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Soil quality succession of mudflat in coastal area of China under different types of man-made land uses

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Marshy reclamation in coastal area is becoming an important strategy for food safety security and economic development in China. After the reclamation of mudflat, the nutrient concentration in soil is one of the dominated factors restricting the development of marshy agriculture. However, little information is available for soil nutrient dynamics and its driving mechanisms under different types of man-made land uses. In this review, we summarized the soil nutrient dynamics under different types of man-made land uses (bare mudflat soil, rice-wheat rotation soil, aquaculture soil, and forest soil), including the change of physical and chemical features of the reclaimed soil; ii) the dynamics of soil organic matters and its driving mechanism in marshy land; iii) the migration of N, P, and K in marshy soil; and iv) the oriented cultivation and improvement for soil nutrient in marshy soil. This study contributes not only to understanding the soil nutrient cycling in marshy land, but also to providing valuable information for the sustainable development of salt-soil agriculture in marshy land along seaside cities of China.