Occurrence of pathogenic fungi in oilseed rape cultivation depending on selected agro-climatic factors and applied fungicides.

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Abstract

Proper crop rotation is one of the most important factors limiting pest occurrence in Integrated Pest Management. The aim of this study was to determine the effect of crop rotation and climate influence on the occurrence of causal agents of major fungal diseases of oilseed rape depending on the used fungicides. The experiment was carried out in the Field Experimental Station IOR-PIB in Winna Góra (Wielkopolska province, Poland) on the two varieties of oilseed rape. The experiment was established on oilseed rape cultivated after three years of previous oilseeed rape cultivation, and on oilseed rape cultivated in monoculture. During maturation phase the percentage of plants infected by *Leptosphaeria* spp and *S*. *sclerotiorum* and the percentage of infected pod surface by *Alternaria*. spp and *B*. *fuckeliana* were assessed. After harvesting, subject of the assessment were: level of yield, mass of thousand seeds, the percentage of fat in the seeds and seed colonization by fungi. The occurrence of diseases depends on the crop rotation, timing of application of fungicides and season. Higher level of infection with causal agents of diseases was reported on plants cultivated in monoculture. *Sclerotinia* Stem Rot occurred in both crop rotation systems only in the season, when high humidity of air and soil were recorded at flowering stage. Oilseed rape seeds originated from monoculture were significantly more infested by fungi. Appropriate crop rotation, and crop protection effects on reducing of the occurrence of disease's causal agents and provide to achieving a higher yield, but it may be modified by the weather conditions.