



Early spring occurrence of oilseed rape (*Brassica napus* L.) pathogens

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Abstract

Every year, in early spring, dying plants of oilseed rape (*B. napus*) can be seen on many plantations of this crop plant. Very frequently, it is the climate - in particular, very low temperatures and lack of snow cover - that is held responsible for this situation but other causes associated with mass die out of *Brassica napus* plants have also been identified. The performed examinations of partly-damaged root systems of these plants indicated autumn feeding of various insects, including very dangerous root maggots (*Hylemia brassicae* Bouche) as the cause of these injuries. The destroyed parts of rape (*B. napus*) roots remind of damages caused on roots of many botanical varieties of cabbages (*B. oleracea*). Damaged internal root parts infected by a wide range of pathogens and saprophytes were subjected to DNA ITS-1 or ITS-2 sequencing following their multiplication on a PDA medium. The identification of individual species was carried out comparing the obtained DNA sequences to models stored in a GenBank (2008). After the performed analyses, species of the following microorganisms were obtained (data was written down in a decreasing order in 2010):

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| 1. <i>Alternaria</i> spp. | -52% |
| 2. <i>Fusarium</i> spp. | -12% |
| 3. <i>Epicoccum nigrum</i> (Ehrenb. ex Schlecht) | -11% |
| 4. <i>Gibberella avenacea</i> (R.J. Cook) | -10% |
| 5. <i>Leptosphaeria</i> spp. | - 10% |
| 6. <i>Botryotinia fuckeliana</i> (de Bary) Whetz.) | - 2% |
| 7. <i>Apiospora montagenei</i> (Sacc.) | - 2% |
| 8. <i>Cladosporium cladosporioides</i> ((Fresen.) | -1% |

In the course of three years of studies, the species composition of the examined objects changed. Greater intensification of pathogenic fungi from the *Leptosphaeria* spp., genus, most dangerous for rape, was recorded in sites where the rotation period did not exceed 3 years. In the case of other plantations, where the rotation period of winter oilseed rape was longer, the number of fungi from the *Leptosphaeria* spp., genus was distinctly lower in favour of fungi less pathogenic against *B. napus*.