Grain loss is one of the most significant problems encountered during chickpea harvest.

Scientific studies to increase chickpea production are focused on decreasing grain loss and increasing revenues. In Turkey, large quantities of chickpea crop fall to the ground and therefore are lost when harvesting using the combine harvester. In this study, a measurement method was developed to determine the grain loss of some widely produced chickpea types in Turkey, Hisar, Yasa-5, Azkan and Isık-5, and tested for precision. This study consisted of two stages: the first stage included designing and developing a laboratory type measurement method using sensors and software; in the second stage, the precision of the method was tested for Hisar, Yasa-05, Azkan and Isık-5 chickpea varieties in three different moisture contents and five different feeding rates (10 g chickpea grain, 30 g stalk mixture; 20 g chickpea grain, 60 g stalk mixture; 30 g chickpea grain, 90 g stalk mixture; 40 g chickpea grain, 120 g stalk mixture; and 50 g chickpea grain, 150 g stalk mixture). According to our results, the increase in the mixture ratio associated with the chickpea grain impact value leads to a decrease in the threshold value. The precision of the method was determined as 90% for all threshold values defined according to the chickpea impact value among all chickpea varieties and mixture ratios. Additionally, it was determined that the change in the moisture content is an accelerant for the threshold value defined according to the chickpea impact value.