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Changes in the occurrence of mycoflora on caraway seeds after fungicide application

Odstrčilová L.:

Plant Protect. Sci., 43 (2007): 146-150

[fulltext]

The spectrum of diseases and their harmfulness to caraway has changed within the past few years. The importance of *Mycocentrospora acerina*, recently regarded as the most serious pathogen, has decreased while the severity of other fungi, such as *Erysiphe heraclei* or Ascochyta carvi, has increased. This work was undertaken to identify and determine the incidence of fungi which contaminate the seeds and to evaluate the effect of fungicidal treatment. Direct microscopic evaluation confirmed that Alternaria alternata and Cladosporium cladosporiodes were the most common fungi occurring on caraway seeds. Cladosporium herbarum, Fusarium avenaceum, F. culmorum, F. equiseti, Fusarium sp., Epicoccum nigrum, Trichothecium roseum and Aureobasidium sp. were not so frequent. In field trials during 2005 and 2006, fungicide application at flowering of the crop affected mainly the pathogenic fungi

Ascochyta carvi and Septoria carvi, but not the saprophytic fungi A. alternata or Cladosporium sp. In comparison with the control, in 2005 the yield increased (* α = 0.05) only with prothioconazole and dimoxystrobin + boscalid. There was no yield increase at the significance level $\alpha =$ 0.01 in either year. The fungicides had only a very small effect on the weight of thousand seeds, the germination rate and the essential oil content. The results of the trials showed that most of the tested preparations would be perspective for use in practice, especially under weather conditions that are more favourable for a higher incidence of severe fungal diseases. Application of fungicides reduced the occurrence of the fungi and had no negative effect on yield parameters and quality.

Keywords:

caraway; fungal diseases; fungicides

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