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Effects of storage time and temperature on greenhouse gas samples in Exetainer vials with chlorobutyl septa caps

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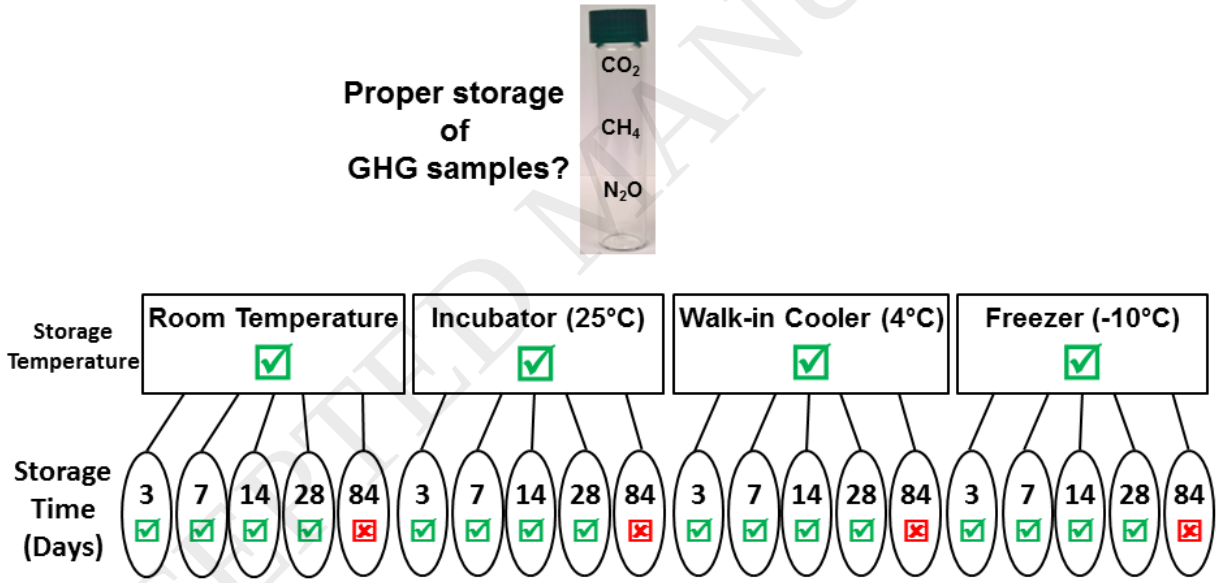
Graphical Abstract



Abstract

Measurement of greenhouse gas (GHG) flux using static chamber methods typically occurs immediately following sample collection. However, situations may arise requiring sample storage prior to analysis by gas chromatography. The objective of this study was to determine effects of storage time and temperature on carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) concentrations in vials containing “low” and “high” concentrations of certified standards. Samples were stored for 3, 7, 14, 28, and 84 days at four storage temperatures: room