# Genotyping of pedigreed apple breeding material with a genome-covering set of SSRs: trueness-to-type of cultivars and their parentages



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| Résumé en anglais | Apple cultivars and breeding lines that represent much of the diversity currently present in major European breeding programmes and are genetically related by their pedigree were examined for the trueness of their identity and parentage by consistency in marker scores using a genome-covering set of 80 microsatellite (SSR) markers and an 'identity-by-descent' approach. One hundred and twenty-five individuals were validated for the trueness-to-type of both their parents and 49 were validated for one of their parents, their second being unknown (23 individuals) or not available in this study (26 individuals). In addition, 15 individuals for which we lacked one of or both the direct parents were validated by consistency with tested parents of earlier generations. Furthermore, the identity of 28 founder cultivars was validated, their marker scores being consistent with descending cultivars and breeding lines. Four of the eight triploids identified were clearly shown to have arisen from unreduced egg cells. The assumed pedigree of 15 further individuals was found to be incorrect; fully consistent pedigrees were suggested for three of the cultivars. The pedigrees of a further eight individuals were confirmed through inference from the molecular data. |
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