were determined with the highest yield per tree. It was found that the 88-A, 58-D and 59-A were the best types in yield per tree and other selected characters by using weighed averaged method. On the other hand, 75-A, 57-D and 76-A were determined as the best types in terms of yield per tree canopy volume.

[P24]

Genetic Characterization of Citrus Rootstocks by Using STMS Markers

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STMS markers were used to characterize 41 *Citrus* rootstocks: A total of 10 *Citrus*-specific primers were tested, and 9 produced clear, reproducible and discrete bands. Primer Ci03C08 did not give clear amplification and reproducible fragments with all genotypes. The number of fragments amplified from individual *Citrus* genotypes with each primer pair ranged from one to three. Three fragments per primer pair would be the number expected from triploid Tuzcu M02 Citrange. Primer pair MEST458 from EST library was produced eleven different size fragments (between 203 bp-230 bp). The primer pair MEST121 and MEST431 from EST library were produced eight (172 bp-202 bp) and six different fragments (322 bp-342 bp) respectively. Primer pair CI02D04B from genomic library was the most informative and polymorphic that produced sixteen fragments with the genotypes studied ranged from 188 bp to 250 bp. Primer pair Ci03G05 and Ci03D12a were produced twelve bands and primer CI02D09 was given thirteen bands. Primer Ci02G12 and CI02A09 from genomic library produced ten and nine bands respectively. Genetic similarity values (Nei and Li, 1979) were calculated and UPGMA (Unweighted pair-group method analysis) cluster analysis was performed to generate a dendogram. The obtained results confirmed the utility of SSR markers to discriminate among *Citrus* genotypes and to determine the genetic diversity among cultivars. This information is useful for germplasm characterization and identification of cultivars.

[P25]

Australia's National Citrus Scion Breeding Program

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The development of new scion varieties through breeding, selection and introduction is a high priority for the Australian Citrus Industry. The National Citrus Scion Breeding Program is addressing industry priorities for new fresh fruit varieties, in a long-term co-investment venture that has been supported financially by the Australian Citrus Industry since 1991 through consecutive 3-4 year projects. The program has been administered and co-funded by Horticulture Australia Limited and the research providers CSIRO Plant Industry and DPI&F Queensland. Since 1996 the program has been funded as a fully coordinated project and, from 2004, the research has focused in three main areas of activity; namely conventional diploid hybridisation (CSIRO Plant Industry, Merbein), the production of triploid hybrids for seedlessness (DPI&F Queensland, Bundaberg), and mutation breeding (Merbein and Bundaberg). The breeding program aims to produce new varieties adapted to Australia's varied regional conditions and the research has been designed to provide marketing, processing and production advantages to the Australian Citrus Industry. Major characteristics targeted are seedlessness, easy peel, flavour and size, internal and external quality, and agronomic characteristics such as ease-of-harvest. Key outcomes of the program will be the adoption of innovative new varieties that will address the needs of industry-identified market windows of opportunity to increase profitability for Australian citrus growers. Examples of key windows of opportunity identified during the program's development have been for early and late maturing, seedless, sweet, easy-to-peel varieties primarily for export. This poster will provide an outline of the program, how the breeding team liaises with industry and will highlight some recent developments.

[P26]

Phytophthora root rot tolerance of citrus rootstocks and hybrids

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Tolerance to root rot caused by *Phytophthora citrophthora* and *P. parasitica* is an important selection target in citrus rootstock breeding. Results from six different screening tests of seedlings of many existing rootstocks and new hybrids for tolerance to these pathogens will be described. Ten uniform seedlings of each genotype were inoculated with zoospores and planted in sand beds. The size of the root system of each seedling was evaluated (using digital images in later trials) before and after several months' growth during summer (*P. parasitica*) or winter (*P. citrophthora*). Hybrid populations tested include Chandler pummelo x trifoliate,