1 Introduction The increasing universal demand for food calls for growing agricultural productivity, which consequently results in widespread application of pesticides.This method was further replaced by environmentally friendly approaches including ultrasonic solvent extrac- tion (USE) (Lambropoulou & Albanis, 2004), supercrit- ical fluid extraction (SFE) (Sun & Lee, 2003), shake- flask approach (Dabrowska et al., 2003), pressurized liquid extraction (PLE) (Dagnac et al., 2005), or microwave-assisted extraction (MAE) (Shen & Lee, 2003) methods, occasionally followed by cleanup tech- niques using solid–phase extraction (SPE) (Boeuf et al., 2016) or solid–phase microextraction (SPME) (Lambropoulou & Albanis, 2004) and QuEChERS.Herein, pesticide residues were evaluated in soils of different regions of northern parts of Iran (Golestan province), and the po- tential sources and risks of contamination were identi- fied for the first time, using QuEChERS-based extrac- tion techniques in soil matrices along with liquid chro- matography coupled to ESI-triple-quad mass spectrometry (LC-MS/MS) using MRM mode.In addition, a few papers have been published on extraction of carba- ryl, imidacloprid, cyproconazole, diazinon, butachlor, krezoxim-methyl, malathion, thiophanate-methyl, fenpropathrin, chlorpyrifos, propargite, and pinoxaden from soil samples using QuEChERS method.Among all the analytical instruments, LC coupled to triple-quadrupole mass spectrometry (LC-MS/MS) using MRM mode was a compatible appropri- ate tool for analysis of targeted pesticides in laboratories (Alder et al., 2006; Pico et al., 2004).