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Xiaoyuan Chang* (smilingchang@126.com), **Junping Shi** and **Hao Wang**. *Analysis of a stoichiometric bacteria-grazer reaction-diffusion model for organic matter biodegradation.*

The dynamical behaviors of a bacteria-carbon-nitrogen reaction-diffusion system with grazers and without grazers are investigated in this paper. It is shown that the bacteria death rate and the grazer death rate play a decisive role in the dynamics of the system. The existence, stability and persistence of the solutions are proved by applying the theorem of existence of eigenvalue, the local and global bifurcation theory, and the abstract persistence theory. Through numerical simulations, the transient dynamic and the oscillation phenomenon are obtained. (Received January 13, 2020)