Abstract

Mechanical harvesting efficiency expressed as removal efficiency, discrimination, and collection fraction of coffee (*Coffea arabica* L.) under two systems of mechanized pruning - hedging and stumping was investigated. Data were collected from 1997 to 2001 (a single pruning cycle) on three cultivars on three farms on Kauai and Maui. Treatments were variations of hedging and stumping, including time of pruning, methods of re-growth control, and tree in-row spacing applied to each cultivar.

Removal effectiveness was significantly better in hedged trees for red catuai and marginally improved in mokka. Yellow catuai had marginally better removal in stumped trees. When trees are stumped, herbicide setting of the verticals improved removal. Normal spacing had better removal than long spacing. Wide stumped trees had better removal in catuai but this reversed for mokka but not significantly. Maturity discrimination increased significantly for yellow catuai when hedged and when done late. Hand setting of verticals on red catuai also significantly increased maturity discriminatiun. Collection is generally improved by long spacing; significantly for red catuai, marginally in yellow catuai, and not at all for mokka. Narrowed stumps had marginally improved collection. All other contrasts were statistically insignificant at 60% confidence.