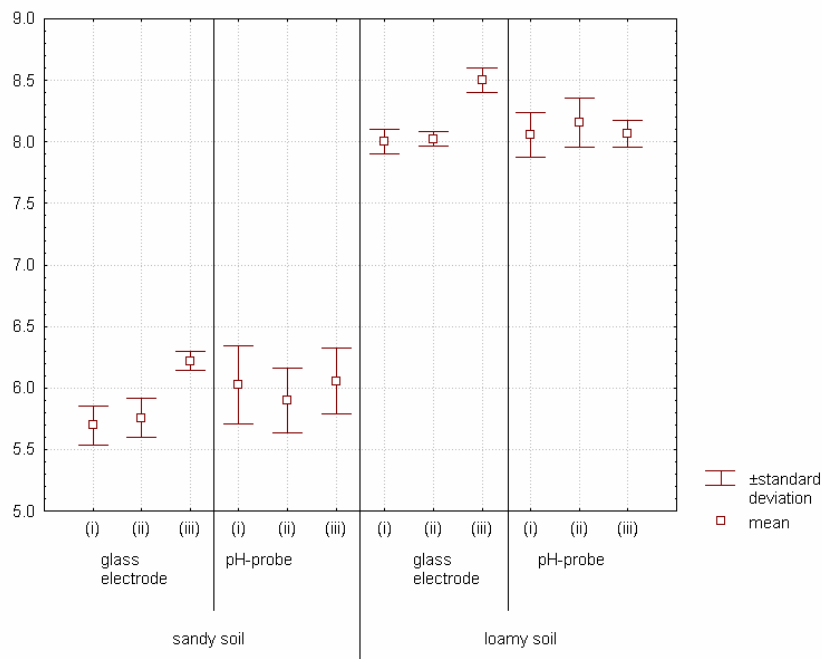


A new calibration free pH-probe for *in situ* measurements of soil pH

The pH-SoilProbe®

A new pH-probe was developed for *in situ* determination of soil pH. It consists of a stainless steel tube with a plastic inset containing the indicator electrode, the reference electrode and a temperature sensor at the end of the tube. The indicator electrode is a quinhydrone composite electrode that does not need to be calibrated, because it acquires almost the theoretical predicted potential and has a constant formal potential and slope under all fabrication conditions. The pH-probe has a low standard deviation (± 4 mV or 0.07 pH units). The response time is short (5 s).



Means ± 1 SD obtained with the glass electrode and the pH-probe in
(i) *in situ* measurements,
(ii) moistened samples and
(iii) in soil suspensions for a sandy and a loamy arable soil.