

APPENDIX B

Some Common Fungi, Mycotoxins and Health Effects from Ingestion, Dermal or Inhalation Exposure

Derived from Kendrick, 1992; Arafat and Musa, 1995; Osborne et al., 1996)

CAVEAT: The entries in this table provide examples of the toxins and health effects that have been associated with some fungi. The listed fungi may also produce other toxins, fungi other than those listed may produce some of these toxins, and health effects other than those listed may also be associated with these toxins.

Fungus	Mycotoxin	Possible Health Effect
<i>Acremonium</i> spp.	Cephalosporin	Antibiotic
<i>Alternaria alternate</i> , <i>Phoma sorghina</i>	Tenuazolic acid	Nephrotoxic, hepatotoxic, hemorrhagic
<i>Aspergillus clavatus</i>	Cytochalasin E Patulin	Affects cell division, inhibits protein synthesis, nephrotoxic, carcinogenic
<i>Aspergillus flavus</i> , <i>Aspergillus parasiticus</i>	Aflatoxins	Mutagenic, carcinogenic, hepatotoxic
<i>Aspergillus fumigatus</i>	Fumitremorgens Gliotoxin	Tremorgenic Cytotoxic
<i>Aspergillus nidulans</i> , <i>Aspergillus versicolor</i> , <i>Cochliobolus sativus</i>	Sterigmatocystin	Hepatotoxic, carcinogenic
<i>Aspergillus ochraceus</i> , <i>Penicillium verrucosum</i> , <i>Penicillium viridicatum</i>	Ochratoxin A	Nephrotoxic, hepatotoxic, carcinogenic, immunotoxic, neurotoxic
<i>Cladosporium</i> spp.	Epicladosporic acid	Immunosuppressive
<i>Cladosporium cladosporioides</i>	Cladosporin, Emodin	Antibiotics
<i>Claviceps purpurea</i>	Ergot alkaloids	Vasoactive (cause smooth muscles to constrict), hallucinogenic
<i>Fusarium graminearum</i>	Deoxynivalenol Zearalenone	Emetic Estrogenic

<i>Fusarium moniliforme</i>	Fumonisins	Neurotoxic, hepatotoxic, nephrotoxic, carcinogenic
<i>Fusarium poae</i> , <i>Fusarium sporotrichoides</i>	T-2 toxin	Hemorrhagic, immunosuppressive, causes nausea and vomiting
<i>Penicillium chrysogenum</i>	Penicillin	Antibiotic
<i>Penicillium crustosum</i>	Penitrem A, Roquefortine C	Tremorgenic Neurotoxic (tremogenic)
<i>Penicillium expansum</i>	Citrinin, Patulin, Roquefortine C	Tremorgenic Neurotoxic (tremogenic)
<i>Penicillium griseofulvum</i> , <i>Penicillium viridicatum</i>	Griseofulvin	Tumorigenic, teratogenic, hepatotoxic
<i>Pithomyces chartarum</i>	Sporidesmin Phylloerythrin	Hepatotoxic Causes photosensitization and eczema
<i>Stachybotrys chartarum</i> (atra)	Satratoxins, Verrucarins, Roridins Stachybocins Trichothecenes	Inflammatory agents, immunosuppressive, cause dermatitis, hemotoxic, hemorrhagic
<i>Tolypocladium inflatum</i>	Cyclosporin	Immunosuppressive

Source: American Conference of Governmental Industrial Hygienists (ACGIH). 1999.

Bioaerosols: Assessment and Control.