ALTHOUGH frequently referred to in wartime as a nonessential or semi-luxury crop, popcorn is in reality one of the most efficient sources of human food in terms of usable calories produced per acre. It can be stored cheaply for a period of years and is easily processed for final consumption. Popcorn has long been a popular food and confection in the United States, both for home popping and as sold by vendors. During the past 2 or 3 years consumption has increased very appreciably.

During recent years the acreage devoted to producing the crop in the United States has fluctuated, in round numbers, between 50,000 and 100,000 acres per year, or approximately 0.1% of the total corn acreage of the country. Most of the commercial popcorn is grown in the Corn Belt, with by far the largest center of production located in western Iowa.

Because of the overshadowing importance of dent corn in the agricultural economy of the country, the possibilities of improving popcorn have been somewhat neglected by plant breeders. The same principles and technics used in hybrid dent corn breeding are applicable, however, and equal opportunities exist to improve yield and standing ability, with the added opportunities to improve popping expansion, flavor, and tenderness. It is the purpose of this paper to report on some of the breeding work in progress and to present performance data of certain popcorn hybrids now in actual production.

CHARACTERS CONSIDERED

In a popcorn breeding project the interests of both the producer and consumer must be considered. Producers are primarily interested in yield and standing ability, while the consumers main interest is popping expansion and quality. The characters considered below have been grouped into these two categories.

PRODUCER'S CHARACTERS

Yield.—As in dent corn, it has been found possible to produce popcorn hybrids that materially outyield the better strains of open-pollinated varieties. Yields of popcorn ordinarily are reported in pounds of ear corn per acre rather than in bushels per acre.

Standing ability.—Almost equally as important as yield from the producer's standpoint is the ability of the crop to stand well until harvest. This is particularly important with popcorn because of the