Fra: **Sasha Hafner** saha@kbm.sdu.dk
Emne: FW: Your ALFAM2 data, questions on 2004/2005 data
Dato: 9. sep. 2014 11.18
Til: Simon Vilms Pedersen spede11@student.sdu.dk

Dear Simon,

Martin wrote that he had made a mistake in his earlier message, and that the values we have are actually the individual plot values. See below for more info. So that is good, we can finish with all the data he has sent soon.

Best regards,
Sasha

Sasha Hafner
Institute of Chemical Engineering, Biotechnology and Environmental Technology
University of Southern Denmark
Niels Bohrs Allé 1
DK-5230 Odense M

Tel. +45 65 50 92 16
Cell +45 26 79 97 58
Email saha@kbm.sdu.dk

From: Chantigny, Martin [mailto:Martin.Chantigny@AGR.GC.CA]
Sent: Monday, September 08, 2014 15:26
To: Sasha Hafner
Subject: RE: Your ALFAM2 data, questions on 2004/2005 data

Hi Sasha,

I made a mistake. These values are actually for individual tunnels. At that time (long ago it seems!) we had only 12 tunnels, so we did not replicate treatments at each site and rather used Sites as a random factor and the Site x Treatment interaction as the error term to test the treatment effects (I had to re-read the paper to remember that… this is explained in the related paper in the stats section).

So, you do have the data measured for each tunnel. Sorry for the confusion.

Martin

De : Sasha Hafner [mailto:saha@kbm.sdu.dk]
Envoyé : 7 septembre 2014 15:37
À : Chantigny, Martin
Objet : RE: Your ALFAM2 data, questions on 2004/2005 data

Dear Martin,

Well, results from individual replicates would be better, but if it will take a lot of effort to get them, these mean values would be OK. Could you check to see if you can find the replicate

them, these mean values would be OK. Could you check to see if you can find the replicate results?

Best regards,
Sasha

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Institute of Chemical Engineering, Biotechnology and Environmental Technology
University of Southern Denmark
Niels Bohrs Allé 1
DK-5230 Odense M

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Cell +45 26 79 97 58
Email saha@kbm.sdu.dk

UNIVERSITYOFSOUTHERNDENMARK.DK

· DK- · Denmark · Tel. +45 6550 1000 · www.sdu.dk

From: Chantigny, Martin [mailto:Martin.Chantigny@AGR.GC.CA]
Sent: Wednesday, September 03, 2014 21:42
To: Sasha Hafner
Subject: Re: Your ALFAM2 data, questions on 2004/2005 data

Hi Sasha,

I did not realise but yes, the data are mean values.

Would you prefer individual data from each replicate? If so, I could dig it out.

Martin

Envoyé à partir de mon BlackBerry
Sent via my BlackBerry

De : Sasha Hafner [mailto:saha@kbm.sdu.dk]
Envoyé : Wednesday, September 03, 2014 09:45 AM
À : Chantigny, Martin
Objet : RE: Your ALFAM2 data, questions on 2004/2005 data

Dear Martin,

Thank you again for the answers and additional data. I'm sorry I keep sending questions, but another one has come up. In the 2001-2003 data, we can't find emission data for replicate plots. The "NH3-cumul" worksheet has cumulative emission for five treatments for the first set of dates (day of year 143-152), for example, but only one set of values for each treatment. Based on the paper and the 2004-2005 data, I'd expect data from multiple plots for each treatment. Maybe the values in the spreadsheet are means for the four replicate plots/wind tunnels—is this the case? I may be missing another obvious explanation. . .

Best regards,
Sasha

Sasha Hafner
Institute of Chemical Engineering, Biotechnology and Environmental Technology
University of Southern Denmark
Niels Bohrs Allé 1
DK-5230 Odense M

Tel. +45 65 50 92 16
Cell +45 26 79 97 58
Email saha@kbm.sdu.dk

UNIVERSITYOFSOUTHERNDENMARK.DK

· DK- · Denmark · Tel. +45 6550 1000 · www.sdu.dk

From: Chantigny, Martin [mailto:Martin.Chantigny@AGR.GC.CA]
Sent: Friday, August 29, 2014 15:37
To: Sasha Hafner
Subject: RE: Your ALFAM2 data, questions on 2004/2005 data

Hi Sasha, here are my answers following each of your questions.

Good to hear that you got help on the project.

Cheers.

Martin

1. For the precipitation data and the weather data included in the earlier spreadsheets, is this interpretation correct? We assume that values reported for, e.g., 9:30 are mean (temperature, RH, etc.) or cumulative (precipitation) values from individual measurements taken from 9:00 to 9:30.
Response: Mean for temp, RH etc.; cumulative data for precip.

2. For the 2001-2003 data, the "Climate" worksheet has daily weather data. Do you have hourly data for this period? (We can work with what we have if not.)
Response: I am attaching climate data file from on-site weather stations for both sites. You can pick up the block of data corresponding to the NH3 measurements periods. If data are negative, that means that this datalogger channel was in trouble. If this lasted for a long period of time, the technician likely used average temp from the other tunnel to fill the gaps. Wind speed was measured at 1 m above the soil surface.

3. Also for 2001-2003, we have two different soil temperatures, something like "chapais-2002-tunnel Temp. @ 1 cm in soil" and "Saint-lambert-2002-tunnel Temp. @ 1 cm in s". What is the difference? (Sorry if I already asked this--I'm not sure if I did.)
Response: Saint-Lambert refers to the Loam soil; Chapais refers to the Sandy loam soil. I n the attached climate files, you will see that we monitored soil temp in and outside each tunnel (we wanted to see what was the increase of temp induced by the presence of the tunnel dome.

4. Is it reasonable to assume that the water added using a sprayer each morning was added around the time that the first shift started that day?
Response: It was added in the morning, and the acid traps were replaced just after water was

applied.

From: Chantigny, Martin [Martin.Chantigny@AGR.GC.CA]
Sent: Tuesday, August 12, 2014 3:04 PM
To: Sasha Hafner
Subject: RE: Your ALFAM2 data, questions on 2004/2005 data

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 volat. 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. With a bit [illegible]

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 (Témoin, 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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DK-5230 Odense M

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Cell +45 26 79 97 58
Email saha@kbm.sdu.dk