Addition to the "ESD Off-Site: Minnesota SPRUCE Experiment--Climate Change Response SFA" RSS no. 7728.5

Title: Tracking newly assimilated carbon during shoot development in shrubs at the SPRUCE site.

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Reviewed and attached by POC Jarrad Stump (902929)

In order to study functional partitioning, a short-term ^{13}C pulse labeling study will be done (May –June 2014) at the south end of the S1 bog. Small patches of shrubs (0.5x0.5 m) will be covered and^{13}C-pluse labeled for ~60 min. The ^{13}C pulse label will be added as follows; adding lactic acid (~2 ml, 1M), in excess to 25 mg ^{13}C-enriched (99 atom % 13C) bicarbonate, through the plastic bag using a syringe. The ^{13}C label will be tracked on site using a Picarro G1101-*i* analyzer for isotopic CO2.

NOTE: A total of 12 ml of lactic acid will be used during the duration of this experiment.

There are no laser safety hazards associated with the normal use of the Picarro instrument, as the embedded laser is completely contained. Note that no service will be done on the Picarro during this study.