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A major problem in obtaining reliable yield data in experimental variety tests is properly accounting for gaps (missing beets) within individual plots then adjusting for this missing plot area correctly. This research was initiated to determine a technique that can be utilized to adjust for gaps within individual plots and their effect on neighboring plots without compromising the reliability of the data.

Two varieties differing in canopy type were established in two row plots using a split plot design and thinned to a normal stand. Eleven gap treatments were created in the right row of the odd numbered plots constituting the gap treatments. By default the even numbered plots became the effect of the gap treatment in the odd numbered plot to the left. Two main gap treatment groups were included, 1) treatments where twelve feet of total plot length was missing using varying sizes and numbers of gaps, and 2) three foot gaps ranging from 1 to 9 per plot.

Yield and sugar data demonstrate the result of gaps of various size and number within a plot and their effect on neighboring plots. Differences on the order of ten percent decrease or increase respectively for gap plots and effect of gap plots were recorded when no adjustment was imposed. Success at correcting for gaps using various methods will be discussed.