Aspergillus section Flavi diversity and the role of A. novoparasiticus in aflatoxin contamination in the sugarcane production chain - DTU Orbit (17/08/2019)

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The presence of Aspergillus section Flavi and aflatoxins in sugarcane as well as in by-products, such as molasses, sugar, yeast cream and dried yeast, collected from different fields and processing plants in São Paulo state, were investigated throughout the sugarcane production chain. A total of 246 samples was collected and analyzed and 226 isolates of Aspergillus section Flavi were isolated. Aspergillus section Flavi strains were found in sugarcane juice, milled sugarcane, stalk, soil and dried yeast samples. Among the isolates of Aspergillus section Flavi submitted to polyphasic identification (n = 57), Aspergillus novoparasiticus and Aspergillus arachidicola were predominantly found. A significant proportion of the isolates (84.5%) were found to have morphological and physiological characteristics of A. novoparasiticus. Most samples, with the exception of sugar, showed some aflatoxin contamination. The highest level was in dried yeast with an average of 2.55μg/kg and maximum value of 10.19μg/kg. This is the first report of contamination of sugarcane by A. novoparasiticus.

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