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Infektionen mit *Fusarium proliferatum* und *F. verticillioides* an Hirsepflanzen (*Sorghum sudanense*) - Ein phytosanitäres Risiko in Gärresten aus Biogasanlagen?

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Abstract:

In Europe *Sorghum sudanense* is mainly utilized in the production of biogas as an energy plant and as a forage crop. Because of climatic changes in the region of Brandenburg Sorghum compared to maize has gained significant importance because of its elevated tolerance against drought. However, Sorghum is highly susceptible to *Fusarium proliferatum* and *Fusarium verticillioides* causing stem and head diseases. Therefore, one aim of the joint research project: "Studies on the phytosanitary risks through anaerobic fermentation of plant biomass in biogas plants" was to investigate the capability of mesophilic fermentation of fresh and ensilaged plant material on the inactivation of these fungal pathogens. Investigations focused on the duration of fermentation required for inactivation as well as the influence of storage of the digestive residues under condition conducted in practical units. A complete inactivation of the fungal pathogens *F. proliferatum* and *F. verticillioides* was achieved after a retention period of one week in the test fermenter. Additionally the impact of ensilage of plant material and storage of digestive residues on the survival of the fungal pathogens could be demonstrated.