In this study, the growth characteristics of Fusarium oxysporum were evaluated in minimal medium using acetate or different mixtures of acetate and glucose as carbon source. The minimum inhibitory concentration (MIC) of acetic acid that F. oxysporum cells could tolerate was 0.8% w/v while glucose was consumed preferentially to acetate. The activity of isocitrate lyase was high when cells were grown on acetate and acetate plus glucose indicating an activation of the glyoxylate cycle. Investigation of the metabolic fingerprinting and footprinting revealed higher levels of intracellular and extracellular TCA cycle intermediates when F. oxysporum cells were grown on mixtures of acetate and glucose compared to growth on only glucose. Our data support the hypothesis that higher flux through TCA cycle during acetate consumption could significantly increase the pool of NADH, resulting in the activation of succinate-propionate pathway which consumes reducing power (NADH) via conversion of succinate to propionyl-CoA and produce propionate. (C) 2008 Elsevier Ltd. All rights reserved.