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Microbial biodiversity in Brazilian semiarid**Fernanda Matias**

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When we think of semiarid we always associate with the lack of water, food, agriculture and livestock that end up generating little local development and, in consequence, poverty. However, little is exploring local biodiversity and adapted to that situation. In Brazil, we have a vast area of territory with hot semi-arid climate and only from mid-2010 began to be exploited as the local biodiversity. Microbiological part is even more incipient. In 2014, a previous analysis of microbiome at different times of the year showed a significant difference of 16S rDNA size amplified in the same environment. This year we will start a microbiome work to understand what happens in these environments in different periods of drought. In 2016, lipolytic bacteria from hot springs were isolated. Lipases showed greater activity above 158oF and pH between 10 and 12. Later this year, we began an isolation of phosphate solubilizing, nitrogen fixers and auxin producing bacteria. By the time we succeeded in isolating more than 100 strains, among them was a symbiotic of *Adenium obesum* (desert rose) that is being considered for use as an agricultural inoculant. Furthermore, we developed a mead production method that reduced the months of fermentation timeout to 15 days which enables the industrial production of this beverage and will be the first start-up of the region. These findings suggest that semiarid is really rich in microbial biodiversity.

Biography

Fernanda Matias has completed her Ph.D in biotechnology from Sao Paulo University and post-doctoral studies from Sao Paulo University (Chemistry) and Porto Alegre Health Sciences Federal University (Pathology). She is a professor at UFERSA, School of Biotechnology, and is founding the first company in the university. She has published more than 10 papers in reputed journals.

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