PLANT DENSITIES FOR CORN

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The objective in choosing a given density for silage corn is to maximize total digestible nutrient production per unit area. Corn populations for maximum economic yield of grain and silage vary with hybrid or genetic material, row widths, soil fertility, soil water and climatic effects. At very high populations total yield may be still increasing but because the grain is the most digestible portion of the plant, it is desirable to have the highest population that can be supported under normal conditions, without excessive plant barrenness or depression in grain yield.

The corn density experiment in 1979 examined the production of silage and earcorn of two DeKalb corn varieties. Information in DeKalb promotional sheets on these varieties, XL15 and XL25a, suggests XL25a should be sown at higher populations, and is more tolerant of these in adverse conditions than XL15. Results in 1979 (Fig. 1) confirmed this in what was a good year for growing corn. This experiment was adjacent to the corn variety plots discussed elsewhere in this research report; the cultural management was therefore similar. Present recommendations for most of our corn hybrids in Massachusetts, considering our plant growth conditions, range from 20,000 to 28,000 plants per acre.

Fig. 1. Corn silage and earcorn yield response to plant density.