

23-7 - Binding of the Respiratory Chain Inhibitor Ametoctradin to Mitochondrial bc1-Complex

Bindung des Atmungsketteninhibitors Ametoctradin an den mitochondrialen bc1-Komplex

Marcus Fehr, Antje Wolf, Nadine Riediger, Gerd Stammler

BASF SE, Crop Protection, Speyerer Straße 2, 61117 Limburgerhof, Deutschland

Ametoctradin (Initium®) is an agricultural fungicide that acts as an inhibitor of mitochondrial bc1-complex. Using cross-resistance analyses, the comparative analysis of heme absorbance patterns of isolated *Pythium* bc1-complex and molecular modelling studies, the binding site and the binding mode of Ametoctradin were analyzed.

All three approaches support the argument that Ametoctradin is a Qo-site inhibitor of mitochondrial bc1-complex that binds differently from Strobilurins and related inhibitors and similar to Stigmatellin and UHDBT (5-undecyl-6-hydroxy-4,7-dioxobenzothiazole).

Due to their binding mode and position in the Qo-site Stigmatellin and Ametoctradin form a distinct resistance class different from the other Qo-site fungicides, where resistance is mainly caused by the G143A amino acid exchange.

Ametoctradin is now classified by the Fungicide Resistance Action Committee as QoSI, which is not cross resistant to Qols and Qils.