Rise and shine

Salt tolerant crops and the use of the saline resources of the world

Arjen de Vos

Director R&D

Salt Farm Texel

SaltFarm Texel
Tested on Texel

SaltFarm Texel
Tested on Texel

-our vision-

It is possible to grow crops directly on salt affected soils

Make use of saline resources (soil and water), don’t focus on de-salinization

Making use of saline resources:
How do we do it ? > open air laboratory at unique location

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Large scale screening for salt tolerant varieties (work with breeders)

300 different varieties of potato were screened for salt tolerance

Large scale screening of

lettuce (80 varieties) and strawberry (45 varieties)

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Salt Farm Texel > test facility:

7 salt concentrations, 8 repetitions, 56 plots of 160 m^2, 1 hectare total

Salt concentrations used: 1.5, 4, 8, 12, 16, 20 and 35 dS/m

- **open air laboratory**
- **reliable data on crop salt tolerance**
- **highly controlled conditions**
- **practical implementation**
- **testing all crops and halophytes**

Lettuce, 14 varieties tested for salt tolerance

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Hydroponics, lettuce, strawberry, irrigated with EC= 4 dS/m
> sweetest strawberry ever !

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Hydroponics, for large scale field production (picture from internet, not from SFT)
water efficient, no soil structure problems

Introduction of salt tolerant potato in Pakistan

(A total of 6 million hectares of salt affected land in Pakistan)

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SECURING WATER FOR FOOD:
A GRAND CHALLENGE FOR DEVELOPMENT

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Not all location work the first time

High salinity, poor soil structure / waterlogging, low soil fertility,….

Validation and demonstration on 10 different locations in 2016

Close monitoring of soil salinity and cultivation

2015-2016 season

Yield at 8 dS/m is around 30 tons/ha (50% higher than average)

Various locations also 50% water saving (use brackish water)

Next season 100 hectares

(picture taken in Sindh, Pakistan)

Research and development salt tolerant potato, combination of many projects and partners:

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eit Knowledge & Innovation Community
Climate-KIC

Knowledge for Climate

NIOZ

A.C.LOOGMAN & ZONEN B.V.
GROOTHANDEL IN AARDAPPELEN - IMPORT EXPORT

FOBEK BV

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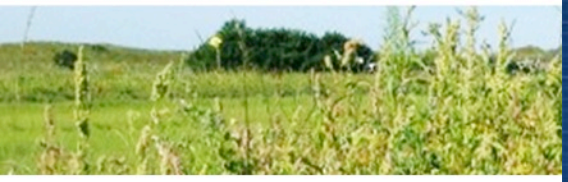

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In California:

- Possibilities for salt tolerant lettuce and strawberry
- Assitance with cultivation strategy (crop, soil, fertilizer)
- Further selection on Texel
- Validation in California
- Other crops?
- Using brackish water for cultivation