Cultivating an Invasion: Giant Reed, Climate Change and Biofuels

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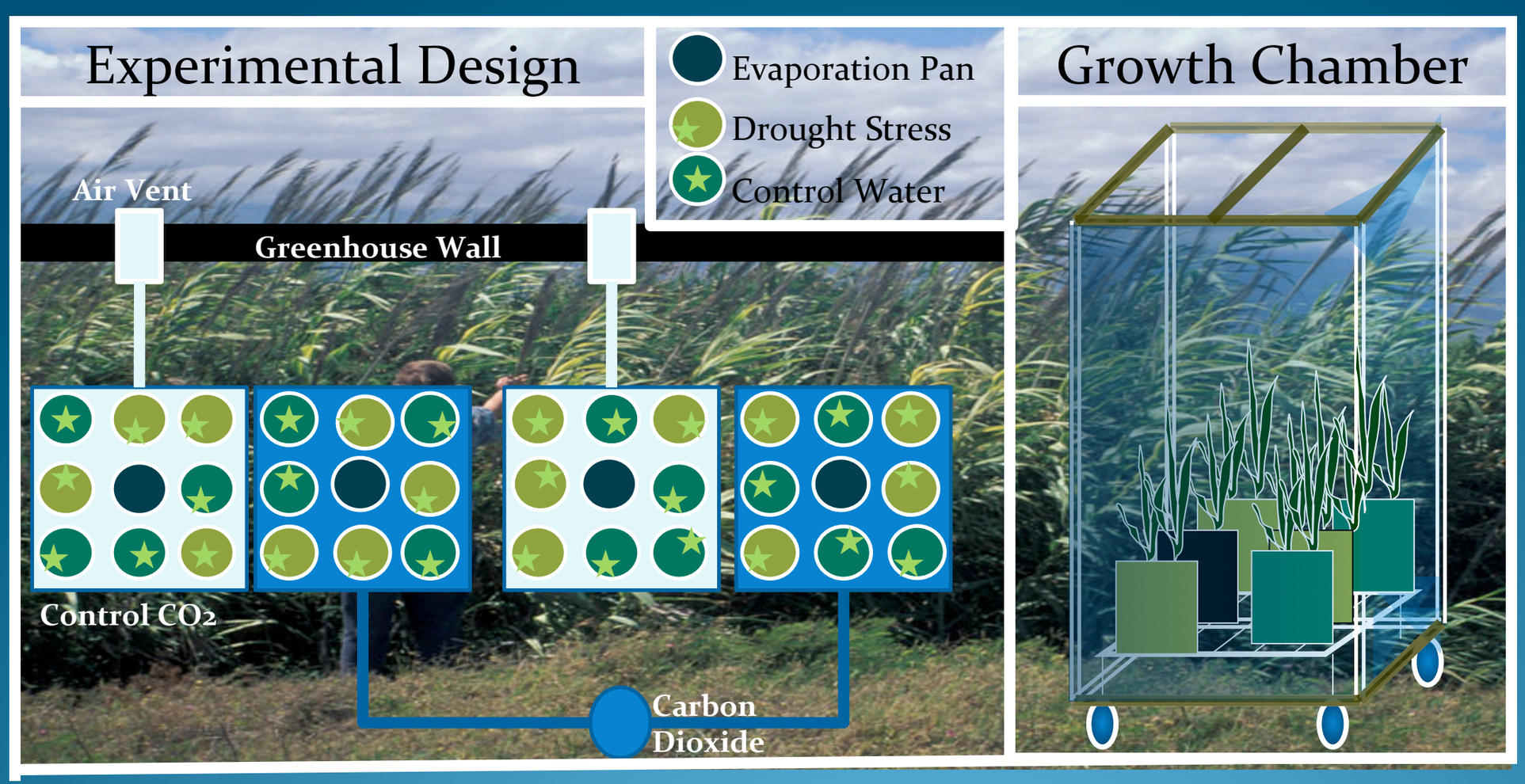
Giant reed (*Arundo donax*) is one of the largest herbaceous grasses in the world and was selected as an optimal biomass feedstock, because of its rapid growth rate and large biomass yields. In the United States, giant reed was introduced by Spanish settlers as an erosion control agent in drainage canals. Since its introduction into North America, however, it has become a major invasive weed of riparian habitats throughout warm fluvial ecosystems.

This research attempts to link giant reed and invasion biology, with riparian hydrology and biofuel production; in the context of eastern Washington under various climate change scenarios.

Giant reed growth responses will be evaluated under two treatments:
•**Carbon Dioxide** (CO_2): control and elevated: 385 ppm, and 700 ppm, respectively.
•**Water**: control and drought stressed.



The treatments will be tested in growth controlled chambers in the Douglas Conservatory at the University of Washington Botanic Gardens. The tests will analyze whether or not giant reed has a competitive growth advantage in droughty conditions with high CO_2.