

气力式油菜精量排种器试验 Experiment of Pneumatic Precision Metering Device for Rapeseed

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关键词: 油菜籽 排种器 气力式 试验

摘要: 为探讨气力式油菜精量排种器的性能参数的最佳匹配,以排种器的合格指数、重播指数、漏播指数、种子破碎率为评价指标,对排种盘转速、种子带速度、正压区以及负压区相对压力进行了单因素和正交试验。单因素试验表明:种子破碎率为零,排种盘转速、正压区压强、负压区压强三因素对合格指数、重播指数、漏播指数3项试验指标有显著影响。正交试验表明:正压区相对压力为440Pa,负压区相对压力为-834Pa,排种盘转速为15r/min,排种效果最好,合格指数可达94.2%,重播指数和漏播指数均小于3.0%。In order to define the optimum performance parameters of pneumatic precision metering device for rapeseed, single factor and orthogonal experiments were carried out, with the experimental factors of rotational speed of metering disc, speed of seed belt, pressure and vacuity, employing eligible index, multiple index, miss index, seed damage rate as judging indexes. Single factor experiment showed that the damage rate of seed is zero in every group of experiments, and the other three indexes were remarkably influenced by rotational speed of metering disc, pressure and vacuity. Furthermore, orthogonal experiment indicates that when the pressure is 440Pa, the vacuity is -834Pa and the rotational speed of metering disc is 15r/min, the eligible index reaches as high as 94.2%, both of the multiple index and the miss index are lower than 3.0%.

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