Abstract:

Harvesting losses of wheat grains (preharvest, header, and processing losses) in Rahad Scheme were studied with regard to the field operating parameters (forward speed, time of harvest, crop variety, and machine make and age). Field surveys of commercial combine harvesters in 1995/96 and 1996/97 seasons were conducted, using a stratified sampling technique. The results showed that the forward speed, time of harvest and machine age affected the harvest losses significantly, while the crop variety and machine make showed non-significant effects. Speeds of 5.9 and 6.1 km/hr were found to be the optimum speeds with minimum header and total machine losses. Time of harvest and machine age were linearly related to harvesting losses, but no definite relation was found for crop variety and machine make. However, the wheat variety "Debeira" and Claas combine harvester showed less loss than the variety "Condor" and John Deere harvester. The total harvesting losses were 66 and 74 kg/fed. for 1995/96 season and 1996/97 season, respectively. The estimated value of the average total harvest losses (70 kg/fed.) was equivalent to the value of 16 new grain combine harvesters.