

**TOXICITY OF HIBISCANONE AND  
DESOXYHEMIGOSSYPOL UNDER AEROBIC  
AND ANAEROBIC CONDITIONS AGAINST  
VERTICILLIUM DAHLIAE**

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**Abstract**

Desoxyhemigossypol (dHG) and hibiscanone appear to be the most important phytoalexins in cotton and kenaf, respectively. Hibiscanone is approximately ten times more active against *Verticillium dahlia* than dHG. Since hibiscanone appears to be derived from the same biosynthetic pathway as dHG, it may be possible to introduce the appropriate genes in cotton to produce this potent phytoalexin and thus increase resistance. Hibiscanone has been synthesized and labelled with carbon-13. <sup>13</sup>C-NMR studies show that *V. dahliae* converts hibiscanone to its hydroquinone. Under anaerobic conditions the hydroquinone is stable and the toxicity of the test solution decreases. Therefore, this conversion may represent a detoxification step. Under similar anaerobic conditions, the toxicity of dHG also decreases.