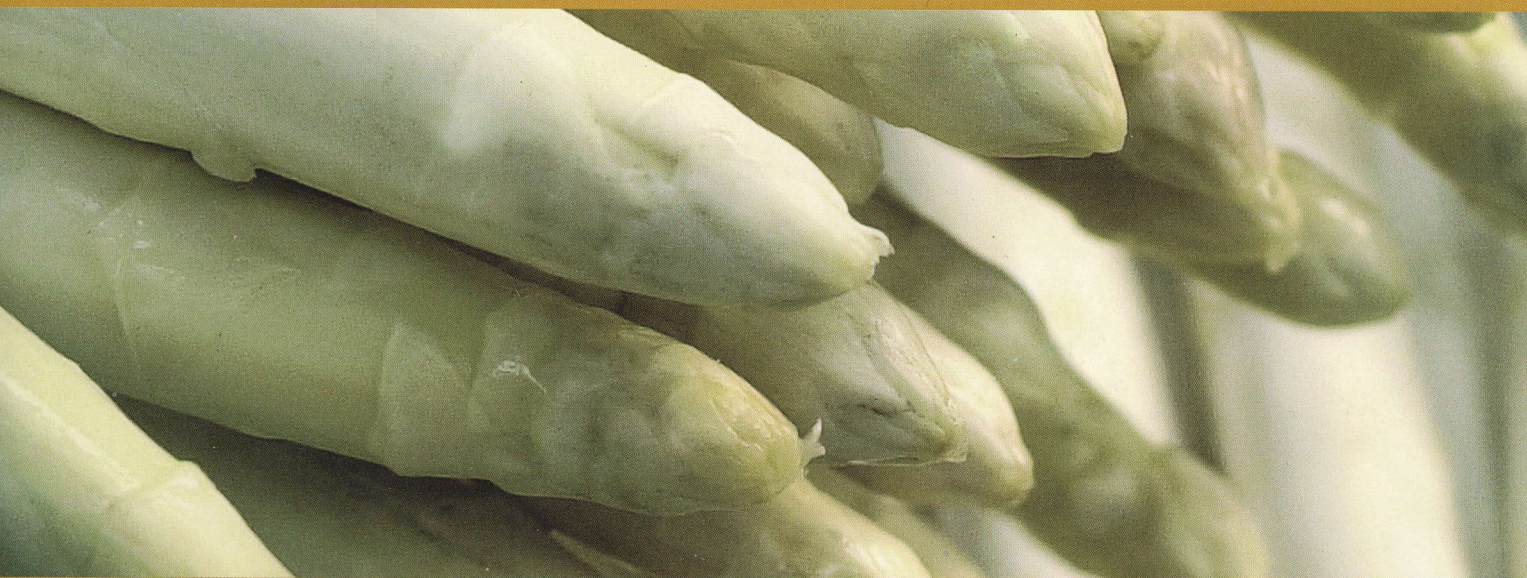


XIth International Asparagus Symposium

**June 16th - June 19th, 2005
Horst, The Netherlands**



Program and Abstracts



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Detection of *Fusarium* spp. in Asparagus Plants and Spears and Impact on the Fumonisin Contamination

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The infection of asparagus (*Asparagus officinalis*) crowns with *Fusarium* spp. was studied in a monitoring program in China, in several fields of two main asparagus production areas: Shandong and Fujian. Objectives of this study were (i) to identify relevant species in the different regions, (ii) to determine the dependence of the *Fusarium* spectrum on different environmental and cultivation factors, (iii) to study the genetic variability amongst the pathogenic and toxigenic *Fusarium* species and finally (iv) to estimate the impact of infection with toxigenic *Fusarium* species on asparagus. *Fusarium* was isolated from asparagus crowns and identified morphologically. The results showed a different distribution of the species spectrum with *F. oxysporum* as the most dominant species which could be detected in crowns from all of the studied regions, whereas *F. proliferatum*, a mycotoxin producer, was predominant in only one region. In numerous sampled plants an infection complex with both species or even with multiple species was identified. The virulence of *F. proliferatum* isolates was tested to assess their risk for asparagus production. In these tests isolates of *F. proliferatum* showed a different degree of pathogenicity. In a separate study, asparagus spears from China, Germany, Greece and Spain were analysed for infection by *Fusarium* species. *F. oxysporum* and *F. proliferatum* were found frequently in samples obtained from all four countries. A number of isolates of *F. proliferatum* were tested and proved to be fumonisin producers in vitro as determined by analysis with HPLC-MS-MS. The influence of co-infection by *F. oxysporum* on fumonisin production was investigated as well. In addition, the harvested spears were examined for contamination with these mycotoxins. The results indicate fumonisin contamination in some of the spears infected by *F. proliferatum*. However, the fumonisin level was low as compared with the quantity of mycotoxins occurring in maize products.