ISOLATION AND PHYTOTOXIC PROPERTIES OF PICOLINIC ACID FROM THE FUNGUS *Fusarium lateritium*

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Studying the phytotoxic properties of the fungus Fus. lateritium strain 1811 grown at 27°C in flasks with liquid Raulin–Thom medium, from a culture filtrate by direct extraction with organic solvents, ion-exchange, and adsorption chromatography we have isolated a crystalline substance which is responsible for the phytotoxic properties of the culture liquid of this fungus. The substance has the composition $C_6H_5O_2N$, mol. wt. 120 (cryoscopy), mp 136-138°C (from benzene), readily soluble in water and ethanol, less readily in benzene and ether, almost insoluble in carbon tetrachloride and hexane. It forms esters and on heating with lime it loses CO_2.

The IR and UV spectra are, respectively, as follows: λ_{max} 618, 692; 772; 998; 1088; 1230; 1300; 1358; 1390; 1533; 1606; 1662 cm^{-1}; λ_{max}^{MeOH} 265 nm.

The properties of the substance enable it to be identified as picolinic acid [1-3].

For comparison, α-picolinic acid was synthesized from α-methylpyridine [4]. From their IR spectra, a mixed melting point, and their physiological action on the growth of test plants the two substances were identical.

At a concentration of 250 μg/ml, picolinic acid completely inhibits the growth of the seeds of wheat, pea, and radish and depresses the growth of maize and wheat shoots.

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