

Sasha Hafner

From: Chantigny, Martin <Martin.Chantigny@AGR.GC.CA>
Sent: Tuesday, August 12, 2014 15:04
To: Sasha Hafner
Subject: RE: Your ALFAM2 data, questions on 2004/2005 data
Attachments: precipitation-2004-2005.xlsx

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Dear Sasha, at long last, please find my replies to questions below.

Hope it helps.

By the way I am preparing a file for you where we monitored soil pH, volatile fatty acids and mineral N in a soil that received surface-applied pig slurry that was either stored in a concrete storage tank, or anaerobically digested.

The special feature of that study is that soil properties were performed at 0-0.5 cm, 0.5-2 cm, 2-5 cm and 5-10 cm, along with NH₃ volatil. This might be useful dataset for modelling...

Cheers.

Martin

De : Sasha Hafner [<mailto:saha@kbm.sdu.dk>]
Envoyé : 6 août 2014 06:02
À : Chantigny, Martin
Objet : Your ALFAM2 data, questions on 2004/2005 data

Dear Martin,

I've been making progress on your data, although more slowly than I had planned (always the case, isn't it?). I've started on the 2001-2003 data but have questions on the 2004-2005 data set now.

1. Do you have rain measurements for the 2004-2005 data? **FILE ATTACHED TO THIS EMAIL. Note that each morning, when required, we added the same amount of previous day cumulated precip under the tunnels, using a manual sprayer (the type used for pesticide application), to stay as much as possible with similar soil moisture contents under tunnels and in the soil sample plots.**
2. An air velocity of 1.3 m/s is calculated based on cross-sectional area and volumetric flow rate, correct? Just so I can assign a height to this measurement, what was the height of the wind tunnels? From the paper I think they were 0.5 m wide and 2 m long, but I'm not sure how high. **HEIGHT IN THE CENTER OF THE u-SHAPE DOME IS 45 CM. The plexiglass sheet used to create the dome had 48 inches width. HOWEVER, WE DID MEASURE AIR VELOCITY (NOT FLOW RATE) USING A HOT-WIRE SENSOR PLACED AT THE RESTRICTION POINT IN THE AIR DUCT AND BACK CALCULATING AIR VELOCITY IN THE TUNNEL USING THE RATIO OF CROSS-SECTIONAL AREA OF THE TUNNEL-TO-CROSS-SECTIONAL AREA OF THE RESTRICTION POINT (SEE Lockyer et al. 1989 for details of the air duct specs).**
3. Do you know the application start time for September 2005 trial? For the others in this set, there is a time since application column in the weather data that effectively gives the start time. Without it, I can't line up the weather data with the emission measurements. **11:00 AM**
4. For May and September 2005 there are soil data for control plots (Témoignage, right?). **RIGHT** I understand that these and all the soil plots were "parallel" plots that received the same treatments as the wind tunnel plots but did not have wind tunnels on them. My question: are the initial values (day 129 for May and day 249 for

September) from samples collected before or after manure application? **INITIAL VALUES ARE AFTER (about 2 hours later) MANURE APPLICATION.**

I think that is all for now, although I am sure there will be additional questions!

Best regards,
Sasha

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