

**IMPACT OF MIXING TWO VARIETIES ON YIELD, FIBER QUALITY, AND NET RETURNS IN
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Georgia is one of the top cotton producing states in the country, producing over a million acres annually at a crop value close to \$1 billion. Due to this, it is imperative to assess varietal performance of cotton as new varieties emerge rapidly. Every year the UGA Cotton Team conducts on-farm trials to assess these varieties. One of the more consistently high yielding and widely planted varieties has been DP 1646 B2XF. Recently, there has been increased grower interest in seeing how this high yielding variety would do when mixed with one of the newer releases, DP 2038 B3XF. This interest stems from the thought that a high quality premium from DP 1646 B2XF would mix well with the high yielding DP 2038 B3XF. Additionally, it is thought DP 2038 B3XF would help mitigate losses from DP 1646 B2XF lodging. The goal in this research was to assess these two varieties mixed together at six different locations across the South Georgia cotton belt in 2021. Treatments included DP 1646 B2XF and DP 2038 B3XF planted alone, and a 1:1 mix of DP 1646 B2XF and DP 2038 B3XF. Treatments were arranged in an RCBD. Seedcotton weights were obtained at harvest, and samples were taken for ginning at the UGA Microgin to determine lint yields and fiber quality. Averaged across all locations, the mixture did not outyield either variety planted alone. Lint turnout was similar in the mixture to DP 2038 B3XF planted alone, and length and uniformity were improved in the mixture compared to DP 2038 B3XF planted alone. Although these differences in quality did result in differences of loan value per pound, once extrapolated to a \$/acre there were no statistical differences. Additionally, when compared to other commercially available cotton varieties, the mixture yielded similar to five other varieties (DP 1646 B2XF, DP 2038 B3XF, DP 2055 B3XF, DG 3615 B3XF, and DG 3799 B3XF). Therefore, this research is evidence that there is no benefit to mixing cotton varieties relative to yield or fiber quality for Georgia growers. Experiments will be conducted again to confirm results.