

2. A Quantitative Approach to Flint-Dent Contrasts

On grinding in a burr mill, the soft starch of the dent corns pulverises to a meal, while the flinty portion tends to granulate. Separation by an appropriate sieving method gave a quantitative measure of flint-dent gradation. An empirical scale of nine grades of indentation, significantly different in soft starch yields, could be set up, on which the segregates of a wide array of crosses between inbreds could be accommodated on a quantitative basis.

Data from a preliminary study with this method indicates:

1. That a degree of dominance exists in respect to the dent character.
2. Flintiness seems to be associated with some mechanism of preferential fertilization. Whether this advantage of the flint genotype is gametic or merely one of time of pollination, was not established.
3. A probable cytoplasmic influence was apparent and the phenotype of a double cross hybrid is determined not only by the parental genotypes involved, but also by their position in the cross.

C. H. Kuhn