Fish Tank Effluent Sampling System

Tech ID: 29230 / UC Case 2018-044-0

ABSTRACT

Researchers at the University of California, Davis have developed a valve system to collect effluent waste from fish in a closed recirculating aquaponic system (RAS).

FULL DESCRIPTION

Recirculating aquaponic systems, or RASs, use a combination of 'aquaculture' (fish) and 'hydroponics' (growing plants without soil) for agricultural applications. Since it uses no soil and much less water than traditional agriculture, RAS is gaining in popularity and represents a growing market. However, monitoring the system for pathogens is critical, and has been challenging as testing creates the potential for cross contamination between aquaponics systems.

Researchers at the University of California, Davis have developed a new valve system for effluent sampling of closed recirculating aquaponic system (RAS). The valve system allows effluence to be sampled without disrupting water flow, and preventing cross-contamination of each RAS during collection periods. The samples in turn can be used to detect the movement of pathogens and study fish fecal material within the RAS to detect foodborne pathogens as well as monitor nutrient content.

APPLICATIONS

- Aquaponics
- Agriculture

FEATURES/BENEFITS

- Collects nutrients for growing leafy greens in a RAS
- Prevents cross contamination
- Provides a way for studying movement of pathogens within RAS
- Can sample fish fecal material without disrupting water flow

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,234,681	02/01/2022	2018-044

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OTHER INFORMATION

KEYWORDS

fish tank, aquaponics, recirculating aquaponic system, nutrients, Salmonella, valve system, fecal sampling

CATEGORIZED AS

- **Agriculture & Animal Science**
  - Devices
  - Other
  - Processing and Packaging

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