

草方格沙障研究进展与展望

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摘要: 作为干旱地区主要的风沙灾害形式之一, 风蚀沙埋严重威胁着沙区经济社会生活秩序。作为我国荒漠化地区防沙治沙工程中应用最广泛的固沙技术措施之一, 草方格沙障具有布设简单、适应多种环境等优点, 对遏制西北内陆绿洲及重要基础设施的风沙危害发挥着关键作用。本文在梳理草方格沙障流场特征、生态效应及铺设技术研究进展的基础上, 指出未来需加强不同材料方格沙障固沙的风沙物理学机制研究, 注重研发以草方格沙障为载体的综合性固沙新技术, 同时应重视智能化草方格铺设机械装备的研发, 旨在推动草方格沙障研究理论与实践创新, 为我国精准治沙提供技术支撑。

关键词: 草方格; 固沙机理; 生态效应; 机械治沙

Research Progress and Prospect of Straw Checkerboard Barriers

Abstract: Sand erosion is a serious environmental problem in arid areas. As one of the most widely used sand-fixing technical measures in desertification control projects in China, the grass checkerboard sand-barrier has the advantages of simple layout and adaptability to various environments, and plays a key role in curbing the wind-sand hazards of northwest inland oasis and important infrastructure. On the basis of combing the research progress of flow field characteristics, ecological effect and laying technology of straw checkerboard sand barrier, this paper points out that it is necessary to strengthen the research on wind-sand physics mechanism of checkerboard sand barrier with different materials in the future, pay attention to the research and development of new comprehensive sand-fixing technology with straw checkerboard sand barrier as the carrier, and integrate intelligence into the grass checkerboard laying equipment, aiming at promoting the innovation of theory and practice of straw checkerboard sand barrier and providing technical support for precise sand control in China.

Key words: Straw Checkerboard Barriers; Sand-binding mechanism; ecological effect; Physical sand fixation