The Environmental Surveillance of Agricultural Water using WGS and its Impact on Food Safety

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IWRA 2021
FAO Special Session - Bugs & Superbugs: Water Quality and Food Safety and preventing environmental AMR.
Importance of Agricultural Water
NGS of Agricultural Water

- Ecology, Distribution, Persistence
- Combine with genomics (traditional/functional)
  - better source tracking
  - development of preventative controls
THUS, Very important to ensure complete and open access to the WGS data
Collaborations on Agricultural Water Surveillance

Agriculture community

Academic organizations

Government
Meetings - events

The Power of Genomics-Based Water Surveillance: The Fusion of Food Safety, Water Sampling, and Whole Genome Sequencing Provides Insights into Global Pathogen Detection and Spread – November 2019

https://jifsan.umd.edu/events/water-safety

Follow-up JIFSAN symposium - TBD

FAO Sponsored regional meetings - TBD

9th World Water Forum
Consortium goals

- Build collaborations on pathogen monitoring in surface water
- Optimizing and standardizing methods for sampling pathogens (parasites, bacteria, viruses) in surface water
- Evaluate new NGS approaches and metagenomics technologies
- Provide a publicly accessible platform for sharing data
- Develop and provide data analysis tools
- University collaborators – Brazil, Chile, Mexico, US
- Contact: Eric.Stevens@fda.hhs.gov
Thank you