Bundesamt für
Verbraucherschutz und
Lebensmittelsicherheit

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Position statement of the ZKBS

Allocation of the phytopathogenic organism *Cladosporium fulvum* as a recipient and donor organism for genetic engineering operations to a risk group

Cladosporium fulvum (teleomorph *Passalora fulva*) is a mold that is assigned to the family Mycosphaerellaceae based on molecular biological data. To date, the only known host of this agent is the tomato (*Lycopersicon*) where it causes brown spot / velvet spot disease. The conidia can be spread by wind or water aerosols. If they land on the abaxial side of a leaf and temperatures are between 15 °C – 20 °C with air humidity of at least 75 % they start to germinate and form hyphae that grow all over the surface of the leaf. Initially, white to green spots of mold are observed, which change their color (velvety brown) after sporulation. Due to the destruction of mesophyll cells and blocking of the stomata, the leaves wilt and finally fall off.

The original habitat of *Cladosporium fulvum* on *Lycopersicon* species is South America. The phytopathogenic fungus has also been wide-spread in central European regions for several decades. In the meantime, resistance has been crossed into numerous cultivars of tomatoes.

Animals and humans are not infected by the fungus.

According to § 5 Para. 1 of the Genetic Engineering Safety Regulations (GenTSV) in conjunction with the criteria in Appendix I of the GenTSV and corresponding to the general position statement of the ZKBS on “Criteria for the evaluation and classification of plant viruses, phytopathogenic fungi and phytopathogenic bacteria as donor and recipient organisms for genetic engineering operations” (Ref. No. 6790-10-53) the ZKBS allocates *Cladosporium fulvum* as a donor and recipient organism for genetic engineering operations to **risk group 1**.

References

Position statement of the ZKBS on criteria for the evaluation and classification of plant viruses, phytopathogenic fungi and phytopathogenic bacteria as donor and recipient organisms for genetic engineering operations (Ref. No. 6790-10-53 Nov. 1997).

Thomma BPHJ, van Esse HP, Crous PW, de Wit PJGM (2005). *Cladosporium fulvum* (syn. *Passalora fulva*), a highly specialized plant pathogen as a model for functional studies on plant pathogenic Mycosphaerellaceae. *Molecular Plant Pathology* 6**,** 379–393.