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STUDY ON THE CHARACTERISTICS OF ROOTS DISTRIBUTIONS AREA IN THE CARAGANA-GRASS COMPOUND SYSTEM

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Abstract

This study was aimed to explore root spatial distributions on the different sizes of belt spaces in the caragana-grass compound system in Siziwangqi county, Inner Mongolia. The root spatial distributions were observed at selected typical sample plots within the 5m, 10m and 16 m belt-space caragana - grass compound systems. The area of roots spatial distributions were highly correlated with the caragana-grass compound system belt space. Root distribution area was found to decrease with soil depth, also to decrease with distance from caragana belt in 5m and 10m belt spaces compound systems, some fluctuations were showed in 16m belt space system which had the widest root distribution area. The whole root and root diameters equaled to or less than 0.2mm had the similar spatial distribution characteristics. Root distribution area gradually increased in 0 to 20cm soil layer. It was the overlapped roots distribution pattern in 5m belt space system and shrub-grass composite distribution in 10m belt space system. The 16m belt space system was shrub-grass root composition but shrub roots exclusively possessed type, and should be the one recommended for adoption in this area.

Key words: caragana, distribution character, roots system area, shrub - grass compound system

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