

Nitrogen dynamics in flooded soil systems: an overview on concepts and performance of models

ABSTRACT

Extensive modelling studies on nitrogen (N) dynamics in flooded soil systems have been published. Consequently, many N dynamics models are available for users to select from. With the current research trend, inclined towards multidisciplinary research, and with substantial progress in understanding of N dynamics in flooded soil systems, the objective of this paper is to provide an overview of the modelling concepts and performance of 14 models developed to simulate N dynamics in flooded soil systems. This overview provides breadth of knowledge on the models, and, therefore, is valuable as a first step in the selection of an appropriate model for a specific application. © 2017 The Authors. Journal of The Science of Food and Agriculture published by John Wiley & Sons Ltd on behalf of Society of Chemical Industry.

Keyword: Nitrogen; Dynamic model; Flooded soil; Flooded rice