Abstract

Olive breeding programs are currently carried out in many olive producing countries. Most of them are based in intraspecific cross-breeding between cultivars of known merit aiming at combining the good qualities of the parents in some of the genotypes of the progenies. Early bearing, high yield and oil content together with high olive oil quality are usually considered as olive breeding objectives. The long juvenile period, i.e. the period during which a plant cannot be induced to flower, and the necessity of testing a large number of plants to increase the chance of obtaining desirable genotypes represent the two major impediments in these breeding program. Near infrared spectroscopy (NIRS) could be used to overcome these problems because of its advantages (rapid and simultaneous analysis of many traits at low cost) compare with conventional laboratory techniques. The usefulness of NIRS to discriminate between juvenile and adult olive seedlings at an early stage and to predict oil content components and fatty acid composition in intact olive fruits are discussed in this work.