

ECUADOR VISIT 16 JULY - 4 AUGUST 2017

August 13, 2017

1 Introduction

The purposes of the trip were:

- Run three 2-day workshops covering data management, an introduction to R, and experimental design
- Become familiar with some of the trials run by INIAP staff
- Consult with individual staff on data for some of their experiments
- Make recommendations to be considered by INIAP and partners

2 Workshops

Workshops were held in Santa Catalina (18-19 July), Tumbaco (20-21 July) and Guayaquil (1-2 August). William Viera acted as translator at all workshops, and Andrea Sotomayor helped individual participants during the third (and to a lesser extent the second) workshop. There were approximately 20 people at each workshop.

All workshop material was available on github prior to the workshops and modified as the visit progressed. In particular, an INIAP dataset was incorporated (thanks to Michelle Noboa), and a couple of post-workshop exercises were prepared.

During subsequent working with some of the participants, I was impressed by the manner in which they had adopted some of the practices suggested during the Data Management session.

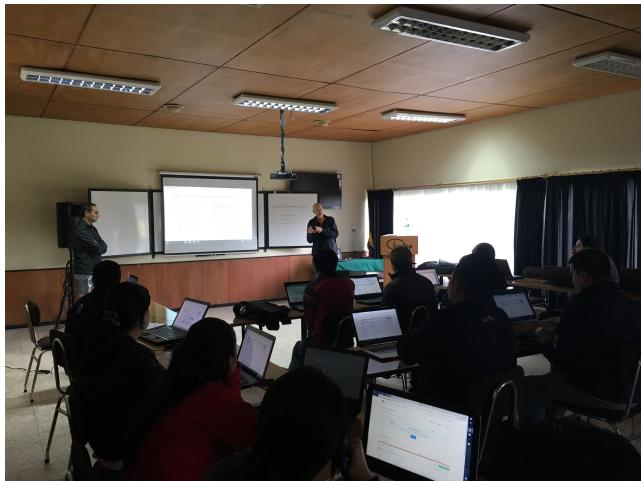


Figure 1: Workshop at Santa Catalina



Figure 2: Individual discussion at Santa Catalina



Figure 3: Workshop at Guayaquil

3 Familiarisation with trials

On three days I was able to visit trials at various sites:

- Trials on Tumbaco Experimental Farm on 17 July
- Blackberry trichoderma trials at Huachi, Pillaro and Tisaleo on 24 July
- Nematode control with micro-organisms in banana at Guayaquil. The plantation visited was not that at which the study is being undertaken, but it was sufficient to explain the complexities of such studies in banana



Figure 4: Blackberry trichoderma trial near Amabato



Figure 5: Discussing banana trial near Guayaquil

4 Consultations

Four consultation sessions were held:

- On 31 July, with Daniel Navia on his banana nematode data (code under development is here)
- On 4 August, with Michelle Noboa on her data from the blackberry trichoderma trials (code under development is here)
- On 4 August, with Gabriela Torrens and Francisco Baez on their data looking at the persistence of trichoderma in glasshouse and field situations (code under development is here)
- On 4 August, with Andrea Sotomayor on her data on Anthracnose in tamarillo (code, completed on return to NZ, is here)

There was insufficient time to complete any of these consultations. However, I will endeavour to assist further from New Zealand. Both Michelle and Andrea have registered on github and installed the necessary software to utilise this collaboration software.

5 Recommendations

During my visit, it was clear that INIAP staff are very keen to learn. However, a short visit is only sufficient to indicate what is possible. In making the following recommendations, I am aware that financial resources may be insufficient to allow for their uptake.

- INIAP has about 150 science staff and no biometrists. By way of comparison, both AgResearch and PFR (Crown Research Institutes in New Zealand) have biometrics teams such that there is approximately one biometrician for every 50-75 science staff. With this in mind, it is recommended that INIAP consider appointing a biometrician
- Recognising that the above recommendation may not be feasible, it is recommended that AgResearch consider funding a biometrician (either from AgResearch or PFR) to visit Ecuador for a follow-up to my visit within the next 3-6 months. Ideally, the biometrician would have a reasonable command of Spanish¹
- In order to facilitate sharing of data within INIAP, some form of intranet for the organisation should be considered. Such a facility would also allow for more structured data backup, which is rather haphazard at present
- All future trials should have a randomized experimental design.

6 Acknowledgements

I take this opportunity to thank the funders of my visit. I am deeply grateful for the kindness of those people I met, and especially to William Viera and Andrea Sotomayor who not only planned the trip but also extended hospitality to me during the weekends. Most of the material for the Data Management session was gathered in a collaborative effort with colleagues from PFR during my final few years there. Photographs were supplied by Gabriela Torrens and Andrea Sotomayor.

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¹I believe Mark Wohlers of PFR speaks Spanish, although he may be too busy to go. Also it may be administratively easier to send an AgResearch biometrician. Both Alasdair Noble and Esther Meenken, having recently transferred from PFR, will have had some experience in dealing with fruit data.