

基于 Citespace 的防风固沙林领域研究热点与进展趋势

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摘 要:【目的】防风固沙林在三北防护林体系建设工程中发挥着重要作用,是现阶段中国防沙治沙工作的重点研究对象,因此有必要探究国内外防风固沙林的发展历程、研究热点和进展趋势。【方法】利用可视化分析软件 Citespace,以 1993—2022 年中国知网数据库(CNKI)和 Web of ScienceTM 核心合集数据库(WOS)为基础数据库进行搜索,对防风固沙林主题相关的中文 340 篇文献、英文 221 篇文献进行可视化分析,绘制出关键词聚类图、年度发文趋势图,并根据可视化结果进一步归纳总结。【结果】1) 国内外防风固沙林研究热点有部分重叠,均重视防风效应研究。有所区别的是,国内文献中,防风固沙林研究集中在树种、效益、模式这 3 个方面;而国外文献中,遥感、流场及尺度成为比较重要的研究热点。2) 防风固沙林领域国内外文献发文数量总体波动趋势一致,中国防风固沙林领域的研究趋势主要经历了起步、快速发展、稳定 3 个阶段;国外防风固沙林领域分为平稳发展和迅猛发展 2 个阶段。【结论】1) 近 30 年来防风固沙林研究集中在研究方法、造林技术、配置模式、防护效益、健康评价这 5 个领域,在机理层面研究较为薄弱,鲜有从多个角度综合起来对防风固沙林防护效益进行研究。2) 关于防风固沙林的研究任重道远,未来应多基于新仪器、新技术、新方法的支撑,开展防风固沙机理、防护效益及老化退化林更新技术等方面的研究,这对于促进防沙治沙工作高质量发展具有重要意义。

关键词: 防风固沙林; Citespace; 热点分析

Research Hotspots and development trends of windbreak and sand-fixation forest based on Citespace

Abstract: 【Objective】 Windbreaks and sand-fixation forests play an important role in the construction of Green Wall of China systems and are currently the focus of research in China, therefore, it is necessary to explore the development process, research hot spots and development trends of windbreak and sand-fixation forest at home and abroad. 【Method】 By using the visual analysis software Citespace, the database of China Knowledge Network Database (CNKI) and Web of SCIENCETM Core Collection Database (WOS) from 1993 to 2022 were searched, the 340 Chinese and 221 English documents related to the topic of windbreak and sand fixation were analyzed, and the key words clustering map and annual publication trend map were drawn, and according to the visualization results further summarized. 【Result】 1) the research hotspots of wind-break and sand-fixation forest at home and abroad overlap, and all pay attention to the research of wind-break effect. The difference is that the research of windbreak and sand-fixation forest is focused on tree species, benefit and model in domestic literature, while remote sensing, flow field and scale have become the hot spots in foreign literature. 2) the general fluctuation trend of the amount of literature published in the field of wind-break and sand-fixation was the same at home and abroad. The research trend in the field of wind-break and sand-fixation in China mainly experienced three stages: starting, rapid

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development and stability. The field of windbreak and sand-fixation in foreign countries was divided into two stages: stable development and rapid development. 【Conclusion】 1) in the past 30 years, the research of wind-break and sand-fixing forest has focused on the research methods, afforestation techniques, allocation patterns, protection benefits and health evaluation, but the research on the mechanism is relatively weak, and the research on the protection benefits of wind-break and sand-fixing forest has rarely been integrated from multiple angles. 2) there is a long way to go in the research of wind-break and sand-fixing forest. In the future, based on the support of new instruments, new technologies and new methods, the research on wind-break and sand-fixing mechanism, protection benefit and regeneration technology of aged and degraded forest should be carried out, which is of great significance for the high-quality development of sand prevention and control.

Key words: windbreak sand fixation forest; hotspot analysis