

## FOREWORD

This Guideline Volume was specifically developed to encourage the responsible use of wastewater sludge in agricultural practices. The agricultural use of sludge is defined as the beneficial use of certain constituents in sludge to benefit either the soil condition and/or enhance crop production in a sustainable manner. The potential benefits of the nutrients (nitrogen, phosphorus and potassium) and the high organic carbon content of sludge have been well demonstrated and have led to the utilisation of sludge for agricultural practices in many countries.

The agricultural use of sludge is seen as an appropriate cost effective management option for South Africa both for the agricultural and wastewater industry. Sludge can also assist in increasing the organic content of soil. Generally, cultivated soils in South Africa are low in organic matter due to its rapid decomposition in our climate. This has contributed to a widespread deterioration of soil physical properties. The improvement of the physical properties of soil (water holding capacity, permeability etc.) as a result of an increase in organic carbon plays an important role in promoting the agricultural application of wastewater sludge in South Africa. Subsistence and small-scale farmers can particularly benefit from the agricultural use of sludge, since the farmer will benefit financially due to savings on commercial inorganic fertilizers.

As with the widespread use of inorganic fertilisers or organically rich products, such as manures, the potential negative effects on environmental resources need to be managed. For this reason, the agricultural application of sludge must be controlled effectively and monitored for the protection of human and animal health, crop quality, protection of water resources and land productivity. This Guideline Volume has been specifically developed to maximise the responsible beneficial use of sludge in agricultural practices.

The aim has been to develop this Volume in such a manner that regulatory authorities, managers, practitioners and operators responsible for sludge management can easily understand and interpret it. At the same time, in the interest of transparency, the scientific basis, assumptions made and the thought processes were also documented in a separate document which is available from the Water Research Commission.

The Sludge Guidelines will remain living publications, and will be reviewed periodically based on comments received on the current requirements and approaches. All users are urged to critically review the Guidelines in terms of its usefulness and appropriateness. It is believed that feedback will ensure continual improvement. Comments should be directed to the Senior Manager: Resource Protection and Waste, Department of Water Affairs and Forestry, Private Bag X313, Pretoria, 0001.



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**MINISTER OF WATER AFFAIRS AND FORESTRY**