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Pomological and molecular characterization of sweet cherry cultivars (Prunus avium L.) of the German Fruit Genebank. 2021.

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Title: **Pomological and molecular characterization of sweet cherry cultivars (*Prunus avium* L.*) of the German Fruit Genebank**

Resource Type: Dataset

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Subject: German Fruit genebank; genetic resources; pomological characterization, *Prunus avium;* microsatellite marker

Description:

The German Fruit Genebank has been established as a decentralized network aiming at the coordination of the different germplasm collections in Germany to minimize the risk of losing fruit genetic resources (https://www.deutsche-genbank-obst.de/). Projects characterizing the genetic resources on trueness-to-type based on pomological and molecular characters are of main importance. First step is the characterization based on pomological characters. At least two experts, preferably members of the German Pomological Society, perform the pomological characterization. Second step of the characterization is a molecular DNA fingerprint analysis. Therefore, the European Collaborative Programme for Plant Genetic Resources (ECPGR; http://www.ecpgr.cgiar.org/) working group *Prunus* recommended a standard set of microsatellite (SSR) markers and a list of standard genotypes (references), which is routinely used. The Federal Office for Agriculture and Food on behalf of the Federal Ministry of Food and Agriculture financially supports both steps: FKZ: 2809BE007, 2809BE011, 2816BE002, 2816BE004.

The genetic analysis was performed using 16 microsatellite (SSR) markers recommend by the ECPGR. Respective loci were amplified using three multiplex PCR assays and the generated fragments were subjected to capillary electrophoresis. 3,500 samples (fruits/ leaves) of cherry trees belonging to the German Fruit Genebank from six network collections were investigated. 383 different fingerprints could be estimated for sweet cherry by statistical analysis and 341 of them (89 %) could be determined in pomological terms.

Contributor: Microsynth ecogenics GmbH, Switzerland

GeoLocation: Samples were collected in Germany (https://www.deutsche-genbank-obst.de/)

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