ECKHOFF, J.L.A.* Montana State University, Eastern Agricultural Research Center, PO Box 1350, Sidney, MT 59270. - Split application of N on sugarbeets. N management practices may increase sucrose yield. Applying N in the fall and again after emergence is one practice used by growers in the irrigated Yellowstone River valley. For four years, split applications of N were applied to Monohikari and Monoricca at a rate for a root yield goal of 25 T/ac to determine optimum management practices for early and late harvests. In the fall prior to planting, N was applied at rates of 0%, 25%, 50%, 75% and 100% of the total amount and the rest was applied 4-5 weeks after emergence, so that all plots ultimately received the same amount of N. Half of each plot was harvested about Sep 10 and the other half was harvested three weeks later. At the early harvest, there was no difference in sucrose yield among treatments of Monoricca in three years, and no difference among treatments of Monohikari in two years. When differences did occur, sucrose yields were greatest when 75% or 100% of the N was applied in the fall. Across years, there was no difference in sucrose yields among treatments of either variety. At the late harvest date, root yields and sucrose contents varied from year to year, so that different treatments had the greatest sucrose yield in different years. Across years, sucrose contents of both varieties at both harvest dates tended to increase as the percent of N applied in the fall increased. There was no difference in impurity contents among treatments, but amino-N contents tended to be greater when all the N was applied after emergence. This study suggests that splitting the application of N does not increase yield or quality of sugarbeets in the irrigated Yellowstone River valley.

GILES, J.F.*, A.W. CATTANACH and N.R. CATTANACH, Dept. of Soil Science, North Dakota State Univ., Fargo, ND 58105. - Application of Post-Planting Fertilizer Material to Growing Sugarbeets. Research was undertaken to evaluate the potential for placing N fertilizer material adjacent to sugarbeets (Beta vulgaris L.) shortly after emergence or during cultivation operations. Applicators used were a spoke wheel for punching liquid fertilizer (28-0-0), a coulter nozzle injector and a drop tube with a straight nozzle mounted on the cut-away disc cultivator. These methods were compared with a surface broadcast application of urea granules followed with a cultivation for incorporation and a no fertilizer check treatment. The post-emergence applications were compared with a soil test recommended fall and spring applied incorporated fertilizer treatment. Root and recoverable sugar yields were increased with the application of post-planting fertilizer material. Application methods were not significantly different, except during very dry growing seasons.

PFENNINGER, PAUL D.*, Monitor Sugar Company, 2600 S. Euclid, Bay City, MI 48706. - A decade of growth and expansion for both company and growers. Monitor Sugar Company and its' growers have experienced a tremendous growth period during the last decade. Acreage has increased from 26,800 acres to 59,000 acres during that 10 year period. Not only has the factory been modernized to handle the increases, but the growers involved have increased in numbers and size as well. The drastic changes from four row planters and two row harvesters to twelve row planters and six row harvesters indicates the growers' dedication to the beet industry. The average grower operation has increased in size over 30% bringing along with it larger equipment, better management practices, and a successful community. Along with the larger equipment comes larger vehicles to transport the crop. Grower owned semi's transporting 30 - 35 tons per load have increased from 148 in 1980 to nearly 500 in 1990. The Bay City location will receive over 3,000 loads in two eight hour shifts. Comparisons are made regarding our growers and the advances they have made during the decade of the 80's.