Study of the prospects for agricultural utilization of sludge produced from WWTPS in North Central Algeria

Authors
Maamar Nakib, Ahmed Kettab, Ali Berreksi, Laila Mandi

Publication date
2015/7/31

Journal
Desalination and Water Treatment

Volume
55

Issue
5

Pages
1152-1166

Publisher
Taylor & Francis

Description
The objective of this study is to investigate the sewage sludge of six wastewater treatment plants (WWTPs) in North Central Algeria for agricultural reuse. After a brief description of the region (climate, distribution of soils, and crop types), a quantitative and qualitative examination of the sludge produced was conducted in addition to a comparative study of urban compost and cattle manure. The selected agronomic parameters were dryness, percentage of organic matter (OM), as well as the contents of nitrogen, phosphorus, potassium, and calcium. An average OM of soils of 1.3% and a minimum value of 0.2% made it clear that the urgency of providing this type of amendment was warranted. The sewage sludge in this study was characterized by carbon to nitrogen ratios lower than those of manure and compost due to its stabilization process at the WWTPs on one hand, and the presence of recalcitrant lignin compound …