



# International Biotechnology and Research Conference

April 25-27, 2018 Rome, Italy

## Digestate Concentration and Harvest Intervals Effects on Yield of Forage Grasses and Legumes

Laura Jeannette García Barrera\*, Job Jonathan Castro Ramos, Hilzamara Guadalupe Larios Peña, Ismael Eulogio Sarmiento, Stefani Aletse Meza Zamora and Rigoberto Castro Aguilar

Instituto Politécnico Nacional /Centro de Investigación en Biotecnología Aplicada, Mexico

Knowing the effect of digestate that it's the anaerobic digestion subproduct of solid residues of cattle, on the yield of forage grasses and legumes, is a justification to reduce the use of agrochemicals. The aim was to evaluate the effect of concentration, harvest frequency and irrigation frequency on the components of the yield of Ryegrass and White clover. To do this, evaluate digestate concentrations (20, 40 and 60%), harvest frequencies (4, 5 and 6 weeks) and irrigation frequencies (15 and 30 days) were applied. The variables were: Dry matter, weight of leaves, stems, petiole, plant height, growth rate of the crop. The digestate was acquired in Chapingo University. A factorial design with arrangement  $3 \times 3 \times 2$  was used, and mean comparisons were made by Tukey ( $P < 0.05$ ), by the GLM procedure of the SAS software. The results showed that the highest yield, weight of leaves, stems, growth rate of the crop and height of plant was with the treatment of 60% of digestate, harvest frequency every four week and the irrigation every 15 days in both species ( $P < 0.01$ ). It is concluded that the concentration, harvest frequencies and digestate irrigation frequencies affect the yield and can be used as substitute of agrochemicals fertilizer.

### Biography:

M. C. Laura Jeannette García Barrera is a Researcher of CIBA-IPN, México. She studied Environmental Engineering at UPAEP, México. She has a Master's degree in Sciences in the specialty of Biotechnology from CINVESTAV, México. Has experience evaluating the antifungal activity of plant extracts and works with molecular biology of viruses, bacteria and fungi. Has participated in projects in collaboration with the industry and is currently studying the use of biofertilizers and their impact on microbial communities in soils.