

玉米垄作免耕播种机油耗试验与分析 Fuel Consumption Test and Analysis for the Ridge-till and No-till Corn Planter

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摘要: 保护性耕作技术在我国垄作地区难以推广的主要原因是缺乏在有根茬原垄上确保播种质量的免耕播种机。针对以苗带浅旋处理玉米根茬为机理的2BML-2型垄作免耕播种机,进行了田间油耗试验。试验结果表明:在开沟器、覆土装置、镇压装置等部件工作参数一定时,影响播种机油耗的主要因素中,根茬处理装置的旋耕入土深度影响最大,其次是旋耕幅宽,然后是机组前进速度;在适合范围内,机组前进速度越大,油耗越小;本播种机能有效减少油耗,传统旋耕播种与之相比,油耗量高32%以上。通过建立油耗数学模型,可以较准确计算出在所给定的条件和工况范围内的单组油耗量,同时可为选择合适的作业参数及设计同类型播种机提供理论指导。 It is difficult to extend the conservation tillage in ridge-till areas nowadays, because of lack of no-till planter, which can work on the permanent ridge stably with corn stubble, and have anti-blocking ability and good planting quality. The 2BML-2 ridge-till and no-till planter was been designed on the base of low-bandwidth rotary tillage. Field test of fuel consumption was carried through. The result showed: when the parameters of openers, cover and press disks are invariable, the depth of rotary till is the most important factor, and the width of rotary is the second one, then is the approaching speed; in the range of fitness, with increase of the speed, the quantity of consumption becomes lower; compared to the 2BML-2 planter, the fuel consumption in traditional tillage would increase more than 32%. A fuel consumption model was obtained through the field testing, which can calculate the fuel consumption conveniently according to actual condition and make for selecting appropriate work parameters and designing similar type planter.

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