

农田土地激光平整技术应用及初步评价

Application and Evaluation of LaserControlled Land Leveling Technology

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英文关键词: rough leveling, lasercontrolled land leveling, leveling precision, working efficiency

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中文摘要:

平整土地是一项改进田间地面灌水质量的重要措施, 作为世界上最先进的土地平整方式——激光平地技术已在欧美发达国家广泛应用。该文介绍了激光平地设备的构成和工作原理, 在初步应用基础上, 对激光平地效果、作业效率、平地成本等进行了分析评价。结果表明激光平地方法可以使田块平整精度指标达到小于2 cm的水平, 在目前华北平原井灌区内现有农田地面平整状况下, 土地平整精度每改善1 cm所需投入的直接平地费用约为83 RMB元/hm²。

英文摘要:

Land leveling is an important measure for improving the surface irrigation. The lasercontrolled land leveling technology, as the most advanced land grading technology in the world, has been widely used in developed countries. The equipment and basic principles of this method as well as its application in China were introduced. The effective evaluation, working efficiency and cost of the lasercontrolled land leveling practices were analyzed. The results showed that the standard deviation of the field surface elevations of 2 cm or less, used to represent the precision of the leveling, could be expected after the application of lasercontrolled leveling. The average cost of land grading per cm of improvement in the standard deviation of the field surface elevation value amounts to 83 RMB yuan per hectre.

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