INTRODUCTION

The purpose of this investigation was to obtain information that will facilitate the estimation of losses to the corn crop caused by hail. Results to date, while not complete enough to permit the shaping of a definite formula for calculating hail losses, do throw some additional light on the problem.

The corn used was a vigorous, uniform, open-pollinated strain of Reid Yellow Dent. The plats were 20 hills long and each row on the plat contained an average of 40 plants. Each treated row was between two untreated rows. The average yield of the plants in the two adjoining untreated rows was considered as the check in determining the degree of injury caused by the treatment.

Different treatments were employed in which a definite percentage of the leaf area was removed from the plants. One method by which this was accomplished involved the clipping of a certain number of blades from each plant in the row. Hand shears were used and the amputation was made at the junction of the sheath and blade. When it was desired to remove one average blade from each plant in a certain row, the lowest green blade was clipped from the first plant, the second blade from the second plant, the third blade from the third plant, and so on to 12, which was the average number of blades on the plants. The process was repeated beginning with the thirteenth plant, from which the lowest blade was removed. Since there were 40 plants in each row and each plant had 12 leaves, it follows that there were approximately 3 blades taken from each level on the stalks in each row. While the plants that had the middle blades removed lost a somewhat greater leaf area than those with the blades clipped from near the base or top of the plants, yet it is believed legitimate to consider that an average blade had been removed from all the plants in the row. Therefore, by dividing the number of blades removed by the total number of blades originally on the plants, the percentage of the leaf area removed was obtained. Thus, each blade removed per plant represented a reduction in leaf area of approximately 8%.

1 Contribution from Department of Agronomy, Illinois Agricultural Experiment Station, Urbana, Ill. Received for publication August 2, 1929.
2 Assistant Chief in Crop Production.