Czech Journal of GENETICS AND PLANT BREEDING

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Czech J. Genet. Plant Breed.

Kučera V., Vyvadilová M., Ovesná J., Dotlačil L., Hu S.:

Assessment of genetic diversity of yellow-seeded rapeseed (*Brassica napus* L.) accessions by AFLP markers

Czech J. Genet. Plant Breed., 43 (2007): 105-112

The genetic diversity of 35 yellow-seeded *Brassica napus* L. accessions originating from China, Czech Republic and Poland was assessed by means of Amplified Fragment Length Polymorphism (AFLP) markers based on multiplex PCR using multi-colour fluorescent-labelled primers. Five brown-seeded accessions originating from China and France were selected as outliers. In total, 632 peaks were generated by AFLP reaction using 18 primer combinations. Only distinctly

polymorphic markers among them were scored. In total, 242 polymorphic markers were detected with an average of 13.4 markers per primer combination. The AFLP analysis separated forty studied accessions into Chinese and European groups by UPGMA clustering and Principal Coordinates Analysis (PCA). The grouping of accessions based on the cluster analysis and PCA was generally consistent with known pedigree information and geographic origin. Notable geographical divergence was found between Chinese and European yellow-seeded accessions. This information is useful for yellow-seeded hybrid breeding and encouraging breeders to exchange their germplasm as to enlarge the genetic diversity of breeding accessions.

Keywords:
AFLP; *Brassica napus* L.; genetic diversity; yellow seed trait

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