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## Effects of covering materials differing in UV-transparency on the nutritional value of tomato grown in high tunnels

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UV radiation is considered to be stimulative for accumulation of secondary metabolites, especially flavonoids, terpenoids and vitamins, which increase nutritional and pharmacological value in vegetable crops (Jansen et al., 2008). However, in glasshouses and polytunnels widely used in agriculture most of UV radiation is excluded. Tomatoes (*Solanum lycopersicum*), high-value crop commonly grown in the polytunnels, were planted at three small farms in central Serbia using six commercially available plastic covering materials differing in the photosynthetic active radiation (PAR):UV-A:UV-B ratio. The aim of our work was to estimate the correlation of the level of flavonoids and vitamins accumulation in tomatoes with different UV-transmitting covering materials. The phenolic profile and carotenoid content from the tomato fruit, grown under different PAR:UV-A:UV-B ratio was compared. The content of epidermal flavonoids in the leaves of tomato was measured by a non-destructive real time method (Dualex 4 Scientific). The content of epidermal flavonoids increased up to 50% in plants grown under covering materials with higher UV-A and UV-B transparency levels while synergistic effects of PAR and UV radiation on flavonoid accumulation were observed.

## References

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