15. Management Tools to Support Circular Economy Practical Herd Applications

Title presentation

Carbon Footprint Assessment and Mitigation Options of Dairy Farms under Chinese Conditions

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Abstract

China has put forward goals for GHG mitigation, striving to achieve carbon peak and carbon neutral in 2030 and 2060, respectively. Supported by Climate Change, Agriculture and Food Security (CCAFS) project of Consultative Group on International Agricultural Research (CGIAR), a carbon footprint (CF) model and software for CF assessment of dairy production based on LCA method in china situation were developed. The model included the whole process of dairy production, including feed production (crop planting, feed processing, and transportation), enteric fermentation, manure management and energy consumption. Database of more than 100 dairy cattle farm from different region and farm scale was built up to identify a spectrum of representative farms which is used to make assessment of carbon footprint and mitigation intervention. The average CF of dairy sector in China is 2.1 kg CO2e/kg milk, ranged from 0.9 to 4.8 CO2e/kg milk. There is a great variability between farms in different region and scale, and hotspot of GHG contribution was identified, and Mitigation option and potential in case study farm was analyzed.