

What does annual drainage have an effect on phosphorus cycle of irrigation ponds?

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Harima, Hyogo prefecture is one of the regions which have the greatest concentration of irrigation ponds in Japan. The goal of this study was to explore the effects involved in “Ikeboshi”, which means draining and drying up ponds for a certain period of time.

Our research was performed to examine whether “Ikeboshi” was effective in improving and maintaining water quality. To prove causal relations, we determined the amount of phosphorous contained in water of two irrigation ponds: Genta-Ike, which had never been drained for decades and Shinkawa-Ike, which is drained once a year.

First, we collected mud from pond bottom, determined its organic matter content and analyzed the elution rate of phosphorous. Then, we have clarified the patterns of annual mutation which phosphorus circulation went through in the drained pond, considering whether the pond is anaerobic or aerobic, and it is drained or not.

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