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Chinese scientists restore black soil in Northeast China

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China has progressed rapidly and achieved remarkable results in the protection and utilisation of black soil. From 2020 to 2022 the area of â??â??black soil conservation tillage in Northeast China has increased from 46 million mu to 83 million mu (approximately 33 million to 55 million hectors).

Chinese Academy of Sciences (CAS) in Changchun has released a â??Report on the Protection and Utilisation of Black Land in Northeast China (2022)â??. To curb the worsening situation, China has launched a campaign to protect the black soil, including passing a law on black soil conservation in June 2022 and using scientific approaches. Scientists have used comprehensive methods like new machines and databases to sustainably increase the production of crops like soybean and protect the soil. Twenty-two key technologies have been formed to balance crop production needs and reverse the degradation of the black soil.

The report shows that in 2022, the areas under conservation tillage in Heilongjiang Province, Jilin Province, Liaoning Province, and Inner Mongolia Autonomous Region will reach 25.5 million mu (16 laks hectares), 32.83 million mu (21 lakh hectares), 10 million mu (6 lakh hectares), and 14.4 million mu (9 lakh hectares), respectively. In 2022, a total of 56 overall promotion counties and 712 county-level and township-level high-standard application conservation tillage bases have been established in Northeast China and 25 counties have implemented an area of â??â??more than 1 million mu (66,000 hectares).

According to CAS, China's black soil is largely distributed in the country's northeast, covering the provinces of Heilongjiang, Jilin and Liaoning, and a part of the Inner Mongolia Autonomous Region, and has greatly contributed to agricultural production and protecting the respective ecosystems.

The report selected and summarised 17 common key technologies for black soil protection and utilisation in 5 categories, including conservation tillage, soil fertility cultivation, soil degradation prevention and control, green and efficient crop cultivation, and cutting-edge technologies in Northeast China. These technologies have achieved remarkable results in black soil protection and high and stable crop yields in Northeast China.

The report shows that since the beginning of the 20th century, more than 120 countries and regions around the world have participated in research on the theory of black soil. Currently, these studies focus on the occurrence and evolution of black soil, black soil conservation tillage, black soil crop planting, black soil carbon sequestration and climate change, black soil health and conservation, and soil environmental restoration.

Liao Xiaoyong, a researcher at the Institute of Geographic Sciences and Natural Resources Research of the Chinese Academy of Sciences, interpreted the report.

Liao Xiaoyong said that the protective cultivation of black land in Northeast China has been spread from point to area and step by step, and the comprehensive agricultural economic and ecological effects brought by protective cultivation are gradually emerging.

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