Abstract:

A spinach (Spinacia oleracea L.) cultivar ('Vassilikon') was grown in an unheated glasshouse at the Farm of the Aristotle University of Thessaloniki, Macedonia, Greece, from October 1997 to January 1998. Harvest took place 104 days after seeding. At harvest, the leaves of each plant were separated from the stem and grouped according to their position into lower, middle and upper ones, each group representing about 1/3 of the total leaf number. In each group, the leaves were separated into blades and petioles and their dry matter, soluble solids, nitrates, oxalates, pH and titratable acidity were determined. The whole leaf composition was calculated from the above measurements, taking into account the weight of the blades and petioles as a percentage of the total leaf weight. The younger ones had the highest dry matter, pH, titratable acidity and the lowest oxalates; the older leaves had the highest oxalates and the lowest dry matter and pH, while the middle age leaves had the highest nitrates. Leaf age had no significant effect on the soluble solids content. Among the several plant parts, the leaf blades had the highest dry matter, oxalates, pH, titratable acidity and the lowest nitrates; the leaf petioles had the lowest pH, while the plant stems had the lowest oxalates. No significant differences between petioles and stems regarding their dry matter, soluble solids, nitrates, oxalates and titratable acidity were observed.