



## Genetic analysis of aspen (*Populus tremula* L. and *Populus tremuloides* Michx.) in a diversity experiment

By Chunxia Zhang

Cuvillier Verlag Aug 2012, 2012. Taschenbuch. Book Condition: Neu. 208x149x9 mm. Neuware - Poplars are model tree species in ecological and genetic studies since they are widely distributed, easy to propagate, and since more genetic and genomic resources are available for poplars than for any other woody plant genus. The poplar diversity experiment (POPDIV) has been established with European and North American aspen (*Populus tremula* L., *P. tremuloides* Michx.) planted in plots representing either a single deme only or combinations of two, four and eight demes in order to test the influence of intraspecific genetic diversity on ecosystem functions and services. In the present study, the most commonly used molecular markers, SSRs (simple sequence repeats) and AFLPs (amplified fragment length polymorphisms), were applied to conduct the genetic analysis of the POPDIV experiment. Both markers identified clonal structures in one Swedish deme and these clones are non-randomly distributed in the POPDIV experimental field. Large differences with regard to the genetic diversity within aspen demes were observed. The genetic diversity estimates based on SSR and AFLP markers showed a high correlation. The North American *P. tremuloides* deme had the highest level of genetic diversity; most private alleles both at SSRs and AFLPs...

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