

Cultivation of salt-tolerant crops a goal of 'Silt Farming Project'

September 14 2012



The 'Silt Farming Project' was started on Texel, one of the Dutch Wadden islands, in 2010. A project for investigating the chances of cropping on silt soils. Objective of this project is to find salt-resistant crops and to investigate the degree of salt-tolerance of such crops. In this project Wageningen UR Plant Research International (PRI) is studying the effects of silt cropping on the metabolites of crops.

Silted arable soil is a worldwide problem. Africa alone counts 70 million

hectares of silted soil. Soils often used for [intensive farming](#) are getting ever saltier while at the same time the [salt concentration](#) of the soil along the coast is increasing as well. This may even lead to situations in which normal [agricultural crops](#) can no longer be grown.

The 'Silt Farming Project' tries to solve this worldwide problem by cultivating salt-tolerant crops. [Crops](#) investigated in the study include: sea kale, sea beet, barley, perennial wall-rocket, and scentless chamomile. The plants are grown on different plots on which [irrigation systems](#) are used to control the salt concentrations per plot. In this way it is attempted to establish the salt-tolerance of the different plant species.

Plant Research International is analysing the metabolites of the plants that have been grown on the various plots because silt cultivation may affect the constituents of plants. PRI is, e.g., investigating whether anti-nutritional compounds are present in the plant which may constitute a health risk. PRI is also searching for health-promoting compounds such as anti-oxidants and glucosinolates.

In a different project the Sint Donatus Foundation is searching for salt-resistant potato cultivars that can be grown on silt soils; they tested eight different potato cultivars on soils with different salt concentrations. For this project PRI will also analyse the metabolites of the potatoes that have been grown on the plots with the highest and those with the lowest salt concentration. The glycoalkaloid content - a naturally occurring toxic compound in potatoes - is an important parameter in these analyses.

Provided by Wageningen University

Citation: Cultivation of salt-tolerant crops a goal of 'Silt Farming Project' (2012, September 14) retrieved 10 April 2024 from <https://phys.org/news/2012-09-cultivation-salt-tolerant-crops-goal-silt.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.