

## 4HLB-2型半喂入花生联合收获机试验 Experiment on 4HLB-2 Type Half Feed Peanut Combine Harvester

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摘要: 为了提高4HLB-2型半喂入花生联合收获机作业性能,通过单因素试验和两因素全试验,研究了土壤含水率、收获期、夹持高度、清土频率和振幅、摘果辊转速和夹持输送速度对收获损失和含土率的影响。结果表明:收获沙壤土花生的适宜土壤含水率为8%~15%;花生生长后期,清土落果损失率逐渐增加,当根茎拉断力小于5N时,落果损失率大于2%;机器收获的最佳夹持高度为150~200mm,此时清土和摘果效果最佳,其中果实总损失率小于6%,含土率小于4%;清土作业采用低频率、小振幅时落果损失小,但含土率高,采用高频率、大振幅时含土率低,但落果损失大;摘果作业在高摘果辊转速和低夹持速度工况下,摘果段损失率较低,试验中当摘果辊转速为390r/min、夹持速度为0.5m/s时,摘果损失率为2.79%。 In order to improve the operation performance of 4HLB-2 peanut combine harvester, the impact factors including soil moisture content, harvest time, stalk clamping height, clapping frequency and amplitude of clod removing unit, rotate speed of peanut picking roller and clamping chain speed were investigated by single or double factorial experiments. The results show that soil moisture content ranging from 8% to 15% is suitable for peanut harvesting in sandy loam soil. Dropped peanut loss during clod removing increases gradually along with the delaying of harvest time. The dropped peanut loss rate is higher than 2% under the snap force of peanut root below 5N. The optimum stalk clamping height is in the range from 150mm to 200mm, keeping total loss rate and clod content less than 6% and 4%, respectively. Lower frequency and smaller amplitude of clod clapping operation contributes to smaller dropped peanut loss rate, but higher clod content, whereas, higher frequency and larger amplitude contributed to lower clod content and higher dropped peanut loss rate. The peanut loss of peanut picking operation is kept at lower level with higher picking roller speed and lower clamping chain speed. In this experiment, loss rate of peanut picking is 2.79% at 390r/min of picking roller speed and 0.5m/s of clamping chain speed.

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