The rhizomicrobiome of Sorghum ; impact on plant growth and stress tolerance

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Propositions:

1 – *Striga*-resistant *Sorghum* cultivar SRN-39 has a different rhizomicrobiome composition than other *Striga*-sensitive sorghum cultivars (this thesis).

2 – The specificity of the interaction of the microbial community with sorghum genotype is conditioned by soil type (this thesis).

3 – Despite the importance of the factors soil type and plant genotype in driving rhizosphere microbial community composition, it is the stage of plant growth that determines the preponderance of these factors in the process of shaping the sorghum rhizosphere microbial community (this thesis).

4 – The activity of Plant Growth Promoting Bacteria, PGPB, is not crop specific. PGPB isolated from and active in sugarcane also increase sorghum biomass (this thesis).

5 – Although it is important to know the functional traits of the rhizosphere microbial community it remains crucial to know its taxonomical composition (Mendes et al. 2014, *The ISME journal*).

6 – The number of replicates in scientific experiments should be prioritized at the expense of the number of treatments.

7 – Plant breeding programs aiming to develop new cultivars to be used in sustainable crop production systems require adequate knowledge of the rhizomicrobiome of the newly bred cultivars

8 – On the rigor of scientific research methodologies, scientific evidences are conditional truths.

9 – On the building blocks of science, even the correlation between the number of storks and birth of babies in Berlin (Höfer et al. 2004, *Paediatric and Perinatal Epidemiology*) is statistically significant.

Propositions belonging to the PhD thesis entitled:

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