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¹Holly Sugar Corporation, Drawer 1778, Hereford TX 79045 and

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In theory, efficient sugar production should be optimized by maximizing yield and sugar content if the proper amount of nutrients are added using an "as needed" method. Our objective in this study was to determine if there is an advantage to using grid sampling combined with Variable Rate Technology application method for Nitrogen addition. The field we selected for our test contains approximately 117 acres. The soil type is sandy loam. The soil type is quite uniform throughout the field. The field is irrigated using a low pressure, low volume sprinkler system. The field was divided into two equal sections. One half of the circle was sampled using the conventional method of one core per ten acres. Nitrogen was added using an average of the overall requirement for the field. The corresponding half of the circle was grid sampled on a 3.3 acre basis. This half of the circle was fertilized using Variable Rate Technology. Prior to harvest each soil test site was sampled for sucrose and yield data. The fields were then harvested commercially. Results from each half will be kept separate.