

1926 Potential of limited backcross breeding in improving cotton

Dr. Shreekant . S. Patil , University of Agricultural Sciences, Dharwad, Karnataka (INDIA),
Dharwad, India

Choice of breeding method depends on the proportion of alleles from two parents desired in the target genotype. In this study, the F_3 and BC_1F_2 populations from three crosses involving the agronomically superior cultivar RAH-100 and a second parent (different in each cross) differing in potentiality for different yield components were compared for the proportion of desirable segregates. In the cross where the second parent had moderately desirable traits, the BC_1F_2 population had a higher proportion of desirable segregates than the corresponding F_3 population, whereas, when the second parent had a greater proportion of desirable traits, the F_3 population exhibited a higher proportion of productive segregates. The results imply that limited back crosses followed by pedigree selection would be effective in situations where one parent possessed limited (95:5) desirable characteristics while conventional pedigree breeding would be more desirable when both parents possess essentially equal (50:50) amounts of desirable traits. However, such tailor made situations rarely arise in breeding programs. When the target genotype requires moderate contribution from the second, or less desirable, parent