

DEVELOPMENT OF HYPERVARIABLE MOLECULAR MARKERS FOR THE MELON (*CUCUMIS MELO*) GENOME. Ritschel PS, Buso GSC, Buso JA, Ferreira ME. UnB/Embrapa Recursos Genéticos e Biotecnologia/Embrapa Hortaliças/Universidade Católica de Brasília. patricia@cnph.embrapa.br

The Brazilian participation as a melon fruit producer and exporter in the international market is still incompatible with the country's potential, representing only about 1,5% of the world melon production. A molecular marker assisted breeding for fruit quality is currently underway as an approach to enhance Brazilian product competitiveness and also increment the consumption of melon in the country. Limited information is available concerning the use of genomic technologies and strategies for melon breeding. Markers for hypervariable regions of the melon genome, such as microsatellite markers, are very useful for genetic analysis once they are discovered, developed and characterized. A linkage map based on microsatellite markers is being developed for melon. Three genomic libraries enriched for microsatellite sequences (poly AG/TC and AC/TG) were constructed using genomic DNA extracted from the commercial hybrid AF686, digested with *MseI* or *Tsp509 I* restriction enzymes. A total of 324 clones containing microsatellite sequences were selected from a Tsp-AG/TC library hybridized with an AG(13). An anchor *primer* PCR strategy was used to select a group of 224 positive clones whose microsatellite sequence position was adequate for primer designing. All of these clones have been sequenced and analyzed. About one-hundred complementary primer pairs were developed from this group, which included 35 clones with perfect AG repeat sequences, 42 clones with imperfect repeats, and 22 clones with mixed motifs. When tested on potential mapping populations, 80 of the designed primer pairs generated adequate PCR products for analysis, but only 50 showed polymorphism between parental melon lines. The procedures described above are being used to develop additional microsatellite markers from other genomic libraries and it is contributing to generate preliminary genetic mapping information in melon. Financial aid: Brasil em Ação. Órgão Financiador : Brasil em Ação