

Soil sample weight
(2 or 4 g)

Fresh soil

+ 2 x autoclaving

Recovery
standard

Tracer addition:
+ $^{33}\text{P}_i$ (20 kBq)

Live soil

Sterile soil

No soil

t_1 (4 h) t_2 (24 h)

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Soil extraction:
+ 15 or 30 mL

+ 0.5 M NaHCO₃, pH 8.5: extraction, centrifugation, filtration

Treatment of
extracts

Acidification

Isobutanol fractionation

P_i

^{33}P

P_i

$^{33}\text{P}_i$

$^{33}\text{P}_o$

MG

LSC

MR

LSC

Discard

LSC

Measurement of
 P_i and $^{33}\text{P}_i$

Calculation of
gross rates

Live soil

Sterile soil

Total (abiotic and biotic)
influx / efflux

Abiotic
influx / efflux

$$\Delta = \text{biotic influx / efflux}$$