

## Searching for biological control agents of *Ailanthus altissima*

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*Ailanthus altissima* Mill. Swingle, is a deciduous tree indigenous to China and, since its introduction to North America and Europe, has become an invasive species spreading worldwide both in urban and natural ecosystems. Neither mechanical nor chemical techniques have demonstrated to be fully effective in its management, therefore, biological control is considered to be a promising approach. With the aim of scouting potential Biological Control Agents from the group of wilt-inducing fungi, the endemic mycoflora strictly associated with *A. altissima* from wilting or decaying ailanthus trees was collected across Northern Italy. Discolored and brownish xylem and cortical tissue samples were excised from trunk section and cultured. Developing fungal colonies were observed, colony characteristics were recorded and presence of reproductive structures was described by optical microscopy observations. Forty-seven strains, related to 10 morphotypes, were finally isolated and purified. Molecular identification by sequencing of DNA ITS regions confirmed morphological identifications. Indeed, based on a database search the isolates were traced back to putatively 9 fungal genera: *Alternaria*, *Bipolaris*, *Cladosporium*, *Coniothyrium*, *Curvularia*, *Diaporthe*, *Fusarium*, *Neofusicoccum*, and *Verticillium*. Strains from the most frequently isolated genera were tested on *A. altissima* plants both in laboratory and field trials. Preliminary pathogenicity tests with *Fusarium* and *Verticillium* strains showed promising results.