

Title Morphological characteristics of genetically-modified pineapple fruit  
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### **Abstract**

Mature pineapple (Smooth Cayenne) fruits from transgenic and non-transgenic tissue-cultured plants grown under subtropical conditions were harvested in September 2002. Fruits were derived from plants from non-transgenic callus tissue culture, biolistic-mediated transformation (1-2 genes inserted), or Agrobacterium-mediated transformation (1-2 genes inserted) as part of a programme to develop a blackheart-resistant pineapple. Fruits were held for 3 weeks at 10 deg C + one week at 23 deg C to develop blackheart symptoms. Generally, normal fruits were predominant. Biolistically-transformed fruits containing 2 introduced genes (GUS and nptII, or PPO and nptII) tended to have a lower percentage of normal fruits. Biolistically-transformed fruits containing only one gene (nptII) behaved similarly or slightly better than non-transformed fruits. Agrobacterium-transformed plants generally produced a similar percentage of normal fruits to non-transgenic plants. Fruit shape had a significant impact on totalsoluble solids (TSS), titratable acidity (TA) and internal colour. TSS was highest in normally-shaped fruits, fanned and large fruits and lowest in conical fruits. TA was highest in normally-shaped fruits, fanned, small spherical, spherical, and small fruits, and lowest in conical and large fruits. Slightly fanned fruits had a slightly higher hue angle than normal fruits, giving the fruit pulp a slightly greener colour.