

Danish scientists develop a unique method for the detection of landmines

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After three years of research, Danish scientists have produced a genetically engineered plant, which, in the presence of specific compounds in the soil, can change colour from green to red in a matter of weeks. Stimuli include the types of heavy metals and explosives present in landmines and unexploded ordnance (UXO).

This unique biodetection system is described as 'a pioneering example of how we will see genetically engineered plants applied for humanitarian or environmental purposes in the future' by professor John Mundy from the department of plant physiology at the University of Copenhagen.

Currently, the detection of landmines is a slow and laborious process using dogs and machines, and where results are only guaranteed if the process is carried out manually, square meter by square meter. Experts believe that there are more than 1 billion unexploded landmines in over 75 countries worldwide, and it is estimated that a landmine kills or injures someone every 20 minutes, usually children or teenagers.

This new technology, based on the genetic engineering of the plant Thale Cress (*Arabidopsis thaliana*) is a major development in the quest for a safe and cost effective solution to detecting landmines. The plants are modified in a way that only allows them to go red if triggered by a specific stimulus present in the soil. The resulting colour change happens within three to five weeks.

The Thale Cress has been chosen specifically because it is a well studied genetic model system and it can grow all over the world. It is also naturally self pollinating and male-sterile which makes it more easily controllable.

The first field scale experiments are due to take place in the next few months in Bosnia, Sri Lanka and Sub-Saharan Africa.

For further information, please consult the following web address:
<http://www.aresa.dk>



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