



Study on different thickness topsoil quality of reclaimed land filling with coal gangue in coal mine area

**\begin{center} —A case study of xinzhuangzi coal mine, china
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Abstract: for land reclamation of coal mine area, coal gangue is used to fill in the subsided area, then native topsoil is covered on the top of coal gangue and phytoremediation method is adopted to enhance the topsoil quality. But different topsoil thickness and topsoil quality will lead different crop production, for choose the best thickness of topsoil, three reclaimed land with different topsoil thickness of 30cm, 50cm, 60cm are selected as experiment field, pH, EC, organic matter, available nitrogen, available phosphorus and available potassium are surveyed as detected indexes, correlation analysis method is adopted to calculate the weight of different index, then the comprehensive index value of topsoil will be calculated combined with membership grade of different index. The result shows the topsoil comprehensive index values are 0.5111, 0.6205, 0.4872 respectively and the topsoil quality of reclaimed land with topsoil thickness 50cm is the best.

Keywords: topsoil thickness, soil quality, weight, comprehensive index value