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Nutrients and antioxidant molecules in yellow plums *(Prunus domestica* L.) from conventional and organic productions: a comparative study.

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Abstract

Yellow plums *(Prunus domestica* L) conventionally and organically grown in the same farm were selected to study the influence of different agronomic practices on antioxidant vitamins (ascorbic acid, vitamin E, beta-carotene) and phenolics (total polyphenols, phenolic acids, flavonols) concentration. Conventional plums were grown on tilled soil. Three organic cultivations were performed: tilled soil, soil covered with trifolium, and soil covered with natural meadow. Differences in macronutrients were marginal, whereas antioxidant vitamins and phenolic compounds concentration markedly differed among cultivations. Ascorbic acid, alpha-, gamma-tocopherols, and beta-carotene were higher in organic plums grown on soil covered with natural meadow. The highest phenolic acids content was detected in plums grown on soil covered with trifolium. Total polyphenols content was higher in conventional plums. Quercetin was higher in conventional plums, but myrecitin and kaempferol were higher in organic plums. Under the same cultivar and climate conditions, the type of soil management turned out of primary importance in influencing the concentration of health-promoting compounds.

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