

玉米秸秆整株深埋还田技术研究

Returning and Covering Whole Corn Stalk into Soil

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作者	单位
赵四申	河北省农业机械化研究所;河北省农业机械化研究所
段汝浩	河北省农业机械化研究所;河北省农业机械化研究所
宁吉洲	河北省农业机械化研究所;河北省农业机械化研究所
张西群	河北省农业机械化研究所;河北省农业机械化研究所
贾素梅	河北省农业机械化研究所;河北省农业机械化研究所
王惠新	河北省农业机械化研究所;河北省农业机械化研究所
赵祥英	栾城县科技局

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中文摘要:

介绍在小麦、玉米一年两熟条件下,玉米秸秆直接还田的一种全新方法——玉米秸秆整株深埋还田技术(以下简称玉米整株还田),所需配套机具及操作工艺、技术要点和3年的试验结果。研究结果表明整株还田,秸秆经过一年的腐解,腐解率达90%以上,土壤有机质年均增加0.11%。玉米整株还田耕深20cm,秸秆在土壤8cm深度以下秸秆覆盖率达95%以上,能够保证冬小麦播种质量,小麦播种出苗后基本苗及分蘖测定分别比粉碎还田(对照)增加23株和0.2个。小麦生育期干物质和千粒重分别增加8.95%和1.33%,小麦产量提高3.81%,比秸秆堆沤还田和粉碎还田投入分别减少65.7%和50%。玉米整株还田具有省工、省力、省时、节能、增产增收的良好效果。目前已在河北省栾城县大面积推广应用

英文摘要:

A new technique of returning and covering whole corn stalk into soil in wheat/corn two crops one year area was studied. This paper emphasized on introducing the techniques of returning whole corn stalk into soil, necessary agricultural machinery, operational technology. And three year experimental results were also obtained. The study shows that the rotten rate of corn stalk in one year rotten period can reach more than 90%. And organic matter in soil can increase by 0.11% per year compared with traditional way. If plough depth is more than 20 cm, 95% of corn stalk can be covered under soil that is about 8 cm. This can guarantee the seeding quality of wheat. The basic seedlings and tillers are increased by 23 and 0.2 respectively compared with traditional way. The dry matter and one thousand seeds' weight after returning whole corn stalk into soil can increase by 8.95% and 1.33%. The winter wheat yield can increase by 3.81%. The input can decrease by 65.7% and 50% compared with corn composting and cutting stalk into pieces respectively. Therefore returning whole corn stalk into soil can save labor and time input, increase profit and save energy. This technique has been extended widely in Luancheng county.

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