

JOINT EVENT

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of Mexico**Silvia M Avilés¹, Roberto Sotó Isabel Escobosa Víctor A Cárdenas S M Cristina Rufz Eduardo Salcedo D Qiro Díaz²¹ \$XWRQRPRXV 8QLYHUVLW\ RI %DMD &DOLIRUQLD 0H[LFR² 8QLYHUVLW\ RI *XDGDODMDUD 0H[LFR

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Conventional tillage systems in the production of agricultural crops often use excessive application of nitrogen fertilizer, which is a source of generation of greenhouse gases (N₂O and CO₂). The information regarding the assessment of greenhouse gases emissions in conventional tillage a system, which is most widely used in the Mexicali Valley, is limited. The aim of this study was to evaluate the emission, organic carbon and soil nitrogen related to the application of nitrogen fertilizer in a soil cultivated with wheat under conventional tillage in the Mexicali Valley, Baja California. The experimental plot, with a soil AquicHaplotorrert was cultivated with wheat (*Triticum durum*), with applications of doses of nitrogen fertilizer (0, 200 and 400 kg ha⁻¹). Organic carbon was measured by Walkley & Black method. Soil samples were incubated under 65% of field capacity at a temperature of 30°C. CO₂ emanated from the treatments was measured after 4, 22, 46 and 142 hours of incubation. Nitrogen mineralization (N₃) was obtained from KCl extraction and Kjeldahl method. The tendency was described by a lineal function ($y = ax + b$) and a statistical means trial test was carried out (Tukey $\alpha=0.05$). Organic carbon values were between 0.87 to 1.02%; no difference was found at different doses. The emission of CO₂ was 194, 247 and 238 mg/g/h for doses 0, 200 and 400 Kg N ha⁻¹, respectively, and there was not significantly difference ($p>0.05$) (Table 1). The magnitude of the nitrogen mineralization was 753, 942 and 1125 mg N for doses 0, 200 and 400 Kg N ha⁻¹, respectively, with differences ($p>0.05$) between them (Table 2). Highest doses of nitrogen applied to the soil does not necessarily correspond to a higher emission of CO₂ or organic carbon, but increase ($p<0.05$) the nitrogen mineralization, at least under evaluated conditions.

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