Growth and nutritional status of maize plants in response to different doses and application frequencies of biofertilizer

Crescimento e estado nutricional de plantas de milho em resposta a diferentes doses e frequências de aplicação de biofertilizante

**Jailza Siqueira RODRIGUES1, Marlon da Silva GARRIDO2, José Aliçandro Bezerra da SILVA2, Welson Lima SIMÕES3. Rômulo Alexandrino SILVA4, Magno do Nascimento AMORIM5**

1 Autor para correspondência; Mestra em Engenharia Agrícola; Empresa Desenvolvimento Agropecuário de Sergipe (EMDAGRO); Av. Carlos Rodrigues da Cruz, s/n; Bairro Capucho - Aracaju/SE - CEP: 49.081-015; e-mail: jailzas@yahoo.com.br

2 Engenheiro Agrônomo; Doutor; Professor do Curso de graduação em Engenharia Agrícola e Ambiental e Mestrado em Engenharia Agrícola na Universidade Federal do Vale do São Francisco; Campus Juazeiro-BA; e-mails: garridoms.univasf@gmail.com; alissandrojbs@gmail.com

3. Engenheiro Agrônomo; Doutor; Pesquisador na Empresa Brasileira de Pesquisa Agropecuária (Embrapa semiárido); BR 428, km 152, Petrolina, Pernambuco, Brasil; 56302-970, Caixa Postal 23; e-mail: welson.simoes@embrapa.br

4 Mestrando do Curso de Ciências Geodésicas e Tecnologias da Geoinformação; Universidade Federal Pernambuco – Centro de Tecnologia e Geociências; e-mail: romulo\_alex\_silva@hotmail.com

5 Graduando do Curso de Engenharia Agrícola e Ambiental; Universidade Federal do Vale do São Francisco; Campus Juazeiro-BA; e-mail: magno\_amorim27@hotmail.com

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Abstract –This study analyzed the effect of different doses and application frequenciesof a dairy cattle-derivedbiofertilizer on the growth and nutritional status of maize cv. BRS Caatingueiro in a Yellow Latosol. The experiment was conducted in an open-air nursery at the Federal University of Vale do São Francisco, Juazeiro-BA. The experimental design was a randomized complete block design in a 6 x 2 factorial scheme, with six biofertilizer doses (0, 120, 240, 360, 480, and 600 mL per plant) and two fertigation frequencies (7 and 14 days), with five replicates. The seeds of maize cv. BRS Caatingueiro were planted in pots filled with Yellow Latosol. During the crop cycle (90 days), the following variables were evaluated: height, diameter, and number of leaves.During harvest, the variables evaluated were: root and shoot fresh and dry weight, root volume, chlorophyll index, and macro- and micronutrient contents of leaf and roottissue. Biofertilizer applications at14-day frequenciespromoted better plant growth compared to 7-day frequencies. However, despite the lower accumulation of some nutrients in relation to the application of larger doses, the dose of 360 mL biofertilizer promoted better root and leaf growth. Considering the uniformity and economy of the application of the product, it is recommended to applythe dose of 360 mL per plant every 14 days.