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盘锦湿地芦苇群落土壤碱解氮及溶解性有机碳季节动态

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摘要 基于2005年4~10月盘锦湿地芦苇群落土壤不同土层土壤碱解氮及溶解性有机碳的观测资料,分析了盘锦湿地芦苇群落土壤碱解氮与溶解性有机碳(DOC)的季节动态。结果表明:不同土层碱解氮、溶解性有机碳的季节动态并不相同。0~10 cm土层碱解氮与DOC季节动态相似,6月土壤碱解氮与DOC含量均最高,分别为244.86 mg/kg和13.16 mg/L。8月碱解氮含量最低,为139.18 mg/kg;9月DOC含量最低。10~20 cm土层DOC的季节性动态变化与表土具有相似性,峰值均出现在6月,谷值出现在9月;10~20 cm土层碱解氮最低值出现在6月,与0~10 cm土层不同。20~30 cm土层内,4~7月DOC几乎无变化,8月DOC含量最低,9月增加;4~5月碱解氮波动较大,5月降到102 mg/kg,6月增加到151 mg/kg。研究表明,盘锦湿地芦苇群落土壤微生物活性与凋落物分解对DOC及碱解氮的季节动态有很大的影响,同时温度、降水量及冻融也影响着DOC及碱解氮的季节动态。

关键词 [湿地](#) [芦苇](#) [溶解性有机碳](#) [碱解氮](#) [季节动态](#)

分类号

Seasonal dynamics of dissolved organic carbon and available N in Panjin reed wetland

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Abstract The seasonal dynamics of soil dissolved organic C(DOC) and available N was investigated, in terms of the field observation data from April to October, 2005 in Panjin wetland ecosystem research station. The results showed that the seasonal patterns were different between DOC and available N among different soil layers. The seasonal dynamics of DOC was similar to that of available N in 0~10 cm soil layer. The concentrations of DOC and available N reached the highest values in June with 244.86mg/kg and 13.16mg/L, respectively. The lowest value of the DOC concentration appeared in September, while that of available N concentration was in August. The seasonal patterns were similar for DOC between 0~10 cm soil layer and 10~20cm soil layer, and it showed the highest value in June and the lowest value in September. However, the concentration of available N was different between 0~10 cm soil layer and 10~20 cm soil layer and the lowest value in June was instead of the highest value. The variance of DOC concentration was nearly not significant from April to July, and reached the lowest value in August, then went up in September in 20~30 cm soil layer. In 20~30 cm soil layer, available N fluctuated obviously from April to May, decreased to 102 mg/kg in May and increased to 151 mg/kg in June. The seasonal dynamics of DOC and available N were controlled by the microbial activity and litters decay, moreover, temperature, precipitation and freeze-thawing also affected the seasonal dynamics of soil dissolved organic C(DOC) and available N.

Key words [Wetland](#) [Reed](#) [Soil dissolved organic carbon](#) [Available N](#) [Seasonal dynamics](#)

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