

Effects of Exhaust Gas Emitted by the Fleet on Public Health in the Region of Annaba (Algeria): Ecotoxicological Test on Durum Wheat (*Triticum durum* Desf.)

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Abstract : This work focused on the study of air pollution generated by the transport sector in the region of Annaba. Our study is based on two parts: the first one concerns an epidemiological investigation in the area of Annaba situated in the east Algerian coast, which deals with the development of the fleet and its impact on public health. To get a more precise idea of the impact of road traffic on public health, we consulted the computing center office of the National Social Insurance Fund. The information we were given by this office refers to the number of reported asthma and heart disease after medical examination during the period 2006-2010. The second part was devoted to the study of the toxicity of exhaust gases on some physical and biochemical parameters of durum wheat (*Triticum durum* Desf.). After germination and three-leaf stage, the pots are placed in a box of volume (0,096 m³) having an input which is linked directly to the exhaust pipe of a truck, and an outlet to prevent asphyxiation plant. The experience deals with 30 pots: 10 pots are exposed for 5 minutes to exhaust smoke; the other 10 are exposed for 15 minutes, and the remaining 10 for 30 minutes. The epidemiological study shows that the levels of pollutants emitted by the fleet are responsible for the increase of people respiratory and cardiovascular diseases. As for biochemical analyses of vegetation, they clearly show the toxicity of pollutants emitted by the exhaust gases, with an increase in total protein, proline and stimulation of detoxification enzyme (catalase).

Keywords : air pollution, toxicity, epidemiology, biochemistry

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