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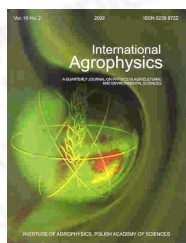
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Temporal variation of the winter rape crop spectral characteristics

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abstract Application of remote sensing techniques in agriculture can be successful only if it is based on the knowledge of spectral-temporal properties of different crops and bare soils. The main goal of this study was to follow changes in the reflectance of a winter rape (*Brassica napus*) cultivar throughout a growing season. Variation in the spectral characteristics related to solar position was investigated as well. Radiation reflectance in the following wavelengths: 540, 555, 640, 740, 860 and 960 nm, was measured with a ground-based spectrophotometer at nine growing stages between planting and maturity of winter rape. Multi-temporal reflectance data characterize well morphological and biochemical changes as winter rape develops throughout the growing season. Specific elements of this plant, e.g., young leaves, pods and yellow flowers cause differences in the seasonal reflectance patterns when compared to those of wheat or corn.

keywords crop growth, winter rape, field spectroscopy, vegetation indices, remote sensing