

Virus Related Symptoms in Crops of the button Mushroom *Agaricus bisporus*

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Since more than five years symptoms are seen in Dutch mushroom crops that correlate with the presence of a set of dsRNAs. These dsRNAs are indicative for the presence of viruses. Symptoms are discoloration of white mushrooms varying from cream to brown. Crops can be heavily affected with more than 50% of the mushrooms showing discoloration. Mostly, however, crops show mild symptoms with a few percentages of mushrooms showing an off-white color. Since traders associate this discoloration with low quality economical damage can be substantial for individual farmers.

In affected crops up to 15 dsRNAs are observed with varying intensity. Only the five shortest dsRNAs show a perfect quantitative and qualitative correlation with the symptom. They are always present in discolored mushrooms and the intensity of the bands seen in agarose gels vary with the intensity of the discoloration. Most of the other dsRNAs are also present in affected crops but are also seen in crops without any visual symptoms. We have started a molecular analysis of the dsRNAs in order to design sensitive tests for each dsRNA. This will reveal if all or some dsRNAs are always present in mushrooms or are derived from an unknown infectious source.

From a number of dsRNAs 60 to 80% of the sequence has been determined. RT-PCR tests have been designed recently for these dsRNAs and the first result of tests of several crops will be presented.