U of A CEAC short course 2012

**Title:**

Plants in Aquaponics

**Name of Presenters:**

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Department of Soil, Water & Environmental Science (SWES)

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**Summary of Presentation:**

Aquaponics has proven to be a productive and versatile method of plant production. Plant selection for aquaponics depends on many factors including environment, nutrient concentrations, hydroponic technique, desired production, and market demand and pricing. The list of plants that can be grown aquaponically is continues to expand. Essentially, any plant that does not require an extreme pH can be grown in an aquaponics system with proper nutrient ratios and concentrations in addition to the appropriate hydroponic technique being applied. So far the majority of plants grown in aquaponics are vegetative leafy green plants that do well with the types of effluents commonly produced by tilapia, catfish and trout. These plants have been proven to be effective in aquaponics through numerous studies and these plants will be the primary focus of the presentation. We will describe the plants that we have used most commonly here in Tucson in our aquaponics trials and in the trials that were conducted several years ago for the Biosphere 2 project.

It was with the Biosphere 2 project that we first started the integrated production systems with fish and a variety of plants grown in floating rafts, in gravel, in sand, in bags, and in soil. It was in this wide variety of production systems that we settled on raft culture as the most cost effective for large scale production with hydroponics. However, we are very supportive of fish production in irrigation systems and the ultimate use of effluents for crop irrigation and fertilization.

The presentation will include photos, scientific and common names, and descriptions of the plants that have the greatest immediate potential in aquaponics. There is a much broader list of plants that might have medicinal or cultural values that could be added to this preliminary list.

**Biography:**

Eric D. Highfield is 33 years old and about to complete his masters degree from the department of Soil, Water & Environmental & Science at the University of Arizona with an emphasis on Aquaculture and Aquaponics. His undergraduate degree is from the Metropolitan State University of Denver, where he completed a bachelor’s of Science in molecular biology with a chemistry minor and he worked with waste degradation via sub-surface flow wetland systems. Eric has always possessed a passion for environmental responsibility and sustainability, and he has had a longstanding interest in fish and hydroponic production as a hobbyist. He is well versed in real world experiences and has worked many jobs ranging from construction to bartending. All of these characteristics attribute to the person he is today, and what the future holds for him.

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