Novel Biofilters to Reduce Nitrate Levels in Aquariums (Yissum)
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For aquarium water treatment

Category	Environment, Water Technologies, Biofiltration, Aquarium Filtration
Development Stage	Pilot studies successfully carried out in commercial-size aquariums
Patent Status	U.S. patent granted (no. 6,297,033), Israeli patent granted (no. 117783)
Market Size	The value of ornamental fish and invertebrates imported into different countries worldwide is estimated at $278 million, and the aquarium industry is estimated at over $1 billion.

Highlights

- Technology reduces high nitrate levels in both fresh-water and sea-water aquariums
- Improves water quality to accommodate wider range of aquarium fish and to extend their life expectancy
- Bacteria in the presence of a carbon source reduce nitrate to nitrogen gas over extended periods
- Application in water-purification systems for aquariums

Our Innovation

Novel, permeable polymer beads containing a combination of fermentative and denitrifying bacteria and carbon source reduce nitrate to nitrogen gas; technology superior to existing aquarium nitrate removal systems

Key Features

- Bacteria not harmful to fish
- Effective in both freshwater and marine aquariums
- Denitrifying activity sustained over an extended period of at least several months
- Beads can be adapted to custom requirements; shelf life of the dry preparation—years

Development Milestones

- Seeking opportunity to license the technology and research funding for completion of research and full adaptation of the technology to standardized industrial processes

The Opportunity

Increasing interest in aquariums as a hobby and introduction of exotic new ornamental fish species that are unable to propagate or grow in water containing high nitrate levels requires higher

water-quality standards currently, only a limited number of commercial biofiltration systems adapted to nitrate removal from aquariums are available.

Contact for more information:

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