CADUCOUS BRACT COTTON

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Hexaploid cotton plants with caducous bracts are still segregating after several years of selection. These plants were developed by crossing commercial G. hirsutum X G. armourianum and doubling the chromosome number of the resulting hybrids. The importance of the caducous bract trait is associated with the disease called Byssinosis or "Brown-lung". Although the main cause of the disease is still undetermined, one of the main suspect is cotton dust of organic origin, more specifically the bracts, because bracts make up about two thirds of the troublesome dust from the cotton plants. In caducous bract cotton plants, the bracts fall before the bolls open, thus leaving the bracts in the field rather than harvesting them with the seed cotton.

Our two objectives in the development of caducous bract cotton are: first to transfer the caducous bract trait from hexaploid cottons to tetraploid commercial cultivars through three variations of back-cross breeding methods. The second objective is to develop hexaploid cottons with caducous bract that have acceptable yields and fiber qualities.

The transfer of caducous bract from the hexaploid to tetraploid is progressing slowly. The back-cross methods involve taking the hexaploid plants from 78 chromosomes through 65 chromosomes and down to 52 chromosomes. We are at various stages of progress, some at the first back-cross, while others are at the third and fourth back-cross stages. Although we are at various stages of progress in the back-crossing program, tetraploids with caducous bracts have not been isolated. Still we are optimistic, and are looking forward to our 1979 plantings.

To achieve objective two, we have continued our selection in the caducous bract hexaploid population the past few years, and much to our surprise, we seem to be making good progress. Fertility and yield seem to be improving with each selection cycle, and we have isolated some fine looking plants both in yield and fiber qualities. The number of caducous bract selections is increasing each year, and this is one indication of progress being made in this program.