COMPARSION OF FINGER STRIPPERS, BRUSH ROLL STRIPPERS AND SPINDLE PICKERS ON THE TEXAS HIGH PLAINS

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Abstract

A comparison was conducted in 1998 on narrow row cotton harvested with a finger stripper to cotton grown in 40-inch row spacing and harvested with a brush roll stripper and a spindle picker. The brush roll stripper and finger stripper were equipped with a field cleaner. Two cotton varieties D&PL 1220 and PM 2200 were grown under both row patterns and irrigated with a LEPA irrigation system. The plots were 4 rows wide and the harvested area varied from ½ to 3/4 acre. The cotton was harvested on Oct. 16-19, 1998 and ginned the following day at the USDA-ARS Cotton Ginning Research Laboratory, Lubbock, TX.

Data from this study indicated that total foreign matter in seed cotton was highest for the D&PL 1220 variety when harvested with the finger stripper and brush roll stripper. No significant difference was found in total foreign matter between the varieties when harvested with the spindle picker. Stick content was significantly higher for D&PL 1220 for all three harvest methods. This was apparently due to the composition of the cotton plant for the D&PL variety which was taller and had longer fruiting branches. Harvest method had a significant effect on stick content of the seed cotton samples collected at the trailer. The spindle picker had significantly less sticks than the finger stripper or the brush roll stripper, while the brush roll stripper had significantly less sticks than the finger stripper. The fine trash content was significantly less for both varieties when harvested with the spindle picker.

Leaf grades for the PM 2200 were not significantly different for the 3 harvest methods but were significantly lower when harvested with the picker and harvesting the D&PL 1220 cotton. No leaf grades were higher than a 3 for any of the treatments. HVI trash and visible foreign matter as determined by AFIS was significantly higher for D&PL 1220 than for PM 2200. While no significant differences were found for the 2 varieties on HVI length, harvest method did have a significant effect with the picker having a significant longer fiber length than the brush roll stripper and finger stripper. Fiber length was significantly longer for the brush roll stripper when compared to the finger stripper. Micronaire was significantly higher for the PM 2200 variety for all harvest methods. Lint harvested with the spindle picker had a significantly higher micronaire reading than lint harvested with the brush roll stripper or the finger stripper. Lint harvested with the brush roll harvester was significantly higher than that harvested with the finger stripper. Nep counts were significantly higher for the finger stripper and significantly lower for the picker for both varieties. Nep counts were found to be significantly lower for PM 2200 for all harvest methods.

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