae Systems)

Lagoon

Micro Algae

Electrocoagulation

Powell Water Micro Algae Systems (PWMAS) Innovative Lagoon and Electrocoagulation

- 90% reduction in electrical aeration costs.
- 90% reduction in accumulated lagoon solids.
- 90% reduction in carbon dioxide creation.
- 50% reduction in disinfection costs.



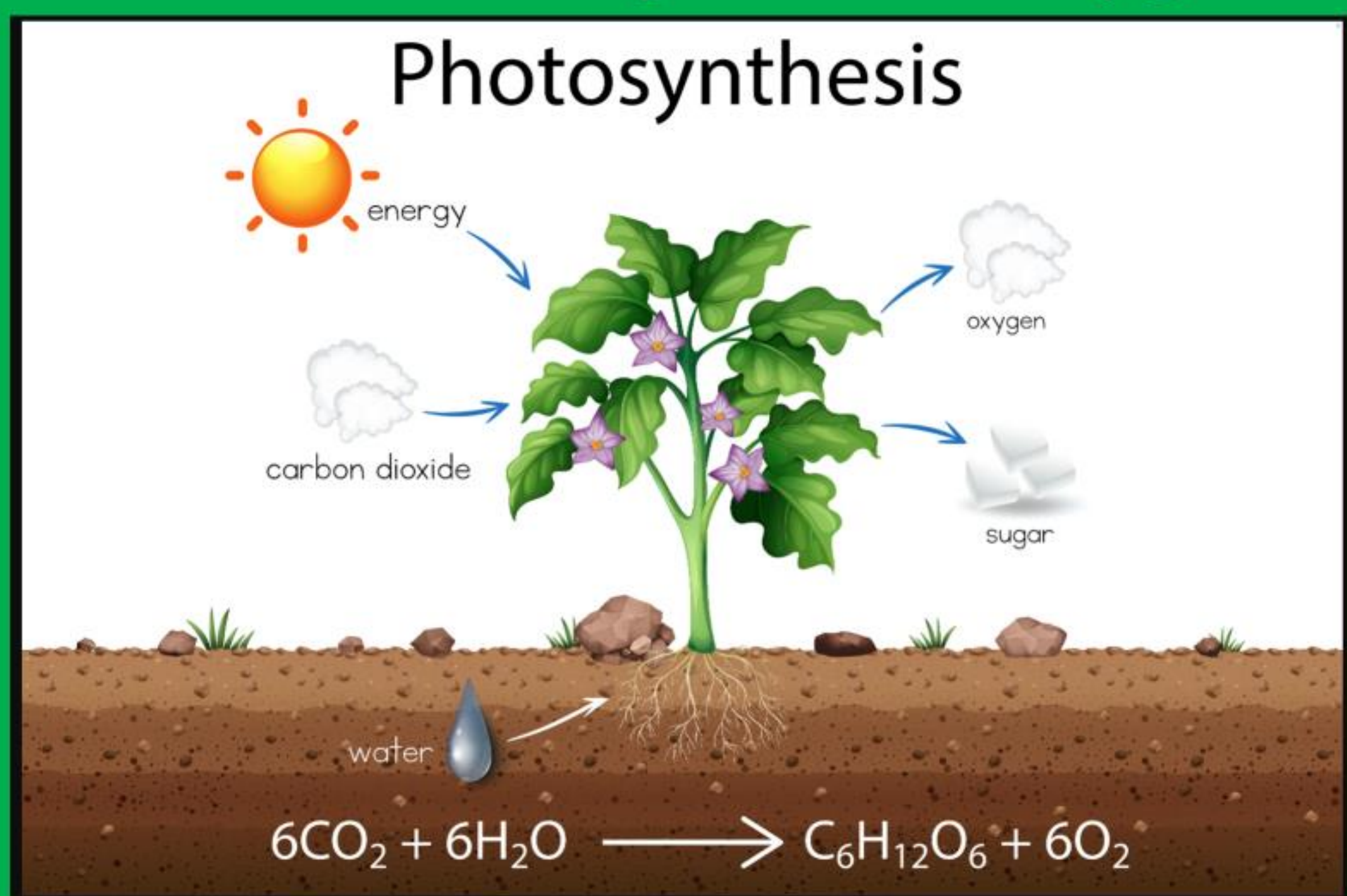
Primary Treatment
Lagoon efficiency improves with additional oxygen.

Selected micro algae and microbes allow nature to clean the water for reuse.

Tertiary Treatment
Removes heavy metals, viruses, bacteria, etcetera.

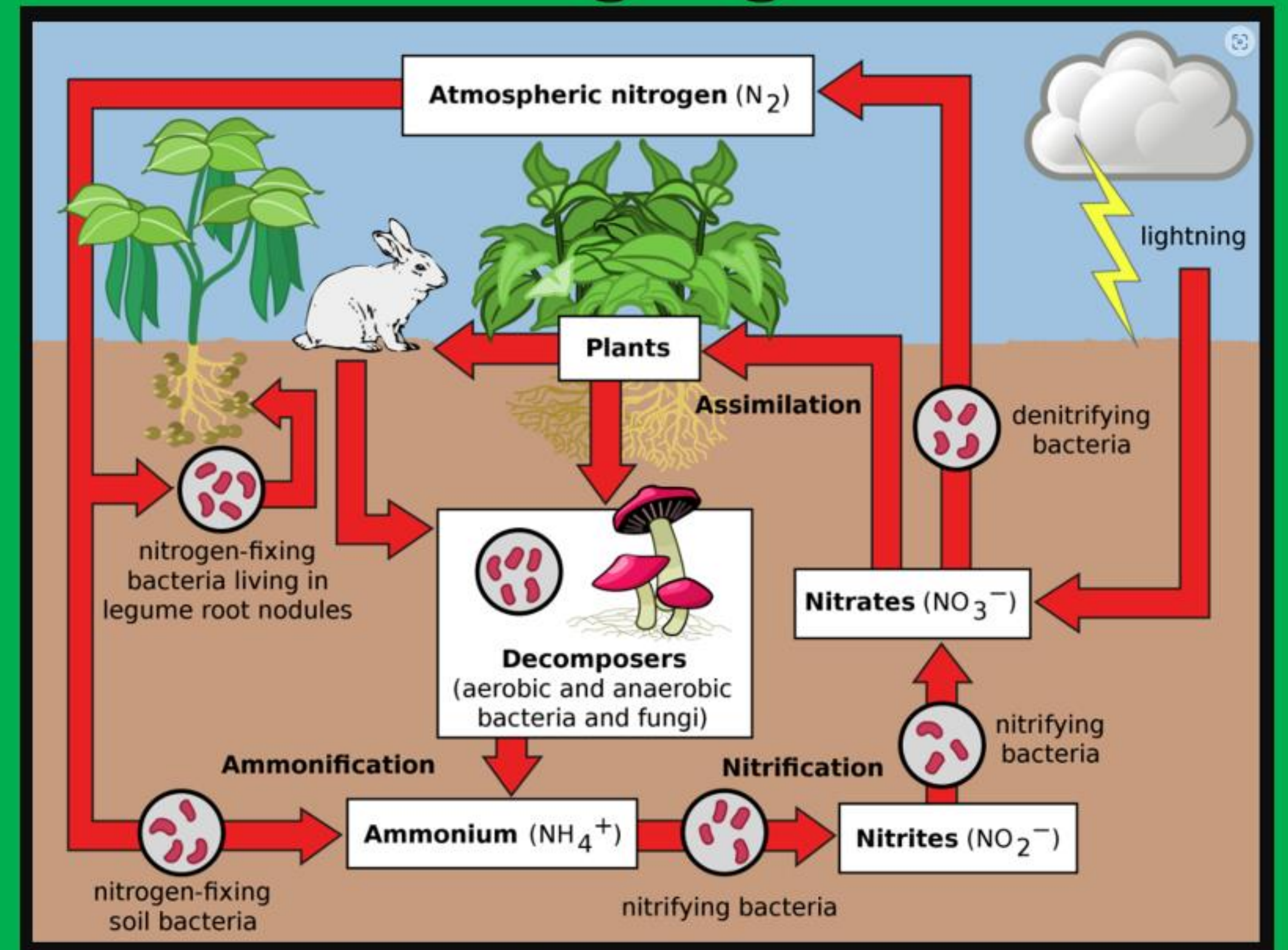
Patent No: US 10,358,361 B2 & 11,407,660 B2

Micro Algae Converts Carbon Dioxide to Oxygen 1.4 pounds of Carbon Dioxide is converted to 1 pound of Oxygen



Microbes Consume the Sugar and the Oxygen in the Lagoon
2.5 pounds of carbon dioxide per pound of BOD
6.4 pounds carbon dioxide per pound of ammonia.

Microbes convert ammonia to nitrogen gas.



Nature always finds a way to restore the environment when given the chance.

Cultivated Micro Algae and Microbes are continuously fed into the Lagoons



A variety of Micro Algae and Microbes are continuously added to the Lagoon, some always thrive in the present environment

Eliminate Mechanical Aeration



Eliminate Odor with up to 20 parts per million oxygen generated by the Micro Algae

Reduce aeration electricity cost by 90%
Eliminate sludge build up in the Lagoon

Organics are Consumed in the Lagoon Inorganics Dry Completely in Beds



Reduces sludge volume by 83% for disposal as a class B biosolid.
Eliminates Vector attraction concerns because Solids Dry Completely.

Powell Water Micro Algae System (PWMAS) Nature's Way of Cleaning Water for Abundant Use



Electrocoagulation & Support Equipment
Powell Water System, Inc.
Scott Powell, President
(303) 241-2489



Design, Build, and Operation
Lagoon Logistics, LLC
Jeff Couch, President
(970) 231-9937



Microalgae Microbe Assemblages
Sundine Enterprises,
Judd Sundine,
Horticulturist
(720) 363-0548

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