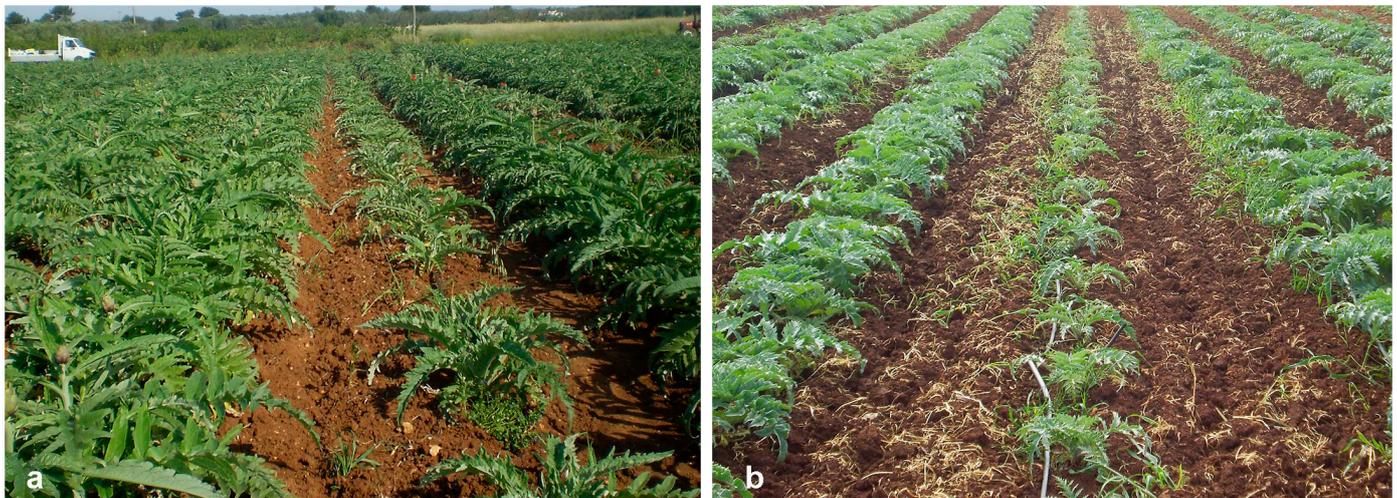
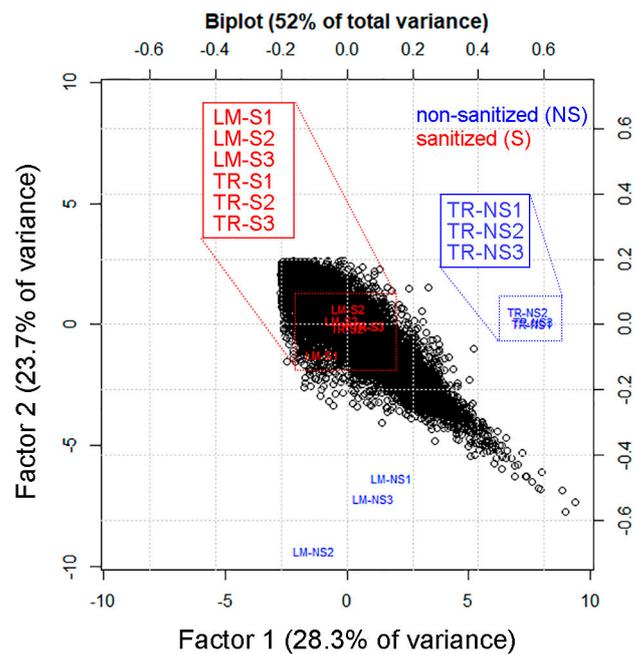


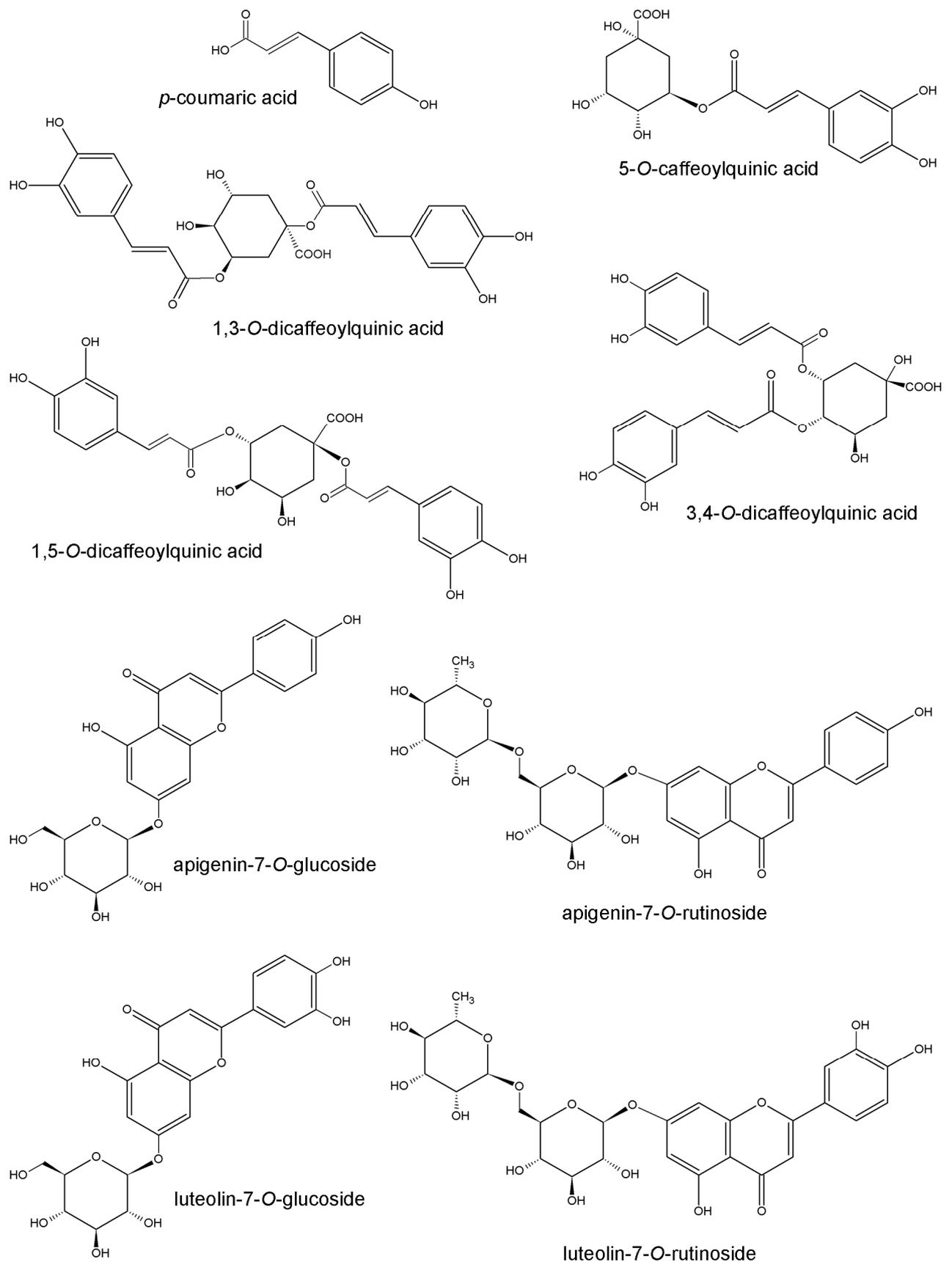
Supplementary Figures



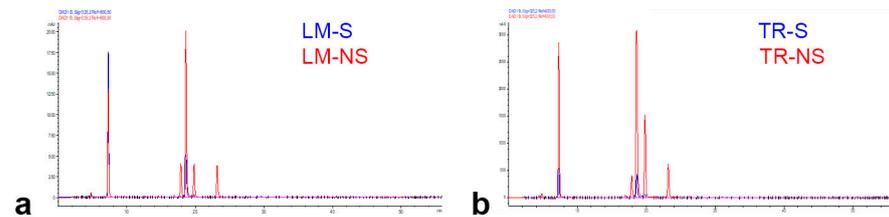
**Figure S1.** Comparative fields set-up with sanitized and non-sanitized plants of (a) Locale di Mola tardivo and (b) Troianella. Pictures were taken in early October 2021. In both the pictures, sanitized plants (side rows) show bigger size and increased plant vigor than non-sanitized counterparts (central row).



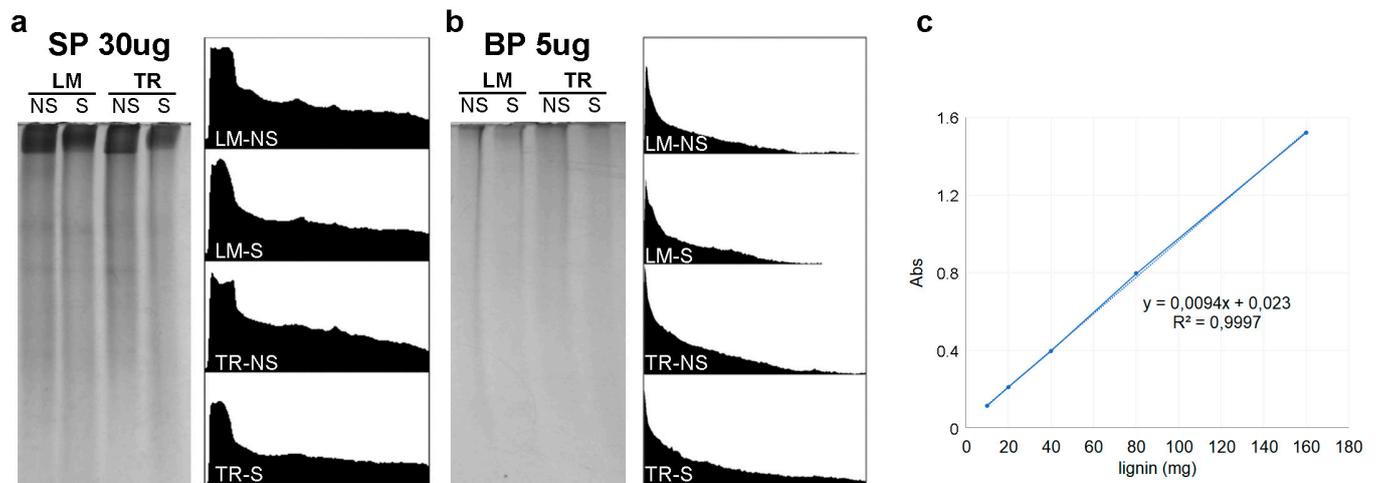
**Figure S2.** Varimax rotation of principal component analysis (PCA) score plot of libraries obtained from non-sanitized (NS, blue trace) and sanitized (S, red trace) of Locale di Mola (LM) and Troianella (TR) ecotypes. Open circles represent the RNA-seq normalized count values of 26505 genes of *Cynara carduculus*.



**Figure S3.** Chemical structures of the identified phytochemical compounds in High Pressure Liquid Chromatography with Diode Array Detection (HPLC-DAD) analysis in sanitized (S) and non-sanitized (NS) artichoke samples.



**Figure S4.** High Pressure Liquid Chromatography with Diode Array Detection (HPLC-DAD) chromatograms of polyphenol extracts obtained from non-sanitized (NS, red trace) and sanitized (S, blue trace) of (a) Locale di Mola (LM) and (b) Troianella (TR) ecotypes.



**Figure S5.** Total protein analysis and lignin content calibration line construction. Coomassie brilliant blue staining of native-PAGE to evaluate equal gel loading of (a) soluble (SP) fraction and (b) bound (BP) protein fraction of Locale di Mola (LM) and Troianella (TR) ecotypes. Total amount of proteins loaded (black profile) in non-sanitized (NS) and sanitized (S) samples were analyzed by ImageJ software; (c) Quantification of lignin content was assessed by calibration line obtained measuring the absorbance at 280 nm from five dilution (1:2) of 10mg of alkali lignin.