SUPPORTING INFORMATION

Preliminary Screening of Type B Trichothecene Production by Thin Layer Chromatographic (TLC) Analysis. Stock solutions of trichothecene standards in acetonitrile were purchased by Sigma-Aldrich (Milan, Italy). Stock solutions of phenols were prepared in pure acetone and used as reference when ethyl acetate extracts were analyzed by thin-layer chromatography (TLC). Analytical TLC was performed with 0.25 mm thick silica gel plates (Polygram Sil G/UV_{254}, Macherey-Nagel, Düren, Germany) using a solution of acetone/petroleum ether as mobile phase. Detection of 4-deoxynivalenol, 3-acetyl-4-deoxynivalenol, 15-acetyl-4-deoxynivalenol, nivalenol , and fusarenone X was performed by spraying solutions of cerium (IV) sulphate/H_2SO_4 (blue sheet) or *p*-anisaldehyde / H_2SO_4 that create visible spots after heating the plate at 150 °C. The *para*-anisaldehyde visualization was preferred in virtue of the different color of the mycotoxin (yellow spot) compared to the other compounds.

Phenols were detected under UV irradiation at 254 nm and after treatment with the solutions used to visualize mycotoxins.

This protocol relies on the visualization of the spot by oxidating mixtures. TLC analyses allowed an initial screening of all samples, subsequently confirmed by LC-MS. The sensitivity of the TLC method allowed detection of down to 50-times reduced mycotoxin concentration as confirmed by LC-Ms spectroscopy (data not shown).

Polarity of the compounds, estimated on silica gel thin layer chromatography plates in a single run, decreased in the following order: **31** > **29** > **13** > **4** > **2** > **3** > **12** > **5** > **17** > **6** > **15** ≥ **24** > **30** > **18** > **25** ≥ **16** ≥ **10** > **28** > **11** > **1** > **8** > **23** > **22** > **14** > **27** > **21** > **20** > **9** > **26** > **7** > **19**.

LC-MS Analysis of Type B Trichothecenes. The LC-MS analyses were carried out on a model HP 1100 liquid chromatography and mass spectrophotometric detector (Agilent Technologies, Palo Alto, USA) using a 15 mm x 4.6 mm inner diameter, 3 μm, Gemini C18 (Phenomenex, Torrance, CA, USA), at temperature of 40°C and with a flow of 0.4 mL/min. The mobile phase consisted of eluent A: acetic acid in aqueous solution 0.01% [v/v] and eluent B: acetonitrile. The chromatographic separation was based on an elution gradient of 20 min starting with an eluent mixture of 97% A and 3% B to get a final eluent mixture of 45% A and 55% B.

Twenty μL of sample were injected. The detector DAD was set up for reading at wavelengths 214 and 270 nm. The mass spectrometer was an Agilent G1946 (MSD 1100) single stage quadruple interfaced with an ESI (Electrospray Ionization Atmospheric Pressure). The spectrometer was programmed for reading in SIM of the molecular ion of 4-deoxynivalenol (297 m/z) and molecular ions of 15-acetyl-4-deoxynivalenol and 3-acetyl-4-deoxynivalenol (339 m/z) in positive ion mode $[M + H]^+$. The ESI parameters were the following: the energy of fragmentation and the ion spray were 50 eV and 3200 Vcap in positive ion mode, respectively, with a nitrogen temperature of 350 °C under a pressure of 42 psig and a flow of 9.5 L/min.

Estimation of Lipophilicity and Polarity. Lipophilicity was detected by the retention time of compounds in reversed-phase liquid chromatography. All phenols were detected in a single chromatographic run using an isocratic mobile phase consisting of eluent A: acetonitrile and eluent B: water (Figure S1). Lipophilicity of all phenols was also estimated by theoretical calculations of log *P* which express the partitioning of the phenols in a *n*-

octanol/water system (Table 1). ChemDraw programs (ChemBio3D Ultra 13.0, Cambridge Soft Corp) were applied. Polarity of the compounds was estimated on silica gel thin layer chromatography plates, in a single run, using acetone : petroleum ether 1:1.

Radical Scavenging and Antioxidant Activity of Phenols.

The spectrometric measurements were performed at room temperature using a Bruker EMX spectrometer operating in X-band (9.4 GHz). A flat cell was used for all the analyses. Operating conditions of the instrument were as follows: 3460 G center field, 100 G sweep width, modulation amplitude 1 G, microwave power 20 mW (10 dB), receiver gain 5 x 10^5. The antioxidant activity was expressed as Trolox equivalents. Ten mL of 7 mM ABTS have been activated after addition of 1 mL of 27 mM potassium persulfate and incubated for 18 h, at room temperature. The radical cation $ABTS^{\cdot+}$ solution assumes a blue-green color. For analysis, the radical solution was diluted with absolute ethanol until reaching an absorbance value equal to 0.7 ± 0.02. One mL of ABTS radical solution was mixed with 100 μL of appropriately diluted test samples. The spectrophotometric readings were carried out at 750 nm after 6 min of reaction. Antiradical activity was expressed in Trolox equivalents.

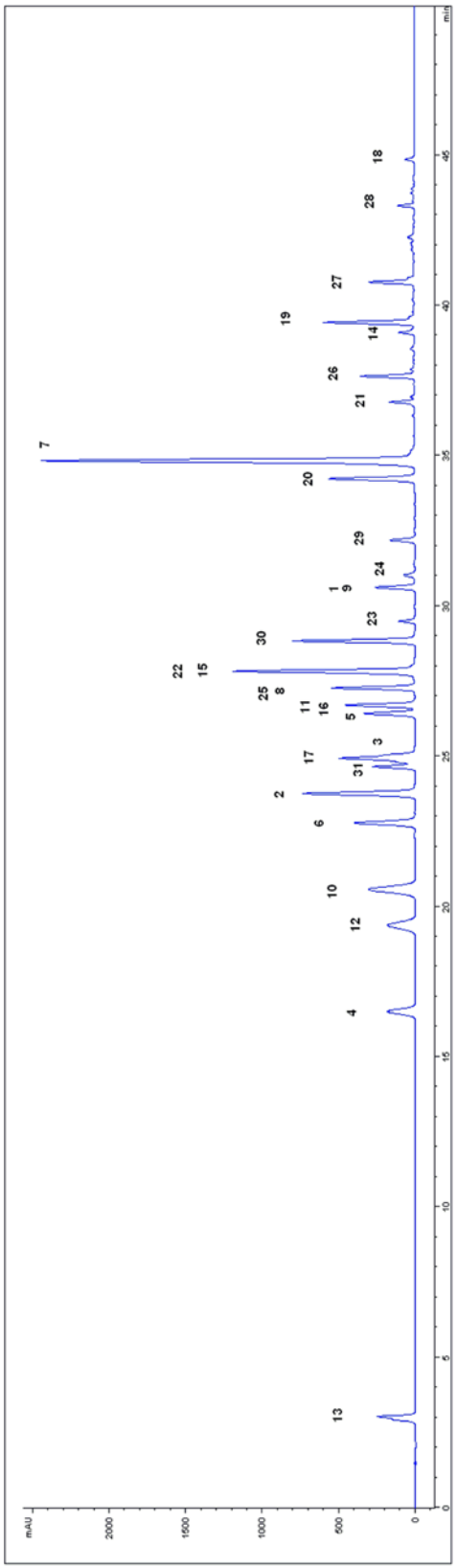

Figure S 1. HPLC of the tested compounds in one chromatographic run