Reducing the number of selections made from early generation hybrid populations to a size suitable for intensive evaluation is a continual problem for crop breeders. Simply inherited traits upon which individual plant selection may be based often are difficult to identify. For many of the prominent barley (*Hordeum vulgare* L.) diseases the expression of resistant or susceptible reactions is not clear cut, or the creation of artificial epiphytotics of the disease in the field is a difficult and laborious task. Selection by visual discrimination is effective for certain plant characteristics, such as height, maturity, and awn or head type. For grain yield, and other complexly inherited traits, the identification of individual plant characteristics which may be associated consistently with a high level of expression for the complex trait has not been accomplished with marked success. Since visual selection in early generation populations of self-pollinated crops has been unfruitful for identifying strains of high yield potential (1, 4, 6, 7, 8, 9) attention recently has been directed toward the effectiveness of visual selection for identifying strains of inherently low yield potential for discard.

### Review of Literature

McKenzie and Lambert (9) practiced divergent visual selection within *F₄* and *F₅* lines of two barley crosses. Selections rated "good" or "poor" for potential grain yield by