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Comparison of Practice Factor Values of Soil and Water Conservation Measures Under the Condition of Snowmelt and Rainfall Erosion

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The benefits of soil and water conservation measures during snowmelt process is rarely studied in Northeast China. Based on the observation results of snowmelt erosion of Jixing runoff plots (Meihekou City, Jilin Province) in spring in 2015 and 2016, combined with the previous results of rainfall erosion, the practice factor values of soil and water conservation measures, the numbers of soil erosion events, the runoff depth and erosion modulus between snowmelt and rainfall conditions were compared to investigate the difference of effects of the soil and water conservation measures on snowmelt and rainfall erosion. The results show that the practice factor values range from 0.001 to 0.46, while the best measure for prevention of snowmelt erosion is the ecological restoration measure, with the characteristics of shorter period, less amount of snowmelt runoff. The effect of the cut-off drain measure, a typical engineering measures, on snowmelt erosion is mainly controlling the amount of snowmelt runoff. The erosion modulus and runoff depth of the shrub ridging are larger compared with the contour ridge and furrow planting, another kind of tillage measure, under snowmelt condition. Both two types of soil erosion, namely snowmelt and rainfall erosion, should be taken into account in planning and design of soil and water conservation measures in areas with snowmelt erosion, especially for the cultivated land.