



DNA extraction from French soils Evaluation of Precellys®24-Dual 7mL Vial Genosol – UMR Microbiology of the soil and environment, Inra Dijon, France

CONTEXT

The Genosol platform is a biological resource centre unique in France and Europe, devoted to the conservation and analysis of the genetic resources of soil microbial communities. The ambition of the Genosol platform is to centralize the microbial genetic resources of soils and make them available to the scientific community together with the most up-to-date technologies for their characterization. In this way, the Precellys®24-Dual was evaluated in comparison with the reference method.

MATERIAL

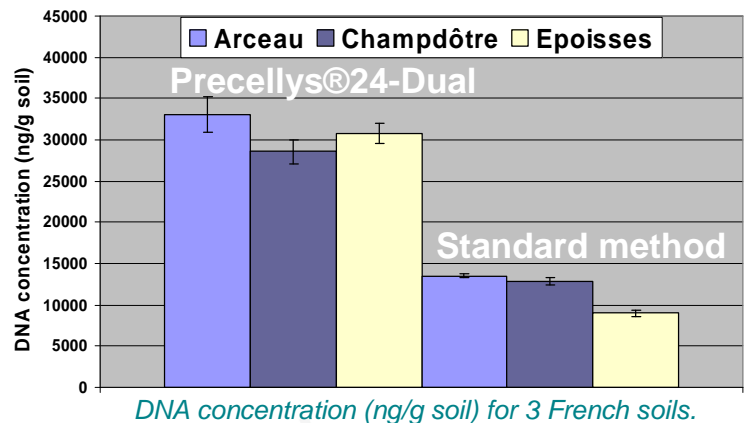
- Precellys®24-Dual with Precellys® kit 7mL vial with glass and ceramics beads (0907-04 + 03961-1-106).
- Standard method: Mikro-Dismembrator S (Sartorius).
- Samples: Three clayey, silty-clayey, sandy soils (Arceau, Champdôtre, Epoisses).

PROTOCOL

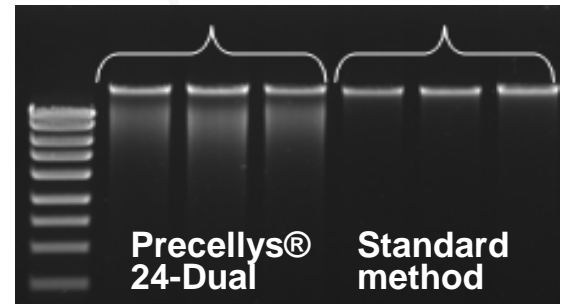
- Precellys®24-Dual protocol : 1g soil + 4mL Buffer / 7mL vial, 5000 rpm 3x15s.
- Electrophoresis gel - DNA extraction yield, qPCR.

RESULTS

With Precellys®24-Dual, the concentration of DNA extracted is around 2.5 higher than the standard method. The quality of DNA, evaluated by inhibition and restrictive enzyme assays was equivalent with both equipments.



DNA concentration (ng/g soil) for 3 French soils.



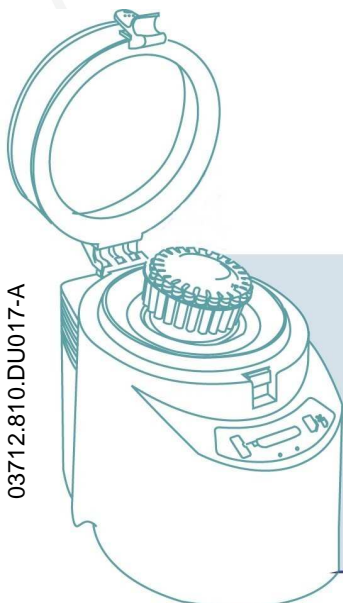
Gel electrophoresis analysis, Epoisses soil (triplicate).

Precellys®24-Dual allows a better cadence: 6 samples could be prepared in 45s versus 120s with standard method (1 sample by run).



CONCLUSION

The Precellys®24-Dual is successfully validated for extraction of total DNA with higher yield of extraction. The DNA quality is optimal to study the soil microbial communities. Easy handling, reproducibility and high throughput are appreciated.



03712.810.DU017-A

Problem



Solution

