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## Pollution potential indicators for feed-based fish and shrimp culture

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**B**iochemical oxygen demand, acidification potential and elemental waste loads from feed were determined for production *mykiss*, and white leg shrimp *Litopenaeus vannamei*. Loads of these variables in culture systems (system loads) at typical FCRs ranged from 1090-1500 kg t<sup>-1</sup> for biochemical oxygen demand, 270-440 kg t<sup>-1</sup> for acidification potential, 1186-1885 kg t<sup>-1</sup> for carbon dioxide, 35.9-63.5 kg t<sup>-1</sup> for nitrogen, and 6.1-15.9 kg t<sup>-1</sup> for phosphorus. Using these estimates as representative of feed-based aquaculture and literature data on the proportions of system waste loads typically discharged to the environment (environmental loads), the approximate amounts of waste generated globally by feed-based aquaculture were estimated small in comparison to approximate estimates of global anthropogenic waste. Nevertheless, aquaculture should lessen its environmental waste load and reducing waste load by improving FCR will be discussed.

## Biography

Sirirat Chatvijitkul has completed her PhD and MS from School of Fisheries, Aquaculture, and Aquatic Sciences, Auburn University. Her expertise is in "Nutrition in aquatic species". She has conducted research focused on "Alternative protein sources in feeds, exogenous enzymes improving digestibility and nutrient retention in aquatic animals, sustainability and environmental issue in feed-based aquaculture". She is currently working at Auburn Research Station in Gulf Shores, AL. She is responsible for developing feed formulations, producing experimental feeds, conducting experiments in RAS systems, culturing white shrimp in small-scale farming.

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