

[Home](#) » [Volume 8 / 2004](#) »

## Performance of Glyphosate-tolerant Cotton Cultivars in Official Cultivar Trials

Authors: Alan C. York, A. Stanley Culpepper, Daryl T. Bowman, and O. L. May

Pages: 261-270

*Weed Science*[Full Text PDF](#) (97K)

All cultivars in official cultivar trials (OCT) typically receive a conventional herbicide program, and questions have arisen concerning the validity of glyphosate-tolerant (GT) cotton (*Gossypium hirsutum* L.) performance data under these conditions. Additionally, stagnant yields and declining fiber quality, concurrent with wide-spread planting of GT cultivars, have raised questions concerning the agronomic performance of these cultivars. The objectives of this study were to evaluate yield and fiber quality of GT cultivars treated with conventional or glyphosate-only herbicide systems and to compare performance of GT cultivars to a non-transgenic cultivar. Depending on the year, 8 to 19 GT cultivars were treated with either a conventional herbicide system or a glyphosate-only system in field studies in North Carolina during 1997 to 1999. Additionally, the GT cultivars were compared under a conventional herbicide system to Stoneville 474 (St 474), a non-transgenic cultivar with a history of good performance in North Carolina. The GT cultivar by herbicide system interaction was not significant for lint yield, fiber length, strength, micronaire, or uniformity index. Additionally, lint yield and fiber quality was not different between herbicide systems. These results imply that OCT with conventional and GT cultivars treated with a conventional herbicide program adequately indicate rank-order assessments among cultivars. Yield and fiber quality of GT cultivars, as a group, were not inferior in yield and fiber quality to ST 474 when a conventional herbicide system was used.